SAFETY DATA SHEET

Product: LATEX DL 460LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 460LA.
Product code	Latex DL 460LA.
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer and other compounds *	≥ 40 - ≤ 50%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	9.5 – 10.5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L.

	EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II,	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols,

and the IBC Code	annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in may 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 2212LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 2212LA
Product code	Latex DL 2212LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 50 - ≤ 60%	7732-18-5
Styrene-butadiene copolymer	≥ 40 - ≤ 50%	N.A.
Ammonium hydroxide	<0,2%	1336-21-6

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2).

	Not recommended: direct water jets.
Specific hazards arising from the chemical product	This material will not burn until the water has evaporated. The residue can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be

	collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.
Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.

Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	**TLV – TWA (ACGIH, 2021)**	**PEL – TWA (OSHA, 2019)**	**REL – TWA (NIOSH, 2019)**
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures	Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.
Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	8,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or	Not applicable.

explosive limits	
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500 mPa.s Estimated.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization

	International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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SAFETY DATA SHEET

Product: LATEX DL 2219LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 2219LA
Product code	Latex DL 2219LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 40 - ≤ 50%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	9,0 – 10,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 2241LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 2241LA
Product code	Latex DL 2241LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 2244LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 2244LA
Product code	Latex DL 2244LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 2245LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 2245LA
Product code	Latex DL 2245LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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SAFETY DATA SHEET

Product: LÁTEX DL 2247LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 2247LA
Product code	Látex DL 2247LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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SAFETY DATA SHEET

Product: LÁTEX DL 2256LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 2256LA
Product code	Látex DL 2256LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX DL 2258LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 2258LA
Product code	Látex DL 2258LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX DL 2290LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 2290LA
Product code	Látex DL 2290LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 40 - ≤ 50%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	9,0 – 10,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

Ficha de Informações de Segurança de Produtos Químicos – FISPQ. Látex DL 2290LA. Revision: 02. Date: 15.07.2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX DL 2292LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 2292LA
Product code	Látex DL 2292LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX DL 2703LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 2703LA
Product code	Látex DL 2703LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX DL 2705LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 2705LA
Product code	Látex DL 2705LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

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SAFETY DATA SHEET

Product: LATEX DL 2706LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 2706LA
Product code	Latex DL 2706LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,0 – 8,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 6621LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 6621LA
Product code	Latex DL 6621LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

Ficha de Informações de Segurança de Produtos Químicos – FISPQ. Látex DL 6621LA. Revision: 03. Date: 15.07.2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX DL 6950LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DL 6950LA
Product code	Látex DL 6950LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	7,0 – 8,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 2242LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 2242LA
Product code	Latex DL 2242LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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<http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 6638LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 6638LA
Product code	Latex DL 6638LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

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SAFETY DATA SHEET

Product: LATEX DL 6902LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 6902LA
Product code	Latex DL 6902LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

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SAFETY DATA SHEET

Product: LATEX DL 6913LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 6913LA
Product code	Latex DL 6913LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	4,5 – 7,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 6939LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 6939LA
Product code	Latex DL 6939LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	4,5 – 7,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 6990LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 6990LA
Product code	Latex DL 6990LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,0 – 8,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

Ficha de Informações de Segurança de Produtos Químicos – FISPQ. Látex DL 6990LA. Revision: 03. Date: 15.07.2021.

GHS. Globally Harmonized System of Classification and Labelling of Chemicals. 8. rev. ed. New York: United Nations, 2019.

IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8220LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8220LA
Product code	Latex DL 8220LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8802LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8802LA
Product code	Latex DL 8802LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	7,8 – 8,8 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8806LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8806LA
Product code	Latex DL 8806LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

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SAFETY DATA SHEET

Product: LATEX DL 8810LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8810LA
Product code	Latex DL 8810LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8816LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8816LA
Product code	Latex DL 8816LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8819LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8819LA
Product code	Latex DL 8819LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	9,0 – 10,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8852LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8852LA
Product code	Latex DL 8852LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	8,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

Ficha de Informações de Segurança de Produtos Químicos – FISPQ. Látex DL 8852LA. Revision: 03. Date: 15.07.2021.

GHS. Globally Harmonized System of Classification and Labelling of Chemicals. 8. rev. ed. New York: United Nations, 2019.

IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8866LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 8866LA
Product code	Latex DL 8866LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	7,8 – 8,8 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DL 8891LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DL 889166LA
Product code	Latex DL 8891LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	8,3 – 9,3 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DPF 4905

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DPF 4905
Product code	Latex DPF 4905
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DPF 4910

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DPF 4910
Product code	Latex DPF 4910
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DPF 4920

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DPF 4920
Product code	Latex DPF 4920
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX DRT 4700

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX DRT 4700
Product code	Latex DRT 4700
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 40 - ≤ 50%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	4,0 – 7,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX RAP 1010LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX RAP 1010LA
Product code	Látex RAP 1010LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	7,0 – 8,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX RAP 1010LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX RAP 1010LA
Product code	Latex RAP 1010LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	7,0 – 8,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX RAP 6966LA

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX RAP 6966LA
Product code	Latex RAP 6966LA
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,0 – 8,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX SE 670

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX SE 670
Product code	Latex SE 670
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,5 – 8,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 1000°C cSt (estimated).
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

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ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in:

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX SE 675

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX SE 675
Product code	Latex SE 675
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,5 – 8,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500 cSt (estimated).
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

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SAFETY DATA SHEET

Product: LATEX SL 3000

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX SL 3000
Product code	Latex SL 3000
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 55 - ≤ 65%	7732-18-5
Styrene polymer	≥ 25 - ≤ 35%	N.A.
Sodium lauryl sulfate	<10%	151-21-3

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5, described because it has an exposure limit and are described in section 8. This component is hazardous, however, it is in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2).

	Not recommended: direct water jets.
Specific hazards arising from the chemical product	This material will not burn until the water has evaporated. The residue can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be

	collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.
Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.

Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.

Decomposition temperature	> 500 cSt Estimated.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin	The product is not expected to cause respiratory or skin sensitization.

sensitization	Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.

Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.

Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical

Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

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TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX SR 230

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX SR 230
Product code	Latex SR 230
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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Ficha de Informações de Segurança de Produtos Químicos – FISPQ. Látex SR 230. Revision: 02. Date: 15.07.2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX XG 81041.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81041.00
Product code	Latex XG 81041.00
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5.5 – 8.5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX XG 81043.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81043.00
Product code	Latex XG 81043.00
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.	

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6.0 – 9.0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 1000°C cSt (estimated).
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX XG 81044.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81044.00
Product code	Latex XG 81044.00
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5.5 – 8.5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX XG 81047.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81047.00
Product code	Latex XG 81047.00
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5.0 – 8.0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

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SAFETY DATA SHEET

Product: LATEX XG 81049.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81049.00
Product code	Latex XG 81049.00
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6.0 – 9.0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

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SAFETY DATA SHEET

Product: LÁTEX XG 81103.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81103.00
Product code	Látex XG 81103.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX XG 81105.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81105.00
Product code	Latex XG 81105.00
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 40 - ≤ 50%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500 cSt (estimated).
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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SAFETY DATA SHEET

Product: LÁTEX XG 81106.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81106.00
Product code	Látex XG 81106.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

Ficha de Informações de Segurança de Produtos Químicos – FISPQ. Látex XG 81106.00. Revision: 03. Date: 30.06.2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX XG 81151.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81151.00
Product code	Látex XG 81151.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 50%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,5 – 8,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX XG 81659.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81659.00
Product code	Latex XG 81659.00
Recommended uses	Industrial use. Usually used as a linker.
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3358-8315.
Emergency telephone number	0800 110 8270 Pró-Química.

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene- acrylate copolymer and other compounds *	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number. This mixture contains styrene CAS 100-42-5, described because they have an exposure limit and are described in section 8. This

component is hazardous, however, it is found in a concentration below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Biological limit

BEI (ACGIH, 2021):

Styrene:

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment

Respiratory protection

In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles.

Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.

Hand protection

Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl

	rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,5 – 8,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500 cSt (estimated).
Odour threshold	Not available.
Evaporation rate	Not available.

Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.

Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LATEX XG 81675.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LATEX XG 81675.00
Product code	Latex XG 81675.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 50 - ≤ 60%	7732-18-5
Styrene-butadiene copolymer	≥ 40 - ≤ 50%	N.A.
Ammonium hydroxide	<0,2%	1336-21-6

* N.A. Not applicable. It is a mixture and does not have a CAS number, this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2).

	Not recommended: direct water jets.
Specific hazards arising from the chemical product	This material will not burn until the water has evaporated. The residue can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be

	collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.
Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.

Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	**TLV – TWA (ACGIH, 2021)**	**PEL – TWA (OSHA, 2019)**	**REL – TWA (NIOSH, 2019)**
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures	Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.
Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	8,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or	Not applicable.

explosive limits	
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.
Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500 mPa.s Estimated.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.
Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms. LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization

	International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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SAFETY DATA SHEET

Product: LÁTEX XG 81678.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81678.00
Product code	Látex XG 81678.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 40 - ≤ 50%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	5,5 – 8,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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SAFETY DATA SHEET

Product: LÁTEX XG 81679.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81679.00
Product code	Látex XG 81679.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX XG 81683.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81683.00
Product code	Látex XG 81683.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

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NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX XG 81686.01

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81686.01
Product code	Látex XG 81686.01
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in octuber 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Disponível em: <https://echa.europa.eu/>. Available in: may. 2021.

ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

Ficha de Informações de Segurança de Produtos Químicos – FISPQ. Látex XG 81686.01. Revision: 03. Date: 08.10.2021.

GHS. Globally Harmonized System of Classification and Labelling of Chemicals. 8. rev. ed. New York: United Nations, 2019.

IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <http:/monographs.iarc.fr/ENG/Classication/index.php>. Access in: may. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX XG 81686.00

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81686.00
Product code	Látex XG 81686.00
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer*	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE

Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,5 – 9,5 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	> 500°C cSt (estimated).
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. <u>Styrene*:</u> The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in june 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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SAFETY DATA SHEET

Product: LÁTEX DPF 4917

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX DPF 4917
Product code	Látex DPF 4917
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	> 500°C cSt.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

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ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action>. Access in: may. 2021.

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NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <http:/www.cdc.gov/niosh/>. Access in: may. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <http:/nj.gov/health/eoh/rtkweb/odispubr.shtml>. Access in: may. 2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <http:/chem.sis.nlm.nih.gov/>. Access in. may. 2021.

SAFETY DATA SHEET

Product: LÁTEX XG 81037

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the product	LÁTEX XG 81037
Product code	Látex XG 81037
Recommended uses	Industrial use. Usually used as a linker
Restrictions on use	Not recommended for other uses.
Company	Companhia Brasileira de Estireno.
Address	Avenida Santos Dumont, 4444 – Jd. Conceiçãozinha - Guarujá – SP, Brazil.
Telephone number	55 (13) 3328-6455.
Emergency telephone number	0800 110 8270 Pró-Química

SECTION 2: HAZARDS IDENTIFICATION

Most important hazards	Product not classified as dangerous by the Classification System used.
Product effects	
Adverse effects to the human health	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Environmental effects	It is not expected that product presents environmental effects.
Physical and chemical hazards	It is not expected that product presents physical and chemical hazards.
Chemical product-specific hazards	It is not expected that product presents specific hazards.
Important symptoms	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.

Classification of the chemical product	Product not classified as dangerous by the Classification System used.
Classification system adopted	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 2019.
Adequate labeling elements	
Pictograms	Not applicable.
Signal word	Not applicable.
Hazard statement(s)	Not applicable.
Precautionary statement(s)	Wash your hands after handling the product. Do not drink, eat or smoke when handling the product. It is recommended to use suitable PPE's when handling the product. Obtain product information before handling. Store the product in a suitable place. In case of emergency, proceed as indicated by the SDS. Solid fuel. Product flow can generate static charges, which can result in sparks. It is recommended that grounding systems be used during downloads and transfers.
Outline of an anticipated emergency	NON-HAZARDOUS EMULSION.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE

Ingredients and impurities contributing to the hazard

The product is an aqueous polymer

Components	Concentration	N° CAS
Water	≥ 45 - ≤ 55%	7732-18-5
Styrene-butadiene copolymer	≥ 45 - ≤ 55%	N.A.

* N.A. Not applicable. It is a mixture and does not have a CAS number (this mixture contains styrene CAS 100-42-5 and butadiene CAS 106-99-0, described because they have an exposure limit and are

described in section 8. These components are dangerous, however, are found in concentrations below the extrapolation limits to classify the polymer as hazardous.

SECTION 4: FIRST-AID MEASURES

Exposure routes	
Inhalation	Take the victim to a well-ventilated area. In case of exposure to vapors, move the victim to a well-ventilated place.
Skin contact	Wash exposed skin with sufficient water to remove the material.
Eye contact:	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Wash the victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place him on the left side (upward if possible) to keep the airway open and avoid aspiration. Keep the patient silent and maintain normal body temperature. Consult a TOXICOLOGY CENTER or a doctor. Take this SDS.
Anticipated acute effects and/or anticipated delayed effects	Prolonged contact can cause skin irritation with local redness. Latex can stick to the skin and cause irritation when removed. May cause mild temporary eye irritation. In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Most important symptoms/effects	Latex can stick to the skin and cause irritation when removed. May cause mild respiratory irritation, headache, nausea and vomiting
Protection of first aiders and/or special notes to a physician	Avoid contact with the product when helping the victim. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Take care when removing latex from the skin.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Water mist, dry powder, foams and carbon dioxide (CO_2). Not recommended: direct water jets.
Specific hazards arising from	This material will not burn until the water has evaporated. The residue

the chemical product	can burn. When ignited, the dried product generates dense black smoke. Combustion of the chemical product or its packaging can form carbon monoxide (CO) and carbon dioxide (CO_2) and dense smoke and organic compounds.
Specific extinguishing methods	Keep people away and isolate the risk area. Use foggy water or foam. Cool adjoining areas to locate fire zone. Manual carbon dioxide or dry chemical fire extinguishers can be used for small fires.
Special equipment for the protection of firefighters	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment:	Use protective equipment as described in Section 8.
Emergency procedures	Preventively eliminate sources of ignition. Wear full PPE, with goggles with side protection, suitable protective gloves, closed footwear and safety clothing to protect the body. Protective mask with filter against mists and vapors.
Environmental precautions	Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Containment techniques may include bunding, covering of drains and capping procedures.
Methods and materials for cleaning up	Stop leak if without risk. Contain spilled product with sand, clay, earth, or vermiculite dikes and transfer to a suitable container, which should be properly labeled. To clean the floor and all objects contaminated by this product, use an appropriate product. Collect the product remains with inert material. The water used to clean the place must be collected for later disposal, its incineration is recommended. For the final destination, proceed in accordance with Section 13 of this SDS.

Secondary disaster prevention measures	Do not dispose of directly into the sewer system or into the environment. Products resulting from fire control can cause contamination.

SECTION 7: HANDLING AND STORAGE	
Handling	
Precautions for safe handling	Avoid sources of ignition where the product is handled. Handle in a ventilated area or with a general local exhaust / ventilation system. Avoid the formation of mists and vapors and the exposure to the product.
Technical measures for prevention of exposure of the handler	Use personal protective equipment as described in Section 8.
Technical measures for prevention of fire and explosion	Keep away from sources of ignition. Static charge build-up should be avoided during pneumatic charging and other mechanical handling operations. Keep the equipment properly grounded.
Suitable precautions	Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Prevention of contact	Wash hands and face thoroughly after handling and before eating, drinking, smoking, or going to the bathroom.
Storage	
Conditions for safe storage	Store the product in a tightly closed container and in a dry and well-ventilated place. Store between 4.4°C (40°F) and 43.3°C (110°F). May clot if frozen at 0°C (32°F). The material may develop a bacterial odor if stored long-term.
Technical measures	Keep away from high temperatures and incompatible materials.
Incompatible substances and mixtures	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Packaging materials	
Recommended material	Similar to the original packaging.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

Nombre químico o común	TLV – TWA (ACGIH, 2021)	PEL – TWA (OSHA, 2019)	REL – TWA (NIOSH, 2019)
1,3 Butadiene (A2)	2 ppm	1 ppm (ST) 5 ppm	Ca
Styrene (OTO; A3)	TWA 10 ppm STEL 20 ppm	50 ppm (ST) 100 ppm (C) 500 ppm	50 ppm (ST) 100 ppm

A2: Suspected human carcinogen.

A3: Confirmed animal carcinogen with unknown relevance in humans.

OTO: Ototoxic.

ST: Short-term exposure limit.

C = ceiling limit.

Ca = Potential occupational carcinogens.

Biological limit

BEI (ACGIH, 2021):

<u>1.3 Butadiene:</u>

1,2 Dihydroxy-4- (N-acetylcysteimyl) -butane in urine (end of the working day): 2.5 mg/L.

Mixed hemoglobin (Hb) N-1- and N-2- (hydroxybutenyl) valine adducts in blood: 2.5 pmo/g Hb.

<u>Styrene:</u>

Mandelic acid + phenylglyoxylic acid in urine (end of working day): 400 mg / g of creatinine.

Styrene in urine (end of workday): 40 µg/L.

Engineering controls measures

Promote mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce product exposure. Keep atmospheric concentrations of the chemical agent below the stated occupational exposure limits.

Appropriate personal protective equipment	
Respiratory protection	In case of exposure to the product, it is recommended to use a respirator with filter for organic vapors with pre-filters for particles. Depending on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection based on the conditions of use of the product.
Hand protection	Wear protective gloves, such as: chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene-butadiene rubber. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber latex "). Neoprene. Nitrile / butadiene rubber (" nitrile "or" NBR "). Polyvinyl chloride (" PVC "or" vinyl "). Viton. AVOID: Gloves made of polyvinyl alcohol (" PVA "). Wear full body protective clothing and long sleeves and closed shoes.
Eye protection	Wear safety glasses.
Skin and body protection	Suitable safety clothing and closed shoes.
Special precautions	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Emulsion, dispersion, white.
Odour	Characteristic.
pH	6,0 – 9,0 (estimated).
Melting point/freezing point	0°C.
Boiling point, initial boiling, and boiling range	100°C.
Flashpoint	Not evaluated (aqueous product).
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	17.5 mmHg at 20°C.
Vapour density	0.6.

Relative density	0.95 – 1.10 g/cm³.
Solubility(ies)	Miscible in water (all proportions).
n-octanol/water partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Odour threshold	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Viscosity	Not available.
Other information	Not available.

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of temperature and pressure.
Hazardous reactions	No se conocen reacciones peligrosas con el producto.
Conditions to avoid	High temperatures, heat, friction, and contact with incompatible materials can coagulate if frozen. Dry resin is combustible.
Incompatible materials	The addition of chemicals such as acids or multivalent metal salts can cause coagulation.
Hazardous decomposition products	Decomposition of the product can generate carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity	The product is not expected to be toxic to the oral, dermal and inhalation routes. LD_{50} (oral, rats):> 5,000 mg / kg. LD_{50} (dermal, rats):> 2,000 mg / kg.

Skin irritation/corrosion	The product is not expected to cause skin irritation. As it is a latex, it can adhere to the skin and in the process of removing the material from the skin cause redness.
Eye damage/irritation	May cause temporary mild eye irritation.
Respiratory or skin sensitization	The product is not expected to cause respiratory or skin sensitization. Tests on guinea pigs were negative.
Reproductive cell mutagenicity	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity	The product is not expected to cause cancer. Styrene*: The ACGIH classifies styrene as Group A3: Confirmed animal carcinogen with unknown relevance to humans. *Butadiene**: Butadiene is classified by ACGIH as Group A2: Suspected of Human Carcinogen. **Ingredients can cause cancer, however, at the concentration that these ingredients are present in the polymer, they do not extrapolate the carcinogenic hazard.*
Reproductive toxicity	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure	In case of inhalation of vapors, it may cause slight respiratory irritation, headache, nausea and vomiting.
Specific target organ toxicity – repeated exposure	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard	It is not expected that the product presents aspiration hazard.
Toxicokinetics, metabolism and distribution	No information is described on the toxicokinetics and metabolism of this product.

SECTION 12: ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product	
Ecotoxicity	The product is not expected to be harmful to aquatic organisms.

	LC_{50} (*Oncorhynchus mykiss*, 96 h):> 100 mg / L. EC_{50} (*Daphnia magna*, 48 h):> 100 mg / L.
Persistence and degradability	Although polymers are not biodegradable, they can be disposed of in biological effluent treatment plants by adsorption.
Bioaccumulative potential	The bioconcentration potential of the polymeric component is not expected due to its high molecular weight. Latex dispersions make the color of the water milky.
Mobility in soil	Not determined.
Other adverse effects	There are not known adverse environmental effects of the product.

SECTION 13: DISPOSAL CONSIDERATIONS

Methods of disposal to the chemical product, product waste and/or contaminated container and/or packaging	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established for the product.

SECTION 14: TRANSPORT INFORMATION

International regulations	
Land	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	Not classified as hazardous to transport.

Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions	There is no need of special precautions.

SECTION 15: REGULATORY INFORMATION

Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990.

International Organization for Standardization - ISO 11014:2009.

SECTION 16: OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in july 2021.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

BCF – Bioconcentration factor

CAS – Chemical Abstracts Service

CE_{50} - Concentración efectiva 50%

CL_{50} - Concentración letal 50%

DL_{50} - Dosis letal 50%

NA – Não Aplicável

NIOSH – National Institute of Occupational Safety and Health

ONU – Organização das Nações Unidas

SBCA – Self Contained Breathing Apparatus

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