



SAFETY DATA SHEET

According to 29 CFR 1910.1200

ALUMINUM SULFATE

Date of issue: September 01, 2023 Revision date: - Version: 1

SECTION 1.- IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Product form Solid
Substance name Aluminum sulfate
CAS No. 10043-01-3
Formula $Al_2(SO_4)_3$
Synonyms -

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture Fertilizers

1.3 Details of the supplier of the safety data sheet

Química Pima, S.A. de C.V.
Del Cobre 20, Parque Industrial Hermosillo
Hermosillo, Sonora, México. C.P. 83297 Tel. 011 (662) 251-0010 / (662) 251-0316
ventas@qpima.com
www.qpima.com

1.4 Emergency telephone number

Emergency number CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

SECTION 2.- HAZARD IDENTIFICATION

2.1 GHS-US classification

Causes serious eye damage	1	H318
Very toxic to aquatic life.	1	H400
Toxic to aquatic life with long-lasting effects.	2	H411

2.2 Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



Signal Word (GHS-US):

Danger

Hazard statement (GHS-US):

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long-lasting effects.

Precautionary statements (GHS-US):

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.



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P391 Collect spillage.

P501 Dispose of contents/container following federal, state, and local regulations.

The material is not corrosive when dry; it is moderately corrosive when dissolved in water.

Not applicable

2.3 Other hazards

2.4 Unknown acute toxicity (GHS-US)

SECCIÓN 3.- COMPOSITION / INFORMATION OF INGREDIENTS

3.1 Substance

Not applicable

3.2 Mixture

Name	Product identifier	%
Aluminum sulfate	(CAS No.) 10043-01-3	> 47.5

SECCIÓN 4.- FIRST AID MEASURE

4.1 Description of first aid measure

First-aid measures general

Check vital signs. Unconscious: keep airways clear and provide breathing assistance. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform CPR. Conscious victim with breathing difficulty: semi-upright position. Victim in shock: lying on back with legs slightly elevated. Vomiting: prevent choking or aspiration. Avoid cooling by covering the victim (without heating). Continue monitoring the victim. Provide psychological support. Keep the victim calm, and avoid physical strain. Depending on the victim's condition: seek medical attention/hospital. Never give anything by mouth to an unconscious person. If feeling unwell, seek medical attention (if possible, show the label).

First-aid measures after eye contact

Immediately flush eyes with water for at least 20 minutes, and keep eyelids open to ensure rinsing of the entire eye and eyelid tissues. Rinsing eyes within seconds is essential for maximum effectiveness. If wearing contact lenses, remove them after the first 5 minutes and then continue rinsing your eyes. Consult a physician.

First-aid measures after skin contact

Thoroughly wash the exposed area for at least 20 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention if irritation persists.

First-aid measures after inhalation

Move the victim to fresh air and provide clean air. Keep them calm. If not breathing, administer artificial respiration. If experiencing difficulty breathing, provide oxygen. Call for medical assistance.

First-aid measures after ingestion

Do not induce vomiting. Rinse mouth, and give water to drink. Never give anything orally to an unconscious person. Call for medical assistance. If vomiting occurs spontaneously, place the victim on their side to reduce the risk of aspiration.

4.2 Most important

Symptoms/injuries after inhalation

Inhalation of vapors irritates the tissues of the nose, throat, and lungs, leading to sore throat, difficulty breathing, chest tightness and pain, and coughing.

Symptoms/injuries after skin contact

Contact with the skin irritates, resulting in redness and pain. In case of severe exposure to this substance, burns may occur.

Symptoms/injuries after eye contact

Contact with the eyes can cause irritation, redness, severe burning, and possible burns.



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Symptoms/injuries after ingestión

It is comparatively low toxicity orally. However, ingestion of large amounts can cause gastrointestinal irritation, abdominal pain, nausea, vomiting, and diarrhea. Frequent ingestions can lead to phosphorus deficiency, resulting in bone weakening.

Chronic symptoms

Prolonged exposure to the eyes may cause discoloration. High repeated exposure could lead to excess iron accumulation in the body. Symptoms such as stomach discomfort, nausea, constipation, diarrhea, or black stools may occur. Chronic exposure may cause effects on the liver.

4.3 Indications of any immediate medical attention and special treatment needed

If exposed, concerned, or if symptoms persist, obtain medical attention/advice. If medical advice is necessary, have the product container or label on hand.

SECCIÓN 5.- FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Use dry chemical powder, foam, sand, or CO₂. Use the product according to surrounding materials.

Unsuitable extinguishing media DO NOT USE direct water streams.

5.2 Special hazard arising from the substance or mixture

Fire hazard In case of fire, it may release smoke and irritating and/or toxic gases, such as sulfur oxides and other substances derived from incomplete combustion.

Explosion hazard The product and its packaging, when burning in enclosed spaces for long periods, can produce amounts of carbon monoxide that reach the lower explosive limit

Reactivity Not available

5.3 Advice for firefighters

Precautionary measures fire In case of fire/heating: stand against the wind. If exposed to fire/heat consider evacuation
Firefighting instructions Spray packaging with water to prevent ignition if they are exposed to excessive heat or fire. Remove the packaging if they have not yet been reached by flames, and you can do so safely. Cool the packaging with water long after the fire has been extinguished, removing any remnants until all embers are eliminated. Prevent water used for firefighting or dilution from entering watercourses, drains, or springs.

Protection during firefighting Use a self-contained breathing apparatus. Structural firefighter protective clothing provides limited protection in FIRE incidents ONLY; it may not be effective in SPILL situations.

SECCIÓN 6.- ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

6.1.1 For non-emergency personnel

Protective equipment Use a self-contained breathing apparatus and dermal and ocular protection. Wear impermeable protective gloves.

Emergency procedures Secure the hazard area, do not allow any type of flame to ignite. Wash contaminated clothing. For large spills/confined spaces: consider evacuation. In case of hazardous reactions: stay upwind. In case of reactivity danger: consider evacuation. Avoid contact with eyes, skin, or clothing. Avoid inhaling dust, mist, vapor, or spray.

Measures in case of dust release Ventilate immediately, especially in low-lying areas where vapors may accumulate.

6.1.2 For emergency responders



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Where specialized garments are required to manage the spill/leak, refer to any information in Section 8 regarding suitable and unsuitable materials. Keep the area ventilated.

6.2 Environmental precautions

Avoid release to the environment. Do not allow the product to spread into the environment. Do not discharge into drains or rivers.

6.3 Methods and material for containment and cleaning up

Method for containment

Contain and collect any contaminated material. Avoid runoff into sewers, waterways, or disposal in areas where surface or groundwater may be affected.

Method for cleaning up

Absorb the spill with inert material (such as dry sand or soil), and place it in a suitable container. Remove all sources of ignition. Use spark-proof tools. Provide ventilation. A vapor-suppressing foam may be used to reduce vapors. Contain and collect the spill with a vacuum isolated from electricity or by brushing it, and place it in a container for disposal following local regulations.

6.4 Reference to other sections

For further information refer to section 8: Exposure-controls/personal protection

SECTION 7.- HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling

Due to its corrosive properties, it should be handled in closed systems to avoid contact with the liquid or its vapors. The product should be stored and transported using stainless steel, fiberglass, PVC, polyethylene, or any other thermoplastic material. It is also compatible with EPDM, natural rubber, and Viton. The product should not come into contact with ferrous materials or polyurethane.

Hygiene measures

Do not drink, eat, or smoke in the workplace. Always wash your hands after handling the product. Do not eat, drink, or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

In the industry, aluminum sulfate is stored in fiberglass polyester tanks, and carbon steel coated with rubber or PVC. Protect the containers from any physical damage. Store this substance in a cool, dry, well-ventilated place and away from incompatible materials. The storage site should have floors resistant to corrosive substances and a spill containment system; do not use warehouses with wooden floors. Place signs indicating the hazardous nature of this substance. When opening metal contain

Incompatible products

Strong oxidizing agents, acids, and bases.

Heat-ignition

Not available

Storage area

Store this substance in a cool, dry, well-ventilated place and away from incompatible materials. Meet the legal requirements.

Special rules on packaging

SPECIAL REQUIREMENTS: closing. Dry. Correctly labeled. Meet the legal requirements. Secure fragile packaging in solid containers.

Packaging materials

Stored in fiberglass polyester tanks, carbon steel is coated with rubber or PVC. Protect the containers from any physical damage.

7.3 Specific end use(s)

No additional information is available

SECTION 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION



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8.1 Control parameters

Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Aluminum sulfate 10043-01-3	Not available	Not available	Not available

8.2 Exposure controls

Appropriate engineering controls

The sources of eye wash stations and safety showers should be available near the use/handling area. Provide exhaust ventilation or other engineering controls to maintain vapor concentrations below applicable occupational exposure limits. It is recommended that all vapor control equipment such as local ventilation and material transport systems involved in handling this product contain explosion relief vents an explosion suppression system or an oxygen-deficient atmosphere. Ensure that vapor handling systems are designed to prevent vapor escape into the work area.

Personal protective equipment

Safety goggles, face mask, gloves, rubber boots, PVC suits, protective helmet, respirator mask for inorganic vapors.

Material for protective clothing

PVC suits, rubber boots, impermeable fabric suits.

Hand protection

Rubber gloves.

Eye protection

Use plastic safety goggles. And in areas at risk of splashes from solutions or mist, use a face mask. Maintain a shower and eye wash equipment in the workplace.

Skin and body protection

In normal operating conditions, avoid skin contact by wearing fully impervious fabric suits, including boots, jackets, and helmets. For emergencies, use PVC suits, boots, and rubber gloves.

Respiratory protection

Wear a mask with a face shield and cartridges for acid gases. For emergency cases where the level of exposure is unknown, use a self-contained breathing apparatus. Warning: Cartridge respirators do not protect workers in oxygen-deficient atmospheres.

Environmental exposure controls

Avoid release to the environment.

SECTION 9.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	White to amber liquid
Odor	Odorless
Color	White to amber
Molecular mass	594.14 g/mol
Odor threshold	No data available
pH	2.5 – 3.5
pH solution	1%
Relative evaporation rate (butyl acetate = 1)	1
Melting/Freezing point	< -50 °C
Boiling point	101 – 105 °C at 1 atm (Sol. 45%)
Flash point	No data available
Self-ignition temperature	No data available



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Decomposition temperature	No data available
Flammability (solid, gas)	Non-flammable
Vapor pressure	No data available
Relative vapor density at 20 °C	No data available
Relative density	1.32 at 25 °C
Solubility	Soluble in water
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	12 cp at 20 °C
Explosive properties	No data available
Oxidizing properties	No data available
Explosive limits	No data available

9.2 Other information

No additional information is available

SECTION 10.- STABILITY AND REACTIVITY

10.1 Reactivity	No reactions or product decompositions are expected under normal storage conditions.
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	None under normal conditions of use.
10.4 Conditions to avoid	Avoid high temperatures. Protect from moisture. Avoid storing with alkalis or strong oxidizing agents. It can be corrosive in the presence of moisture.
10.5 Incompatible materials	Avoid strongly oxidizing agents such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine, and fluorine (violent reaction with the generation of sulfur dioxide). Reacts with alkalis (sodium hydroxide and potassium hydroxide; violent reaction) and attacks many ferrous materials and polyurethane.
10.6 Hazardous decomposition products	Sulfur oxides, aluminum oxide. The solution in water is a strongly acidic medium.

SECTION 11.- TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Likely routes of exposure	Skin and eyes contact, inhalation, and ingestion.
Acute toxicity	It can cause irritation.
Skin corrosión/irritation	It causes skin irritation.
Serious eye damage/irritation	It causes eye irritation.
Respiratory or skin sensitization	It can irritate the respiratory tract, nausea, and headache.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Specific target toxicity (single exposure)	May cause respiratory irritation.
Specific target toxicity (repeat exposure)	Frequent ingestions may lead to phosphorus deficiency, resulting in bone weakening.
Aspiration hazard	Irritates the respiratory tract. Symptoms may include coughing, and difficulty breathing.



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Name	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀ inhalation
Aluminum sulfate	> 1930 mg/kg (rat)	No data available	No data available

SECTION 12.- ECOLOGICAL INFORMATION

12.1 Toxicity

Ecology – General
Ecology – Air
Ecology – Water

Classification concerning the environment: not applicable.

Not classified as dangerous for the ozone layer.

In general, for aluminum compounds with acidic reactions: biological effects: are toxic to aquatic organisms. Fish: toxic from 0.55 g/l; Crustaceans: *Daphnia magna* (toxic from 136 mg/l); Algae: toxic from 1.5 mg/l. For sulfates in general: biological effects on fish: toxic > 7 g/l; in bacteria: toxic > 2.5 g/l. Maintaining appropriate handling conditions, no ecological problems are expected.

12.2 Persistence and degradability

Not applicable

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Other information

SECCIÓN 13.- INFORMACIÓN RELATIVA A LA ELIMINACIÓN DE LOS PRODUCTOS

13.1 Waste treatment methods

Waste treatment methods

Dispose of following national, state, and local regulations.

Waste disposal recommendations

Both the surplus product and empty containers must be disposed of following current legislation on Environmental Protection and particularly on Hazardous Waste. You must classify the waste and dispose of it through an authorized company. Disposal procedure: wastewater treatment or disposal in a landfill.

SECTION 14.- TRANSPORT INFORMATION

14.1 UN Number

3264

14.2 UN proper shipping name

CORROSIVE LIQUID, ACID, INORGANIC, N.E.P.

14.3 Class of hazards in transportation

8

14.4 Packaging group

III

14.3 Additional information



Other information

No supplementary information is available.

Overland transport

No additional information is available.

Transport by sea

No additional information is available.



Air transport

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No additional information is available.

SECTION 15.- REGULATORY INFORMATION

International inventories

TSCA All are listed

TSCA – Toxic Substances Control Act Inventory Section 8(b).

DSL/NDSL - Domestic Substance List/Non-Domestic Substance List.

US Federal Regulations: Not listed in the Toxic Substances Control Act Inventory

SARA 311/312 Categories.

Acute Health Hazard	Yes	Chronic Health Hazard	No	Fire Hazard	No
Sudden Hazardous Pressure Release	No	Reactive Hazard	No		

Clean Water Act. None of these chemicals are listed under the Clean Water Act.

CERCLA. None of the ingredients are listed.

Official Mexican Standard NOM-002-SCT/2011, List of the most commonly transported hazardous substances and materials.

SECTION 16.- OTHER INFORMATION

NFPA	NFPA health Hazard	2	NFPA fire Hazard	0	NFPA instability Hazard	0	NFPA Special hazard	CORR
HMIS III	Health	0	Flammability	0	Physical	0	Personal protection	G

Safety glasses, gloves, and dust respirator

G



Made for: Química Pima, S.A. de C.V. Del Cobre No. 20 Parque Industrial. Hermosillo, Sonora, México. 83297.

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Revision note: -

IMPORTANT NOTE: Information in this SDS is from available published sources and is believed to be accurate, but is not exhaustive and will be used only as a guide, which is based on current knowledge of the chemical substance or mixture and applied to the appropriate product for safety precautions. No warranty, express or implied, is made and Pima Chemicals & Fertilizers, LLC and Quimica Pima, S.A. de C.V. assumes no liability resulting from the use of this SDS. The user must determine the suitability of this information for his application.

End of Safety Data Sheet