Aluminum sulfate, Solid

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Date of Issue: 8/21/2020 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Substance

Product Name: Aluminum sulfate, Solid

CAS-No.: 10043-01-3

Product Code: 010

Synonyms: Alum

1.2. Intended Use of the Product

Water treatment chemical. For professional use only.

1.3. Name, Address, and Telephone of the Responsible Party

Company

USALCO, LLC
2601 Cannery Ave.
Baltimore, MD 21226
410-354-0100
usalco.com

1.4. Emergency Telephone Number

Emergency Number : Transportation Emergency 800-282-5322 (CHEMTREC): Other: 800-282-5322

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Met. Corr. 1*	H290
Eye Dam. 1	H318
Aquatic Acute 3	H402

Full text of hazard classes and H-statements : see section 16

* Applicable only when the product is in solution or in contact with moisture.

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :

GHS05

Signal Word (GHS-US/CA) : Danger

Hazard Statements (GHS-US/CA) : H290 - May be corrosive to metals.
H318 - Causes serious eye damage.
H402 - Harmful to aquatic life.

Precautionary Statements (GHS-US/CA) : P234 - Keep only in original container.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye 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.
P390 - Absorb spillage to prevent material-damage.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Aluminum sulfate in solution or in contact with moisture forms an acidic solution, proper precautions should be observed.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name : Aluminum sulfate, Solid

CAS-No. : 10043-01-3

Name	Synonyms	Product Identifier	% *	GHS Ingredient Classification
Sulfuric acid, aluminum salt (3:2)	Aluminum sulfate / Aluminium sulphate / Aluminum sulfate (2:3) / Aluminum sulphate / Sulfuric acid, aluminium salt (3:2) / Sulfuric acid, aluminum salt / Aluminium sulfate / ALUMINUM SULFATE / Sulfuric acid, aluminium salt / Aluminum sulfate anhydrous / Dialuminum sulfate / Aluminum(III) sulfate / Dialuminum trisulfate / Buffered aluminum sulfate / Dialuminium trisulfate / Dialuminium sulfate	(CAS-No.) 10043-01-3	100	Met. Corr. 1, H290 Eye Dam. 1, H318 Aquatic Acute 3, H402

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Immediately drench affected area with water for at least 15 minutes. Remove contaminated clothing. Obtain medical attention if irritation develops or persists.

Eye Contact: Immediately rinse with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Causes serious eye damage.

Inhalation: Prolonged exposure may cause irritation.

Skin Contact: Prolonged exposure may cause skin irritation.

Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Ingestion: Ingestion may cause adverse effects. May cause gastrointestinal irritation.

Chronic Symptoms: None known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO_2), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: In the presence of water, contact with metals may produce hydrogen which may form explosive mixtures with air.

Reactivity: Aluminum sulfate in the presence of moisture or water is acidic. The solid may corrode metals in the presence of moisture. Contact with metals may evolve flammable hydrogen gas. Reacts with strong alkalis. Reacts with strong oxidants and bases. Adding an acid to a base or base to an acid may cause a violent reaction.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Metal oxides. Sulfur oxides. Corrosive vapors.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Vacuum clean-up is preferred. If sweeping is required use a dust suppressant. Cautiously neutralize spilled solid. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Aluminum sulfate in the presence of moisture or water is acidic. The solid may corrode metals in the presence of moisture.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing dust. Do not get in eyes, on skin, or on clothing. Use appropriate personal protective equipment (PPE).

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool and well-ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in original container or corrosive resistant and/or lined container.

Incompatible Materials: Strong oxidizers. Strong bases. Alkalis. Metals. May be corrosive to metals.

7.3. Specific End Use(s)

Water treatment chemical. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Environmental Exposure Controls: Avoid release to the environment.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	:	Solid
Appearance	:	White granules or powder
Odor	:	Negligible
Odor Threshold	:	Not available
pH	:	3.3 +/- 0.5 (1% Solution)
Evaporation Rate	:	Not available
Melting Point	:	105 °C (221 °F)
Freezing Point	:	Not available
Boiling Point	:	Not available
Flash Point	:	Not available
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	1400 °F (760 °C)
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20°C	:	Not available
Relative Density	:	Not available
Density	:	< 98 lb/ft³
Specific Gravity	:	Not available
Solubility	:	Water: Soluble
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Aluminum sulfate in the presence of moisture or water is acidic. The solid may corrode metals in the presence of moisture. Contact with metals may evolve flammable hydrogen gas. Reacts with strong alkalis. Reacts with strong oxidants and bases. Adding an acid to a base or base to an acid may cause a violent reaction.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials. Generation of airborne dust.

10.5. Incompatible Materials: Strong oxidizers. Strong bases. Alkalis. Metals. May be corrosive to metals.

10.6. Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

pH: 3.3 +/- 0.5 (1% Solution)

Eye Damage/Irritation: Causes serious eye damage.

pH: 3.3 +/- 0.5 (1% Solution)

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects. May cause gastrointestinal irritation.

Chronic Symptoms: None known.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data: Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Harmful to aquatic life.

12.2. Persistence and Degradability

Aluminum sulfate, Solid (10043-01-3)	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Aluminum sulfate, Solid (10043-01-3)	
Bioaccumulative Potential	Not established.

12.4. Mobility in Soil

Aluminum sulfate, Solid (10043-01-3)	
Ecology - Soil	Not established.

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.(Aluminum sulfate)

Hazard Class : 9

Identification Number : UN3077

Label Codes : 9

Packing Group : III

ERG Number : 171

Note: UN3077 if shipped in a single container with a weight greater than the RQ, 5000 lbs.

14.2. In Accordance with IMDG

Not regulated for transport

14.3. In Accordance with IATA

Not regulated for transport

14.4. In Accordance with TDG

Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Aluminum sulfate, Solid (10043-01-3)	
SARA Section 311/312 Hazard Classes	Physical hazard - Corrosive to metals Health hazard - Serious eye damage or eye irritation

Sulfuric acid, aluminum salt (3:2) (10043-01-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
CERCLA RQ	5000 lb

15.2. US State Regulations

Sulfuric acid, aluminum salt (3:2) (10043-01-3)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Sulfuric acid, aluminum salt (3:2) (10043-01-3)
Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 06/03/2019

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
H290	May be corrosive to metals
H318	Causes serious eye damage
H402	Harmful to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

NA GHS SDS 2015 (Can, US)