



SAFETY DATA SHEET

Date 06-22-2015

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

Product identifier

Product name Aluminum Sulfate Solution

Other means of identification

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

Deep South Chemical, Inc.
 229 Millstone Road
 Broussard, LA 70518
 1-337-837-9931 Hours: Monday-Friday 8:00-5:00 CST (Central Standard Time)

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: (800) 424-9300 Outside USA -00 1 (703) 527-3887 collect calls accepted

Contact Point info@deep-south-chemical.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 1
Serious eye damage/eve irritation	Category 1
Corrosive to metals	Category 1
Skin corrosion/irritation	Category 1
Serious eye damage/eve irritation	Category 1
Corrosive to metals	Category 1

GHS Label elements. including precautionary statements

EMERGENCY OVERVIEW

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1
	
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1
Hazard statements	
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

Corrosive to met. yellow
 Precautionary Statements -Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 liquid **Wear protective gloves/protective clothing/eye protection/face protection**
 colorless to yellow-brown or yellow-green
 clear **Keep only in original container**
 odorless
 Precautionary Statements –Response
 No information available
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Values **IF ON SKIN (or hair): Remove/Take off immediately. Remove contaminated clothing. Rinse skin with water/shower**
Wash contaminated clothing before reuse
 3.5 **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
 -15 **Absorb spillage to prevent material damage** No information available
 Precautionary Statements -Storage No information available
 Store locked up
 Not applicable
 Store in corrosive resistant container with a resistant inner liner
 No information available
 Precautionary Statements -Disposal No information available
Dispose of contents/container to an approved waste disposal plant

Other information	
• Not applicable	
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

3. COMPOSITION/INFORMATION ON INGREDIENTS

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

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

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

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 OF) 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

Physical state	liquid
Color	colorless to yellow-brown or yellow-green
Appearance	clear
Odor	odorless
Odor threshold	No information available

Property	Values	Remarks/Method
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

Flammability (solid, gas)	No information available	No information available
Flammability Limit in air		
Upper flammability limit	Not applicable	No information available
Lower flammability limit	Not applicable	No information available
Vapor pressure	No information available	No information available
Vapor density	No information available	No information available
Specific gravity	1.31 – 1.33	No information available
Solubility (water)	soluble	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	Not applicable	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	11.075 lb/gal
Bulk Density	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
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 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 650⁰ 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 Based on pH, this product is expected to cause severe eye irritation, possibly resulting in burns and eye damage. Prolonged exposure to Aluminum salts may cause conjunctivitis.

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

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

Inhalation

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

Acute toxicity -Product Information

Oral LD50 6207 (mouse) ;

Dermal LD50 No information available

Inhalation LC50 No information available

Acute toxicity -Component Information

Component	Weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum sulfate 10043-1-3	<30%	=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

No information available

Serious eye damage/eye irritation
Severe eye irritation-rabbit-10 mg/24 hour ³

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.

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 ⁴

Unreported route-Mouse LD50: 520 mg/kg ⁴

Unreported route-Rat LD50: 410 mg/kg ⁴

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

² Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences (Paris, France) V.1-261, 1835-1965.

³ National Technical Information Service. (Springfield, VA 22161) Formerly US Clearinghouse for Scientific & Technical Information)

NIOSH Registry of Toxic Effects of Chemical Substances RTECS#:BD1700000)

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	<30%	--	LC50(96h) = 100 mg/L (Carassius auratus) LC50(96 h static) = 37 gm/L (Gambusia affinis)	EC (15min) = 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

Do NOT mix with other chemical wastes. Do not put solutions containing this product into sewer systems. 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.

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 (DSI)

All ingredients are on the inventory or exempt from listing

Canada (NDSI)

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 (KECI)

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

DSLINDSI -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

KECI -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	CERCLASARA Hazardous Substance RQ	CERCLAISARA -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
Component	CERCLASARA Hazardous Substance RQ	CERCLAISARA -Section 302 Extremely Hazardous Substances TPQs	Calculated Product RQ
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			
Aluminum sulfate 10043-01-3	5000 lb final RQ; 2270 kg final RQ	-	17,500 lbs in solution

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

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	Component	CWA -Hazardous Substances	CWA Reportable Quantities _CWA Priority Pollutants	CWA -Toxic Pollutants
This product does not contain any Proposition 65 chemicals				
Aluminum sulfate 10043-01-3	Present	5000 lb RQ	-	-

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
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 -2 Flammability - 0 Instability - 0 Special Hazard -
 HMIS Rating Health - 2 Flammability - 0 Physical hazard - 0 Personal protection – X

Product code 3204M
 Revision Date 2015-06-22
 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, and 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

Component	CERCLASARA Hazardous Substance RQ	CERCLAISARA -Section 302 Extremely Hazardous Substances TPQs	Calculated Product RQ
Aluminum sulfate 10043-01-3	-000 lb final RQ; 2270 kg final RQ	-	17,500 lbs in solution