

# SAFETY DATA SHEET

Revision date 2015-03-12

Revision number 1

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

### Product identifier

**Product name** Polyaluminum chloride solution

### Other means of identification

**Product code** 3204J  
**Synonyms** Aluminum chloride hydroxide; Aluminum hydroxychloride; Aluminum chloride oxide

### 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 - 00 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 2
<b>Serious eye damage/eye irritation</b>	Category 2
<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 yellow	<b>Appearance</b> clear	<b>Odor</b> no appreciable odor
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**WARNING****Hazard statements**

Causes skin irritation  
Causes serious eye irritation  
May be corrosive to metals

**Precautionary Statements - Prevention**

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**

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  
Absorb spillage to prevent material damage

**Precautionary Statements - Storage**

Store in corrosive resistant container with a resistant inner liner

**Other information**

- Not applicable

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	weight-%	TRADE SECRET
Polyaluminum Chloride	1327-41-9	25 - 35%	*
Water	7732-18-5	65 - 75%	*

\*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**

Possible eye, skin and respiratory tract irritation.

**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**

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**

May produce hazardous fumes or hazardous decomposition products.

**Advice for firefighters****Firefighting measures**

Product is a water solution and nonflammable. In a fire, this product may build up pressure and rupture a sealed container; cool exposed containers with water spray. Use self-contained breathing apparatus in confined areas; avoid breathing mist or spray.

**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 adequate personal protective clothing and equipment. Approved breathing apparatus may be necessary.

### Environmental precautions

#### **Environmental precautions**

Do not allow liquid to enter streams or waterways.

### Methods and material for containment and cleaning up

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Build dikes as necessary to contain flow of large spills.

#### **Methods for cleaning up**

Clear spills immediately. For small spills, use soda ash to neutralize, an inert material to absorb. Place contaminated materials into containers and store in a safe place to await proper disposal. Caution: Use of soda ash may generate carbon dioxide gas. 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

Keep away from heat and open flame.

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 spray may be generated.

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.

Keep container closed when not in use

Do not store in unlined metal containers.

Product may slowly corrode iron, brass, copper, aluminum, mild steel, and stainless steel.

#### **Incompatible products**

Alkalis.

## 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**

Take off contaminated clothing and wash before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid
<b>Color</b>	colorless to yellow
<b>Appearance</b>	clear
<b>Odor</b>	no appreciable odor
<b>Odor threshold</b>	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks / Method</u></b>
<b>pH</b>	2.0 - 3.0	as is
<b>Melting / freezing point</b>	-12 °C / 10 °F	No information available
<b>Boiling point / boiling range</b>	104 °C / 220 °F	No information available
<b>Flash point</b>	Not applicable	No information available
<b>Evaporation rate</b>	No information available	No information available
<b>Flammability (solid, gas)</b>	No information available	No information available
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	No information available
<b>Lower flammability limit</b>	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>	1.19 - 1.21	No information available
<b>Solubility (water)</b>	Soluble below pH 4	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>	< 20 cps @ 25 °C	No information available

**Other information**

<b>Density</b>	9.92 - 10.09 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>	65 - 80%

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

No data available.

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

Stable.

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

None under normal processing.

**Hazardous polymerization**

No.

**Conditions to avoid****Conditions to avoid**

None.

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

Alkalis.

**Hazardous decomposition products****Hazardous decomposition products**Thermal decomposition may release toxic and/or hazardous gases such as aluminum, Cl<sub>2</sub>, and HCl.**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure**

**Eye contact**

May cause moderate eye irritation that can become severe with prolonged contact. Prolonged exposure to Aluminum salts may cause conjunctivitis.

**Skin contact**

Prolonged and/or repeated contact may cause skin irritation.

**Ingestion**

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

**Inhalation**

Inhalation of mist or vapor may cause respiratory tract irritation.

**Acute toxicity - Product Information**

**Oral LD50** No information available

**Dermal LD50** No information available

**Inhalation LC50** No information available

**Acute toxicity - Component Information**

Component	weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Poyaluminum Chloride 1327-41-9	25 - 35%	> 2000 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**

No information available

**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) 5720 mg/kg

**Other information**

Conclusions are drawn from sources other than direct testing.

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Acute aquatic toxicity - Product Information**

<b>Fish</b>	LD (24 hr, static, Fresh Water) 10 mg/L <i>Oncorhynchus kisutch</i> , Coho salmon, Silver salmon <sup>1</sup> LD (24 hr, static, Fresh Water) 10 mg/L <i>Ptychocheilus oregonensis</i> , Northern squawfish <sup>1</sup> LD (24 hr, static, Fresh Water) 10 mg/L <i>Oncorhynchus tshawytscha</i> , Chinook salmon <sup>1</sup>
<b>Crustacea</b>	LC50 (48 Hour, static) 33.2 mg/L <i>Ceriodaphnia dubia</i> <sup>2</sup>
<b>Algae/aquatic plants</b>	No information available

**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**

<sup>1</sup> Data from USEPA ECOTOX database search, reference: Lethal Effects of 1888 Chemicals upon Four Species of Fish From Western North America, MacPhee, C. and R. Ruelle, Univ. of Idaho Forest, Wildlife Range Experimental Station Bull. No. 3, Moscow, ID, 112p.

<sup>2</sup> Generated from tests conducted by SEAUS Testing Laboratories Nov., 1993 using EPA/600-4-90/027

**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**

<b>DOT</b>	Regulated
<b>DOT UN/NA Number</b>	UN3264
<b>Proper shipping name</b>	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Polyaluminum Chloride Solution)
<b>Hazard class</b>	8
<b>Packing group</b>	III
<b>ERG Number</b>	154
<b>ICAO/IATA</b>	Regulated
<b>UN number</b>	UN3264
<b>Proper shipping name</b>	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Polyaluminum Chloride Solution)
<b>Hazard class</b>	8
<b>Packing group</b>	III
<b>ERG Code</b>	8L
<b>IMDG</b>	Regulated
<b>UN number</b>	UN3264
<b>Proper shipping name</b>	Corrosive Liquid, Acidic, Inorganic, N.O.S. (Polyaluminum Chloride Solution)
<b>Hazard class</b>	8
<b>Packing group</b>	III
<b>EmS</b>	F-A; S-B
<b>Harmonized Tariff Number</b>	2827.49

**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, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**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).

**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**

Polyaluminum Chloride 1327-41-9	
Minnesota Hazardous Substance List	Present
Pennsylvania Right to Know List	Present

**16. OTHER INFORMATION**

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

**Product code** 3204J

**Revision date** 2015-03-12

**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