

# SAFETY DATA SHEET

Revision date 2015-08-06

Revision number 1.01

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

### Product identifier

**Product name** Aluminum Sulfate Solution, Iron Free

### Other means of identification

**Product code** 3207Z  
**Synonyms** Sulfuric Acid, Aluminum Salt (3:2)

### 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

**Supplier** GEO Specialty Chemicals, Inc.  
9213 Arch Street Pike  
Little Rock, AR 72206  
+1-800-453-2586  
Hours: Monday-Friday 9:00-5:00 CST (Central Standard Time)

### Emergency telephone number

**24 Hour Emergency Phone Number** CHEMTREC: (800) 424-9300  
Outside USA - +1 (703) 527-3887 collect calls accepted

**Contact Point** safety-data-sheet-fp@geosc.com

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

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

<b>Skin corrosion/irritation</b>	Category 1
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Corrosive to metals</b>	Category 1

### GHS Label elements, including precautionary statements

**EMERGENCY OVERVIEW**

<b>Physical state</b> liquid	<b>Color</b> colorless to light beige	<b>Appearance</b> clear	<b>Odor</b> odorless
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**DANGER****Hazard statements**

Causes severe skin burns and eye damage  
May be corrosive to metals

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep only in original container

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor/physician  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
Absorb spillage to prevent material damage

**Precautionary Statements - Storage**

Store locked up  
Store in corrosive resistant container with a resistant inner liner

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other information**

- Not applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No	weight-%	TRADE SECRET
Aluminum sulfate	10043-01-3	< 50%	*
Water	7732-18-5	> 50%	*

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret

\*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. Give large amounts of water followed by milk if available. If vomiting should occur spontaneously, keep airway clear. Seek medical advice immediately. Never give anything by mouth to an unconscious person.

#### **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**

Possible eye, skin, and respiratory tract irritation or burns.

#### **Chronic effects**

May aggravate existing skin, eye, and lung conditions. Persons with kidney disorders have an increased risk from exposure based on general information found on aluminum salts.

### 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.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

#### **Suitable extinguishing media**

Not combustible. Use appropriate extinguishing media for material that is supplying fuel. Use water spray to cool the surrounding area and maintain fire temperature below decomposition temperature.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### Special hazards arising from the substance or mixture

#### **Special Hazard**

At temperatures above 650 °C (1202 °F) the product will decompose to give off sulfur trioxide, an oxidizing agent that will support combustion. Sulfur trioxide will react with water to yield 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 firefighting 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 flush into surface water or sanitary sewer system.

**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**

Soak up small spills with inert absorbent material and place in a labeled waste container for disposal. Clean up large spills with vacuum truck. Provide adequate ventilation to spill area.

**7. HANDLING AND STORAGE****Precautions for safe handling****Advice on safe handling**

Keep container closed when not in use

Avoid contact with eyes, skin and clothing

Wear chemical splash goggles, gloves, and protective clothing when handling.

Wash thoroughly after handling

Avoid breathing vapor or mist

Use with adequate ventilation and employ respiratory protection where mist or vapors may be generated.

Do not take internally

FOR INDUSTRIAL USE ONLY.

**Conditions for safe storage, including any incompatibilities****Technical measures and storage conditions**

Store in a cool, dry place away from direct heat.

Do not store below 40°F (5°C).

Product may congeal or stratify if cold.

Warm to 122° F (50° C) and mix well before using.

Keep material from coming in contact with common metals due to the corrosive nature of this product.

**Incompatible products**

Aluminum sulfate reacts with strong alkali to form aluminum hydroxide. This product may be weakly corrosive to carbon steel and incompatible with strong oxidizing agents, iron, copper, or copper alloys.

## 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**

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.

#### **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

<b>Physical state</b>	liquid
<b>Color</b>	colorless to light beige
<b>Appearance</b>	clear
<b>Odor</b>	odorless
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks / Method</u>
pH	3.5	solution (1 %)
Melting / freezing point	-15 - -1 °C / 4 - 30 °F	No information available
Boiling point / boiling range	101 °C / 214 °F	No information available
Flash point	Not applicable	No information available
Evaporation rate	No information available	No information available

<b>Flammability (solid, gas)</b>	Not applicable	No information available
<b>Flammability Limit in Air</b>		
Upper flammability limit	Not applicable	No information available
Lower flammability limit	Not applicable	No information available
<b>Vapor pressure</b>	No information available	No information available
<b>Vapor density</b>	No information available	No information available
<b>Specific gravity</b>	1.31 - 1.33	No information available
<b>Solubility (water)</b>	Soluble	No information available
<b>Solubility in other solvents</b>	No information available	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available	No information available
<b>Autoignition temperature</b>	Not applicable	No information available
<b>Decomposition temperature</b>	No information available	No information available
<b>Kinematic viscosity</b>	No information available	No information available
<b>Dynamic viscosity</b>	No information available	No information available

**Other information**

<b>Density</b>	11.075 lb/gal
<b>Bulk Density</b>	No information available
<b>Explosive properties</b>	No information available.
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>Volatile organic compounds (VOCs) content</b>	No information available
<b>Percent Volatile, wt.%</b>	No information available

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

No data available.

**Chemical stability****Chemical stability**

Stable under normal conditions of handling, use and transportation.

**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**

High temperatures greater than 650° C (1202° F) as material may decompose to form aluminum oxide and sulfur trioxide (an oxidizing agent that supports combustion).

**Incompatible materials****Materials to avoid**

Aluminum sulfate reacts with strong alkali to form aluminum hydroxide. This product may be weakly corrosive to carbon steel and incompatible with strong oxidizing agents, iron, copper, or copper alloys.

**Hazardous decomposition products****Hazardous decomposition products**

Sulphur oxides. Aluminum oxide.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Eye contact**

Prolonged exposure to Aluminum salts may cause conjunctivitis. Based on pH, this product is expected to cause severe eye irritation, possibly resulting in burns and eye damage.

**Skin contact**

Prolonged and/or repeated contact will cause severe skin irritation and burns.

**Ingestion**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause burns of the mouth, throat and stomach.

**Inhalation**

Inhalation of mist or spray may irritate respiratory tract and may cause burns and difficulty breathing.

**Acute toxicity - Product Information**

<b>Oral LD50</b>	6207 (mouse) <sup>1</sup>
<b>Dermal LD50</b>	No information available
<b>Inhalation LC50</b>	No information available

**Acute toxicity - Component Information**

Component	weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum sulfate 10043-01-3	< 50%	= 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**

Causes burns

**Serious eye damage/eye irritation**

Severe eye irritation- rabbit- 10 mg/24 hour <sup>2</sup>

**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**

No information available.

**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)** 7148 mg/kg

**Other information**

Unreported route- Guinea pig LD50: 490 mg/kg<sup>3</sup>

Unreported route- Mouse LD50: 520 mg/kg<sup>3</sup>

Unreported route- Rat LD50: 410 mg/kg<sup>3</sup>

<sup>1</sup> British Journal of Industrial Medicine. (British Medical Journal, 1172 Commonwealth Ave., Boston, MA 02134) V.1 - 1960-

<sup>2</sup> National Technical Information Service. (Springfield, VA 22161) Formerly US Clearinghouse for Scientific & Technical Information) (NIOSH Registry of Toxic Effects of Chemical Substances RTECS#:BD1700000)

<sup>3</sup> Gigiena I Sanitariya. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.1- 1936- (For English translation see Hygiene and Sanitation (USSR). (Springfield, VA) 1964-71. Discontinued). (NIOSH Registry of Toxic Effects of Chemical Substances RTECS#:BD1700000)

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity****Acute aquatic toxicity - Product Information**

**Fish** See ECOTOX: Ecotoxicological Database at <http://www.epa.gov/ecotox>

**Crustacea** See ECOTOX: Ecotoxicological Database at <http://www.epa.gov/ecotox>

**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	< 50%	--	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. Do NOT mix with other chemical wastes. Do not put solutions containing this product into sewer systems.

**Contaminated packaging**

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

**RCRA****Is the unused product a RCRA hazardous waste if discarded? (Yes/No)**

Yes

**If yes, the EPA Hazardous Waste Code is:**

D002 (corrosivity)

**14. TRANSPORT INFORMATION****DOT**

Regulated in quantities above RQ.

**Reportable Quantity (RQ)**

17,500 lbs in solution

**DOT Shipping Name > RQ**

UN3264, Corrosive Liquid, Acidic, Inorganic, N.O.S. (contains aluminum sulfate solution), 8, PG III, RQ, ERG # 154

**ICAO/IATA**

Regulated

**UN number**

UN3264

**Proper shipping name**

Corrosive Liquid, Acidic, Inorganic, N.O.S. (aluminum sulfate solution)

**Hazard class**

8

**Packing group**

III

**ERG Code**

8L

**IMDG**

Regulated

**UN number**

UN3264

**Proper shipping name**

Corrosive Liquid, Acidic, Inorganic, N.O.S. (aluminum sulfate solution)

**Hazard class**

8

**Packing group**

III

**EmS**

F-A; S-B

**Harmonized Tariff Number** 2833.22

## 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	--	17,500 lbs in solution

**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).

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**

<b>NFPA Rating</b>	Health - 2	Flammability - 0	Instability - 0	Special Hazard -
<b>HMIS Rating</b>	Health - 2	Flammability - 0	Physical hazard - 0	Personal protection - B

<b>Product code</b>	3207Z
<b>Revision date</b>	2015-08-06
<b>Revision number</b>	1.01

**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