

SAFETY DATA SHEET

Product: SULFATO DE AMÔNIO - SULFAGEL GRAN/ SULFAGEL F/ SULFAGEL TECH

Revision: 00

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SECTION 1: IDENTIFICATION

GHS Product identifier:	SULFATO DE AMÔNIO - SULFAGEL GRAN/ SULFAGEL F/ SULFAGEL TECH.
Recommended use of the chemical and restrictions on use:	Industrial use.
Supplier's details:	PROQUIGEL QUÍMICA S/A. Fazenda Caroba, s/n, Candeias - BA - CEP: 43.813-300, Brazil. (+55 71) 3878-6633.
Emergency phone number:	0800 110 8270 Pró-Química.

SECTION 2: HAZARD IDENTIFICATION

Classification of the substance or mixture:	Acute toxicity Oral – Category 5. Hazardous to the aquatic environment, short-term (acute) – Category 3.
Classification system adopted:	Globally Harmonized System of Classification and Labelling of Chemicals (GHS), United Nations.
Other hazards which do not result in classification:	No other hazards of the product are known.

GHS label elements, including precautionary statements

Pictograms:	Not required.
Signal word:	WARNING
Hazard statement(s):	H303 May be harmful if swallowed. H402 Harmful to aquatic life.
Precautionary statement(s):	PREVENTION P273 Avoid release to the environment. RESPONSE PRECAUTIONARY P301 + P317 IF SWALLOWED: Get medical help. DISPOSAL P501 Eliminate the content and the container of compliance with local, state and federal laws.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**SUBSTANCES**

Chemical identity:	Ammonium sulfate.
Common name(s), synonym(s) of the substance:	Diammonium sulfate.
CAS number:	7783-20-2.
Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance:	There are no known impurities that contribute to the hazard.

SECTION 4: FIRST-AID MEASURES**Routes of exposure**

Inhalation:	Remove the victim to a ventilated area and keep him/her at rest in a position that is comfortable for breathing. If he/she feels unwell, contact a POISON CENTER or a doctor. Take this SDS.
Skin:	In case of skin contact, remove all contaminated clothing. Wash with plenty of running water for at least a few minutes. Wash contaminated clothing before reusing. Take this SDS.
Eye:	Rinse thoroughly with water for several minutes. If you wear contact lenses, remove them if this is easy to do. If eye irritation occurs 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 or her on the left side (up if possible) to keep the airway open and prevent aspiration. Keep the patient quiet and maintain a normal body temperature. Consult a POISON CENTER or physician. Take this SDS.
Most important symptoms/effects, acute and delayed:	May be harmful if swallowed. Ingestion of the product may cause general symptoms such as nausea, vomiting, diarrhea and irritation of the gastrointestinal tract.

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Indication of immediate medical attention and special treatment needed, if necessary:	Avoid contact with the product when assisting the victim. Treatment for exposure should be aimed at controlling the patient's symptoms and clinical condition. In case of contact with the skin, do not rub the affected area.
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SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Suitable: Water fog, chemical powder and carbon dioxide (CO ₂). Not recommended: Direct water jets.
Specific hazards arising from the chemical:	The combustion of the chemical product or its packaging can form: carbon monoxide (CO) and carbon dioxide (CO ₂) and ammonia and sulfur.
Special protective actions for fire-fighters:	Wear self-contained positive pressure breathing apparatus and full protective clothing. Keep bystanders away and isolate the risk area. Containers and tanks involved in the fire may be cooled with water mist.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel:	Preventatively isolate the leak from ignition sources. Stop the leak if this can be done without risk. Do not smoke. Do not touch damaged containers or spilled material without wearing suitable clothing. Avoid exposure to the product. Use personal protective equipment as described in section 8.
For emergency responders:	Preventatively remove ignition sources. Use complete PPE, with goggles with side protection, suitable protective gloves, closed shoes and safety clothing to protect the body and a protective mask with a suitable filter.
Environmental precautions:	Prevent the product from reaching soil and watercourses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached watercourses or if it has contaminated soil or vegetation).
Methods and materials for containment and cleaning up:	Avoid dust formation. Collect the spilled product and place it in appropriate containers and remove it to a safe place. For final disposal, proceed as per Section 13 of this SDS.

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SECTION 7: HANDLING AND STORAGE**Precautions for safe handling**

Safe handling of the substance or mixture: Avoid sources of ignition in areas where the product is handled. Handle in a ventilated area or with a general ventilation/local exhaust system. Avoid dust formation and exposure to the product. Use personal protective equipment as described in section 8. Avoid contact of the product with eyes and skin.

General hygiene: Wash hands and face thoroughly after handling and before eating, drinking, smoking or using the toilet. Contaminated clothing should be changed and washed before reuse. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities

Technical measures for prevention of fire and explosion: Keep away from any flame or ignition source. Static charge build-up should be avoided during pneumatic loading and other mechanical handling operations. Keep equipment properly grounded.

Adequate conditions: Store in a well-ventilated, dry, cool place away from sunlight. Keep container closed. Containers that have been opened should be carefully resealed. Do not store in unlabeled containers. Use appropriate containment to prevent environmental contamination. See Section 10 for incompatible materials.

Packaging compatibilities: It is recommended to keep them in their original packaging.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Occupational exposure limit: Not established.

Biological limit: Not established.

Other limits and values: Not established.

Appropriate engineering controls: Provide mechanical ventilation and a direct exhaust system to the outside environment. These measures help reduce exposure to the product.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection: Wear safety glasses.

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Skin protection:	It is recommended to use waterproof and chemical-resistant gloves, such as nitrile or butyl rubber, these must be approved, and to ensure safe handling, a risk assessment must be carried out.
Respiratory protection:	In case of dust formation, it is recommended to use a respirator with a dust filter, depending on the existing exposure. It is recommended that a risk assessment be carried out to adequately define respiratory protection considering the conditions of use of the product.
Thermal hazards:	The product does not present thermal hazards.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid, in crystals or grains.
Colour:	Colorless or dark brown.
Odour:	Odorless.
Melting point/freezing point:	Not available.
Boiling point or initial boiling point and boiling range:	Not available.
Flammability:	Not available.
Lower and upper explosion limit /flammability limit:	Not available.
Flash point:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	> 235°C.
pH:	5.5 (solution 1.3%).
Kinematic viscosity:	Not available.
Solubility:	Soluble in water (754 g/L at 20°C).
Partition coefficient n-octanol/water (log value):	Log kow: 0.48.
Vapour pressure:	Not available.
Density and/or relative density:	1.77 (water at 4°C = 1) at 20°C.

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Relative vapour density: Not available.

Particle characteristics: Not available.

Other information: Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: No reactivity of the product is expected.

Chemical stability: Product stable under normal temperature and pressure conditions.

Possibility of hazardous reactions: May react violently with strong oxidants, with risk of explosion.

Conditions to avoid: High temperatures, heat, friction and contact with incompatible materials.

Incompatible material: Oxidizing agents, potassium salts, nitrates, chloride, hypochlorite, zinc and copper.

Hazardous decomposition products: Decomposition of the product may release ammonia, sulfur dioxide and sulfur trioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity: May be harmful if ingested. The product is not expected to present acute toxicity by dermal or inhalation routes.

Ammonium sulfate:LD₅₀ (oral, rats): 2,000 – 4,250 mg/kg.LD₅₀ (dermal, rats): > 2,000 mg/kg.LC₅₀ (inhalation, rats, 8h): > 1,000 mg/m³.

Skin corrosion/irritation: The product is not expected to cause skin irritation. However, prolonged contact may cause skin dryness due to the mechanical action of the powder.

Ammonium sulfate:

Skin irritation test on rabbits did not cause skin irritation.

Serious eye damage/irritation: The product is not expected to cause eye irritation. However, contact with the powder may cause itching and redness of the eyes, due to the mechanical action of the powder.

Ammonium sulfate:

Eye irritation test on rabbits did not cause irritation to the eyes of the

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	exposed animals.
Respiratory or skin sensitization:	The product is not expected to cause respiratory or skin sensitization. <u>Ammonium sulfate:</u> Test performed with guinea pigs showed negative results; ammonium sulfate is not sensitizing.
Germ cell mutagenicity:	The product is not expected to cause mutagenicity in germ cells. <u>Ammonium sulfate:</u> Ames test on bacteria – negative result. Chromosome aberration test on mammalian or human cell cultures – negative result.
Carcinogenicity:	The product is not expected to be carcinogenic. <u>Ammonium Sulphate:</u> Based on the negative results of <i>in vitro</i> studies and the negative results in the <i>in vivo</i> micronucleus test with Ammonium Chloride, Ammonium Sulphate is unlikely to exhibit mutagenic activity <i>in vivo</i> .
Reproductive toxicity:	The product is not expected to cause reproductive toxicity. <u>Ammonium sulfate:</u> There are no valid studies available on the effects of ammonium sulfate on fertility and development. Based on data from a similar ammonium compound (diammonium phosphate), which was tested up to 1,500 mg/kg bw in a screening study according to OECD 422 in rats, it can be concluded that ammonium ions up to the dose tested do not have toxic effects on fertility. In the 13-week feeding study with ammonium sulfate in rats, no histological changes in the testes were observed up to 1,792 mg/kg bw.
STOT - Single exposure:	Inhalation of the product may cause respiratory irritation with coughing and sneezing, due to mechanical action.
STOT - Repeated exposure:	The product is not expected to cause specific target organ toxicity through repeated exposure.
Aspiration hazard:	The product is not expected to present an aspiration hazard.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	Harmful to aquatic organisms. <u>Ammonium sulfate:</u>
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	LC ₅₀ (<i>Salmo gairdneri</i> , 96h): 173 mg/L. LC ₅₀ (<i>Oncorhynchus mykiss</i> , 96h): 53 mg/L. EC ₅₀ (<i>Daphnia magna</i> , 96h): > 100 mg/L. EC ₅₀ (<i>Daphnia magna</i> , 48h): 169 mg/L. EC ₅₀ (<i>Chlorella vulgaris</i> , 18 days): 2,700 mg/L. NOEC (<i>Oncorhynchus gorbuscha</i> , 61 days): 11 mg/L.
Persistence and degradability:	The product is not expected to be persistent but is expected to be rapidly degraded. <u>Ammonium sulfate:</u> Biodegradability: Rapid degradability in water.
Bioaccumulative potential:	The product is expected to have low bioaccumulative potential in aquatic organisms. <u>Ammonium sulfate:</u> Log know: 0.48.
Mobility in soil:	Low soil mobility is expected.
Other adverse effects:	No other effects of the product are known.

SECTION 13: DISPOSAL CONSIDERATIONS**Elimination methods**

Product:	Treatment and disposal should be evaluated specifically for each product. Keep the remaining product in its original, tightly closed container. Disposal should be carried out as directed for the product.
Product remains:	Keep the remaining product in its original packaging and tightly closed. Dispose of according to the product's guidelines.
Packaging used:	Do not reuse empty packaging. These may contain product residue and should be kept sealed and sent for proper disposal as specified for the product.

SECTION 14: TRANSPORT INFORMATION

Road:	UN - "United Nations" Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
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UN Number:	Not classified as hazardous for land transport.
Rail:	Convention concerning International Carriage by Rail (COTIF) Appendix C - Regulations concerning the International Carriage of Dangerous Goods by Rail - RID
UN Number:	Not classified as hazardous for land transport.
Sea:	<i>IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)</i>
UN Number:	Not classified as hazardous for waterways.
Air:	<i>IATA - International Air Transport Association Dangerous Goods Regulation (DGR)</i>
UN Number:	Not classified as hazardous for air transport.
Special precautions for user:	There is no need of special precautions.
Transport in bulk according to Annex II of MARPOL 73/78 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.

SECTION 15: REGULATORY INFORMATION

Chemical regulations	Convention concerning Safety in the use of Chemicals at Work (Convention 170) - International Labour Organization, 1990. SGA. Globally Harmonized System of Classification and Labeling of Chemical Products. 10. Ed. New York: United Nations, 2023.
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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

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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 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 prepared in July 2025.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

AIHA – American Industrial Hygiene Association

BCF – Bioconcentration Factor

BEI – Biological Exposure Index

CAS – Chemical Abstracts Service

C – Ceiling

EC₅₀ – Effective Concentration 50%

LC₅₀ – Lethal Concentration 50%

LD₅₀ – Lethal Dose 50%

ERPG - Emergency Response Planning Guidelines

LEL – Lower Explosive Limit

UEL – Upper Explosive Limit

NIOSH – National Institute of Occupational Safety and Health

OSHA – Occupational Safety & Health Administration

PEL – Permissible Exposure Limit

REL – Recommended Exposure Limit

STEL – Short Term Exposure Limit

TLV – Threshold Limit Value

TWA – Time Weighted Average

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, 2025.

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