



SAFETY DATA SHEET

MUL = 150 mg/L

Revision date 2015-03-03

Revision number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name Aluminum Sulfate

Other means of identification

Product code
Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use [RU] No information available
Uses advised against No information available

Details of the supplier of the safety data sheet

Distributor Chemistry Connection, LLC
253 Sturgis Road
Conway, Arkansas 72034
(888) 583-7738

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: (800) 424-9300

Contact Point contact@thechemistryconnection.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Physical state solid	Color White to light tan	Appearance crystalline	Odor odorless
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**WARNING****Hazard statements**

Causes skin irritation
 Causes serious eye irritation
 May cause respiratory irritation. May cause drowsiness or dizziness

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

- May be harmful if swallowed
- Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	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

4. FIRST AID MEASURES

First Aid Measures

Eye contact

Remove contact lenses, if worn. Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart to ensure flushing of the entire surface. Washing within one minute is essential to achieve maximum effectiveness. Seek medical advice immediately.

Skin contact

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Ingestion

Do NOT induce vomiting. If vomiting should occur spontaneously, keep airway clear. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation

Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Most important symptoms and effects, both acute and delayed**Acute effects**

None known.

Chronic effects

None known.

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. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media**Suitable extinguishing media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

No information available

Special hazards arising from the substance or mixture**Special Hazard**

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.

Advice for firefighters**Firefighting measures**

Cool exposed containers with water spray after extinguishing fire.

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

Explosion data**Sensitivity to Mechanical Impact**

None.

Sensitivity to Static Discharge
None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear suitable protective clothing and gloves.

Environmental precautions

Environmental precautions

Do not permit solutions of product into sewers or waterways.

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

Large spills should be handled according to a predetermined plan. For assistance in developing a plan, call 1-800-453-2586. Use with adequate ventilation where dust may be generated. Ensure adequate decontamination of tools and equipment following clean-up. Sweep up or vacuum into labeled waste containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Keep container closed when not in use
Avoid creating dust
Do not take internally
Avoid contact with eyes, skin and clothing

Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Store in a cool, dry place away from ignition sources and open flame.

Incompatible products

Reacts with strong alkali to form aluminum hydroxide. Weakly corrosive to carbon steel. On contact with moisture, an acidic solution forms.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure 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.

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

When exposed to elevated dust levels, use NIOSH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134.

Other personal protection data

Eyewash fountains and safety showers must be easily accessible.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	solid
Color	White to light tan
Appearance	crystalline
Odor	odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks / Method</u>
pH	3.5	aqueous solution (1%)
Melting / freezing point	Loses water of hydration at 88 °C (190 °F)	No information available
Boiling point / boiling range	No information available	No information available
Flash point	No information available	No information available
Evaporation rate	No information available	No information available
Flammability (solid, gas)	No information available	No information available
Flammability Limit in Air		
Upper flammability limit	No information available	No information available
Lower flammability limit	No information available	No information available
Vapor pressure	No information available	No information available
Vapor density	No information available	No information available
Specific gravity	No information available	No information available
Solubility (water)	87.3 g/100 g water	No information available
Solubility in other solvents	No information available	No information available
Partition coefficient: n-octanol/water	No information available	No information available

Autoignition temperature	No information available	No information available
Decomposition temperature	No information available	No information available
Kinematic viscosity	No information available	No information available
Dynamic viscosity	No information available	No information available

Other information

Density	No information available
Bulk Density	65 lb/ft ³
Explosive properties	No information available.
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	Not applicable
Volatile organic compounds (VOCs) content	No information available
Percent Volatile, wt. %	No information available

10. STABILITY AND REACTIVITY**Reactivity****Reactivity**

No data available.

Chemical stability**Chemical stability**

Stable at ambient temperatures and atmospheric pressure.

Possibility of hazardous reactions**Possibility of hazardous reactions**

None under normal processing.

Hazardous polymerization

Not anticipated under normal or recommended handling and storage conditions.

Conditions to avoid**Conditions to avoid**

Avoid high temperatures greater than 650° C (1200° F) as material may decompose to form aluminum oxide and sulfur trioxide (an oxidizing agent that supports combustion).

Incompatible materials**Materials to avoid**

Reacts with strong alkali to form aluminum hydroxide. Weakly corrosive to carbon steel. On contact with moisture, an acidic solution forms.

Hazardous decomposition products**Hazardous decomposition products**

Thermal decomposition products include oxides of aluminum and sulfur.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Eye contact**

Concentrated solutions (over 20%) may cause severe eye damage or burns. May cause irritation and inflammation of the eye.

Skin contact

May cause skin irritation or burns if the product is wet or in the presence of perspiration.

Ingestion

May be harmful if swallowed. May cause abdominal pain, nausea, or vomiting. Concentrated solutions can cause burns of the mouth, bleeding stomach, muscle spasms and kidney injury.

Inhalation

Dust extremely irritating to respiratory tract.

Acute toxicity - Product Information

Oral LD50	> 2,000 (rat)
Dermal LD50	> 5,000 mg/kg (rabbit)
Inhalation LC50	No information available

Acute toxicity - Component Information

Component	weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum sulfate 10043-01-3	> 55%	= 1930 mg/kg (Rat)	--	--

Information on toxicological effects**Symptoms**

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Irritating to skin

Serious eye damage/eye irritation

Causes serious eye irritation

Sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

This product does not contain any components in concentrations greater than or equal to 0.1% that are listed as known or suspected carcinogens by NTP, IARC, ACGIH, or OSHA.

Reproductive toxicity

No information available

Specific target organ toxicity - Single exposure

Irritating to respiratory system.

Specific target organ toxicity - Repeated exposure

No information available

Aspiration hazard

No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 3386 mg/kg

Other information

Conclusions are drawn from sources other than direct testing.

12. ECOLOGICAL INFORMATION

Ecotoxicity

- Harmful to aquatic life with long lasting effects

Acute aquatic toxicity - Product Information

Fish No information available

Crustacea No information available

Algae/aquatic plants No information available

Acute aquatic toxicity - Component Information

Component	weight-%	Algae/aquatic plants	Fish	Toxicity to daphnia and other aquatic invertebrates
Aluminum sulfate 10043-01-3	> 55%	--	LC50 (96 h) = 100 mg/L (Carassius auratus) LC50 (96 h static) = 37 mg/L (Gambusia affinis)	EC50 (15 min) = 136 mg/L (Daphnia magna)

Persistence and degradability

Persistence and degradability
No information available

Bioaccumulative potential

Bioaccumulative potential
No information available

Mobility

Mobility
No information available

Results of PBT and vPvB assessment

PBT and vPvB assessment
No information available

Other adverse effects

Other information
No other ecological studies have been carried out on this product.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Dispose of product in an approved chemical waste landfill or incinerate in accordance with applicable Federal, state and local regulations.

Contaminated packaging

Since empty containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION**DOT**

Regulated in quantities above RQ.

Reportable Quantity (RQ)

8500 pounds as hydrate

DOT Shipping Name > RQ

UN3077, Environmentally Hazardous Substance, Solid, N.O.S. (Aluminum Sulfate, Hydrate), 9, PG III, RQ, ERG# 171

ICAO/IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION**International Inventories****TSCA (United States)**

All ingredients are on the inventory or exempt from listing

Australia (AICS)

All ingredients are on the inventory or exempt from listing

Canada (DSL)

All ingredients are on the inventory or exempt from listing

Canada (NDSL)

None of the ingredients are on the inventory.

China (IECSC)

All ingredients are on the inventory or exempt from listing

EINECS (European Inventory of Existing Chemical Substances)

All ingredients are on the inventory or exempt from listing

ELINCS (European List of Notified Chemical Substances)

None of the ingredients are on the inventory.

ENCS (Japan)

All ingredients are on the inventory or exempt from listing

South Korea (KECL)

All ingredients are on the inventory or exempt from listing

Philippines (PICCS)

All ingredients are on the inventory or exempt from listing

Legend

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

AICS - Australian Inventory of Chemical Substances

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

IECSC - China Inventory of Existing Chemical Substances

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

U.S. Federal Regulations

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).

Component	CERCLA/SARA Hazardous Substance RQ	CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs	Calculated Product RQ
Aluminum sulfate 10043-01-3	5000 lb final RQ; 2270 kg final RQ	--	8,500 lb as hydrate

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Priority Pollutants	CWA - Toxic Pollutants
Aluminum sulfate 10043-01-3	Present	5000 lb RQ	--	--

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

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.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Aluminum sulfate 10043-01-3	
Massachusetts Right to Know Law	Present
Minnesota Hazardous Substance List	Present
New Jersey Right to Know List	sn 0068
Pennsylvania Right to Know List	Environmental hazard

16. OTHER INFORMATION

NFPA Rating	Health - 1	Flammability - 0	Instability - 1	Special Hazard -
HMIS Rating	Health - 1	Flammability - 0	Physical hazard - 1	Personal protection - X

Product code 3208A

Revision date 2015-03-03

Revision number 1

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