



## Dry Alum

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
 Revision Date: 05/01/15 Date of Issue: 05/01/15

Version: 1.0

## SECTION 1: IDENTIFICATION

### Product Identifier

Product Form: Mixture  
 Product Name: Dry Alum  
 CAS No: 16828-12-9  
 Formula:  $Al_2(SO_4)_3 \cdot 14H_2O$

### Intended Use of the Product

Alum is used as a coagulating agent in municipal and industrial water and wastewater treatment and as an additive in papermaking.

### Name, Address, and Telephone of the Responsible Party

#### Manufacturer

CHEMTRADE LOGISTICS INC.  
 155 Gordon Baker Road  
 Suite 300  
 Toronto, Ontario M2H 3N5  
 For MSDS Info: (416) 496-5856  
 www.chemtradelogistics.com

### Emergency Telephone Number

Emergency number : Canada: CANUTEC +1-613-996-6666 / US: CHEMTREC +1-800-424-9300  
 Chemtrade Emergency Contact: (866) 416-4404

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the Substance or Mixture

#### Classification (GHS-US)

Skin Irrit. 2 H315  
 Eye Irrit. 2B H320

### Label Elements

#### GHS-US Labeling

#### Hazard Pictograms (GHS-US)



GHS07

#### Signal Word (GHS-US)

: Warning

#### Hazard Statements (GHS-US)

: H315 - Causes skin irritation  
 H320 - Causes eye irritation

#### Precautionary Statements (GHS-US)

: P264 - Wash ... thoroughly after handling  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water  
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P321 - Specific treatment (see Section 4)  
 P332+P313 - If skin irritation occurs: Get medical advice/attention  
 P337+P313 - If eye irritation persists: Get medical advice/attention  
 P362 - Take off contaminated clothing and wash before reuse

### Other Hazards

Other Hazards Not Contributing to the Classification: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US) Not available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Substances

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Name	Product identifier	% (w/w)	Classification (GHS-US)
Aluminum Sulfate	(CAS No) 16828-12-9	100	Skin Irrit. 2, H315 Eye Irrit. 2B, H320

Full text of H-phrases: see section 16

### SECTION 4: FIRST AID MEASURES

#### Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

**Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**Ingestion:** Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

#### Most Important Symptoms and Effects Both Acute and Delayed

**General:** Causes serious eye irritation. Causes skin irritation.

**Inhalation:** May cause respiratory irritation.

**Skin Contact:** Causes skin irritation.

**Eye Contact:** Causes serious eye irritation.

**Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** None expected under normal conditions of use.

#### Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

### SECTION 5: FIRE-FIGHTING MEASURES

#### Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

#### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

#### Advice for Firefighters

**Precautionary Measures Fire:** Not available

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Forms aluminum oxide, sulfur dioxide and/or sulfur trioxide at temperatures above 760°C (1400°F) or when dry alum is encompassed in a fire involving other burning materials.

**Other information:** Refer to Section 9 for flammability properties.

#### Reference to Other Sections

Refer to section 9 for flammability properties.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Avoid all contact with skin, eyes, or clothing. Avoid breathing (dust, vapor, mist, gas).

#### For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

#### Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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### Methods and Material for Containment and Cleaning Up

**For Containment:** Contain and collect as any solid.

**Methods for Cleaning Up:** Avoid generation of dust during clean-up of spills. Vacuum clean-up is preferred. If sweeping is required use a dust suppressant.

### Reference to Other Sections

See Heading 8. Exposure controls and personal protection.

## **SECTION 7: HANDLING AND STORAGE**

### Precautions for Safe Handling

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Good housekeeping is needed during storage, transfer, handling, and use of this material to avoid excessive dust accumulation. Protect from moisture.

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

**Incompatible Materials:** Strong bases.

### Specific End Use(s)

Alum is used as a coagulating agent in municipal and industrial water and wastewater treatment and as an additive in papermaking.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control Parameters

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

### Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** Protective goggles. Gloves. Protective clothing.

**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Chemical goggles or safety glasses.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** Use NIOSH-approved dust mask if dust has the potential to become airborne.

**Environmental Exposure Controls:** Do not allow the product to be released into the environment.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: White to off-white powder or granules
Odor	: Not available
Odor Threshold	: Not available
pH	: > 2.9 @ 5%
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: 86 °C (186.8°F)
Freezing Point	: Not available
Boiling Point	: 117 °C (242.6°F)
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available

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Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Water: Complete
Partition coefficient: n-octanol/water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Ignition sources. Incompatible materials. Moisture.

**Incompatible Materials:** Strong bases.

**Hazardous Decomposition Products:** Oxides of aluminum. The decomposition products are corrosive and hazardous to health.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### Information on Toxicological Effects - Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Causes skin irritation.

**pH:** > 2.9 @ 5%

**Serious Eye Damage/Irritation:** Causes eye irritation.

**pH:** > 2.9 @ 5%

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** Causes skin irritation.

**Symptoms/Injuries After Eye Contact:** Causes serious eye irritation.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** None expected under normal conditions of use.

#### Information on Toxicological Effects - Ingredient(s)

**LD50 and LC50 Data:** Not available

### SECTION 12: ECOLOGICAL INFORMATION

**Toxicity** Not classified

**Persistence and Degradability** Not available

**Bioaccumulative Potential** Not available

**Mobility in Soil** Not available

#### Other Adverse Effects

**Other Information:** Avoid release to the environment.

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## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, and international regulations.

**Ecology – Waste Materials:** Avoid release to the environment.

## SECTION 14: TRANSPORT INFORMATION

**14.1 In Accordance with DOT** Not regulated for transport

**14.2 In Accordance with IMDG** Not regulated for transport

**14.3 In Accordance with IATA** Not regulated for transport

**14.4 In Accordance with TDG** Not regulated for transport

## SECTION 15: REGULATORY INFORMATION

### US Federal Regulations

Neither this product nor its chemical components appear on any US federal lists.

### US State Regulations

Dry Alum(16828-12-9)

Neither this product nor its chemical components appear on any state lists.

### Canadian Regulations

Dry Alum (16828-12-9)

WHMIS Classification Class D Division 2 Subdivision B - Toxic material causing other toxic effects



This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 05/01/15

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

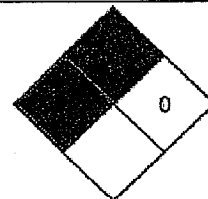
### GHS Full Text Phrases:

Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Skin Irrit. 2	Skin corrosion/irritation Category 2
H315	Causes skin irritation
H320	Causes eye irritation

**NFPA Health Hazard** : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

**NFPA Fire Hazard** : 1 - Must be preheated before ignition can occur.

**NFPA Reactivity** : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### Party Responsible for the Preparation of This Document

CHEMTRADE LOGISTICS, INC.

For MSDS Info: (416) 496-5856

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*Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA'S "Right to Know" (29 CFR 1910.1200) and Canada's WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.*

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