

SAFETY DATA SHEET



Certified to
NSF/ANSI/CAN 60

MUL = 150 mg/L (dry basis)

Revision date 18-Dec-2020

Revision Number 2

1. Identification

Product identifier

Product Name Aluminum Sulfate Hydrate, Iron Free

Other means of identification

Product Code(s) 3208A

UN number or ID number UN3077 (above the RQ only)

Synonyms Aluminum Sulfate Dry, Iron Free. Dry Alum, Iron Free.

Recommended use of the chemical and restrictions on use

Recommended use

Restrictions on use None known

Details of the supplier of the safety data sheet

Supplier Address

USALCO, LLC
2601 Cannery Ave.
Baltimore, MD 21226
+1-800-453-2586 Hours: Monday - Friday
9:00 - 5:00 CST (Central Standard Time)
Hours: Monday-Friday 9:00-5:00 CST
(Central Standard Time)

Manufacturer Address

USALCO, LLC
2601 Cannery Ave.
Baltimore, MD 21226

Contact Point

sds@usalco.com

Emergency Telephone

CHEMTRAC: (800) 424-9300
Outside USA - +1 (703) 527-3887 collect calls accepted

2. Hazard(s) identification

Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements**DANGER****Hazard statements**

Harmful if swallowed
Causes skin irritation
Causes serious eye damage

**Appearance** Crystalline**Physical state** Solid**Odor** Odorless**Precautionary Statements - Prevention**

Wash hands, face and any exposed skin thoroughly after handling. Do not touch eyes.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response

IF exposed: Call a POISON CENTER or doctor/physician
IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water. If irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
IF SWALLOWED: Get emergency medical help immediately. Do NOT induce vomiting.
Rinse mouth.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other information

Harmful to aquatic life with long lasting effects.

3. Composition/information on ingredients**Substance****Synonyms**

Aluminum Sulfate Dry, Iron Free. Dry Alum, Iron Free.

Chemical name	CAS No	Weight-%	Trade secret
Aluminum sulfate	10043-01-3	> 55%	*
Water	7732-18-5	<45%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret. While some components are claimed as trade secret in accordance with the provision of OSHA 29 CFR 1910.1200(i), all known hazards are clearly communicated within this document.

4. First-aid measures**Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen. Call physician immediately.
Eye contact	Remove contact lenses, if worn. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Washing within one minute is essential to achieve maximum effectiveness. Seek medical advice immediately.
Skin contact	Remove contaminated clothing and launder before reuse. In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.
Ingestion	Rinse mouth thoroughly with water. Do NOT induce vomiting. If vomiting should occur spontaneously, keep airway clear. Never give anything by mouth to an unconscious person. Seek medical advice immediately.
Self-protection of the first aider	See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. May cause redness and tearing of the eyes. May aggravate existing skin, eye and respiratory conditions. Itching. Rashes. Redness. Stomach pains. Oral and gastrointestinal irritation may occur if swallowed.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents. Note: Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
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5. Fire-fighting measures

Suitable Extinguishing Media Large Fire	Water fog, carbon dioxide, foam, dry chemical. CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	.
Specific hazards arising from the chemical	Use water spray to cool fire exposed surfaces. Under fire conditions (or at temperatures greater than 650 °C or 1202 °F), product decomposes to give off sulfur trioxide, an oxidizing agent which will support combustion. Sulfur trioxide will react with water to form sulfuric acid. Cool containers with flooding quantities of water until well after fire is out.
Hazardous combustion products	Oxides of sulfur.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment for fire-fighters	Full protective clothing and approved self-contained breathing apparatus required for firefighting personnel.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Wear suitable protective clothing and gloves.
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For emergency responders	Use personal protection recommended in Section 8.
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Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Clean up immediately by sweeping or shoveling material into a properly labeled container for disposal. Clean up large spills with vacuum truck. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Residual spillage that cannot be removed by shovelling should be cleaned up from hard surfaces as appropriate. Ensure adequate decontamination of tools and equipment following cleanup.
Prevention of secondary hazards	Do not permit run-off to get into sewers or surface waterways.

7. Handling and storage**Precautions for safe handling**

Advice on safe handling	Keep container closed when not in use. Avoid contact with skin, eyes or clothing. Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing. Avoid breathing dust; if exposed to high dust concentration, leave area immediately. Use only in well-ventilated areas. Use respiratory protection where dust may be generated. FOR INDUSTRIAL USE ONLY.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.
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8. Exposure controls/personal protection**Control parameters**

Exposure Limits	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.		
Chemical name	ACGIH TLV	OSHA PEL	NIOSH

Aluminum sulfate 10043-01-3	-	(vacated) TWA: 2 mg/m ³ Al Aluminum	TWA: 2 mg/m ³ Al
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Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls	Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Please refer to the ACGIH document, 'Industrial Ventilation, A Manual of Recommended Practices', most recent edition, for details. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient. Ensure that eyewash stations and safety showers are close to the workstation location.
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Individual protection measures, such as personal protective equipment

Eye/face protection	Wear chemical splash goggles and face shield (when eye and face contact is possible due to splashing or spraying of material).
Hand protection	Appropriate chemical resistant gloves should be worn.

Skin and body protection	Standard work clothing and work shoes.
Respiratory protection	If exposures exceed the PEL or TLV, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134. If there are no applicable or established exposure limit requirements or guidelines, general ventilation should be sufficient.
Environmental exposure controls	Do not allow into any sewer, on the ground or into any body of water.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Crystalline
Color	White
Odor	Odorless
Odor threshold	

Property	Values	Remarks • Method
pH	3.5	1% solution
Melting point / freezing point	Loses water of hydration at 88 °C (190 °F)	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	7.28 lbs./gal. @ 68 °F	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	
Oxidizing properties	
VOC Content (%)	No information available
Bulk density	~65 lbs./ft ³

10. Stability and reactivity

Reactivity

Chemical stability	At temperatures greater than 650 °C (1202 °F), product decomposes to form aluminum oxide and sulfur trioxide. Stable under normal temperatures and pressures.
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Possibility of hazardous reactions	None under normal processing.
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Hazardous polymerization	Not anticipated under normal or recommended handling and storage conditions.
Conditions to avoid	Extreme heat.
Incompatible materials	Reacts with strong alkali to form aluminum hydroxide. On contact with moisture, an acidic solution forms. Weakly corrosive to carbon steel.
Hazardous decomposition products	Sulphur oxides. Aluminum oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of dust may cause irritation of the respiratory system.
Eye contact	Higher concentrations or splashes may cause irreversible eye damage. Dust may cause irritation and inflammation. Prolonged exposure to Aluminum salts may cause conjunctivitis.
Skin contact	May cause irritation to skin with redness, pain and possibly burns. May cause irritation or burns if the product is wet or in the presence of perspiration. Not irritating to skin in rabbits.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Concentrated solutions can cause burns of the mouth, bleeding stomach, muscle spasms and kidney injury.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Eye contact: Adverse symptoms may include the following: watering, redness. and irritation. Skin contact: Adverse symptoms may include the following: irritation and redness. Ingestion: Adverse symptoms may include the following: stomach pains, gastrointestinal irritation, nausea, vomiting and diarrhea. Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing.
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Acute toxicity

Numerical measures of toxicity

No information available

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum sulfate 10043-01-3	= 1930 mg/kg (Rat)	-	-
Water 7732-18-5	> 90 mL/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Dry product was found to be non-irritating in skin studies with rabbits.

Serious eye damage/eye irritation Risk of serious damage to eyes.

Respiratory or skin sensitization .

Germ cell mutagenicity .

Carcinogenicity .

Reproductive toxicity .

Developmental toxicity**STOT - single exposure****STOT - repeated exposure****Target organ effects** Eyes, Respiratory system, Skin, Gastrointestinal tract (GI).**Aspiration hazard****Other adverse effects****Interactive effects**

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Aluminum sulfate 10043-01-3	--	LC50 (96 h) = 100 mg/L (Carassius auratus) LC50 (96 h static) = 37 mg/L (Gambusia affinis)	-	-

Persistence and degradability Not determined. .**Bioaccumulation****Mobility** Not determined. .**Other adverse effects** No information available.

13. Disposal considerations

Waste treatment methods**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.**Contaminated packaging** Do not reuse empty containers.

14. Transport information

DOT**Notes****Regulated in quantities above the RQ.****UN number or ID number**

UN3077 (above the RQ only)

Proper shipping name

Environmentally Hazardous Substance, Solid, N.O.S. (Aluminum Sulfate)

Transport hazard class(es)

9

Packing group

III

DOT Reportable Quantity lbs. (calculated)

5,000 lbs

DOT Marine Pollutant

Not determined

TDG	Regulated UN3077 Environmentally Hazardous Substance, Solid, N.O.S. (Aluminum Sulfate) 9 III
UN number or ID number	UN3077
UN proper shipping name	Environmentally Hazardous Substance, Solid, N.O.S. (Aluminum Sulfate)
Transport hazard class(es)	9
Packing group	III

Notes **Contact manufacturer.**
Technical Name

IATA	Regulated UN3077 Environmentally Hazardous Substance, Solid, N.O.S. (Aluminum Sulfate) 9 III 9L
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IMDG Contact Manufacturer.

15. Regulatory information

International Inventories

TSCA All ingredients are on the inventory or exempt from listing.

Chemical name	CAS No	US TSCA Inventory listing	US TSCA inactive/active designation
Aluminum sulfate	10043-01-3	Present	Active
Water	7732-18-5	Present	Active

DSL/NDSL

All ingredients are on the DSL inventory or exempt from listing. None of the ingredients are on the NDSL inventory.

EINECS/ELINCS

All ingredients are on the EINECS inventory or are exempt from listing. None of the ingredients are on the ELINCS inventory.

ENCS

All ingredients are on the inventory or exempt from listing.

IECSC

All ingredients are on the inventory or exempt from listing.

KECL

All ingredients are on the inventory or exempt from listing.

PICCS

All ingredients are on the inventory or exempt from listing.

AICS

All ingredients are on the inventory or exempt from listing.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Aluminum sulfate 10043-01-3	5000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Aluminum sulfate 10043-01-3	5000 lbs. final RQ 2267 kg final RQ	-	RQ 17,500 lbs. as solution RQ 7,937 kg as solution

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Aluminum sulfate 10043-01-3	0068	Present	Present

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 2	Flammability 0	Instability 1	Special hazards
HMIS	Health hazards 2	Flammability 0	Physical hazards 1	Personal protection B

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: Exposure controls/personal protection**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 18-Dec-2020

Revision Note

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet