



Material Safety Data Sheet

LA4318 Aluminum Sulphate (Liquid Alum)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA4318

Product Name: Aluminum Sulphate (Liquid Alum)

Synonyms: Papermaker's alum, dialuminum trisulphate, aluminum sulfate, alum, aluminum sulfate tetradecahydrate.

Chemical Family: Aluminum

Application: Alum is used as a coagulating agent in municipal and industrial water treatment and/or paper sizing in the forest products industry.

Distributed By:

Univar Canada Ltd.
9800 Van Horne Way
Richmond, BC
V6X 1W5

Prepared By: The Safety, Health and Environment Department of Univar Canada Ltd.

Preparation date of MSDS: 03 November 2010

Telephone number of preparer: 1-866-686-4827

24-Hour Emergency Telephone Number (CANUTEC): (613) 996-6666

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Water 7732-18-5	Balance	Oral LD50 (Rat) >90 mL/kg
Sulfuric acid, aluminum salt 10043-01-3	30-60	Oral LD50 (Rat) = 1930 mg/kg

Note: No additional remark.

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Eye Contact: Causes eye irritation. May result in mild to moderate irritation to eyes.

Skin Contact: Mild to moderate irritation can occur. Aluminum is very poorly absorbed through the skin and toxic effects would not be expected following short-term skin contact. Prolonged or repeated contact may cause defatting and drying of the skin. Prolonged or repeated contact may cause discomfort and local redness.

Inhalation: Inhalation of vapours or mists of the product may be irritating to the respiratory system. May irritate mouth, nose, and throat.

Ingestion: May cause irritation of the lining of the stomach.

4. FIRST AID MEASURES

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and laundry before reuse.

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Notes to Physician: Treatment based on sound judgment of physician and individual reactions of patient.

5. FIRE FIGHTING MEASURES

Flash Point: None.

Flash Point Method: Not applicable.

Autoignition Temperature: Not available.

Flammable Limits in Air (%): Not Available.

Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Special Exposure Hazards: Reacts with metals to generate flammable hydrogen gas.

Hazardous Decomposition/Combustion Materials (under fire conditions): Corrosive fumes. Toxic fumes.

Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, INSTABILITY 0

HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, REACTIVITY 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment.

Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed.

Procedure for Clean Up: Ventilate area. Eliminate all ignition sources. Neutralize with lime slurry, limestone, or soda ash. Absorb with an inert dry material and place in an appropriate waste disposal container. Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Handling: For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. Aluminum sulfate in solution has acidic pH. Aluminum sulfate may attack some materials of construction. Use corrosion-resistant transfer equipment when transferring acid.

Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store in accordance with good industrial practices. Keep away from direct sunlight. Protect against physical damage. Place away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Local exhaust ventilation as necessary to maintain exposures to within applicable limits.

Respiratory Protection: A NIOSH/MSHA approved air-purifying respirator equipped with acid gas/fume, mist cartridges for concentrations up to 20 mg/m³. An air-supplied respirator if concentrations are higher or unknown.

Gloves:

Rubber gloves. PVC gloves. Vinyl gloves.

Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Eyes: Chemical goggles; also wear a face shield if splashing hazard exists.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Water	Not available.	Not available.	Not Available.
Sulfuric acid, aluminum salt	Not available.	Not available.	Not Available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Colour: Orange - Brown

Odour: Slight Acidic

pH <2

Specific Gravity: 1.2-1.35

Boiling Point: Not Available.

Freezing/Melting Point: Not Available.

Vapour Pressure: 40 mmHg @ 35 °C

Vapour Density: Not Available.

% Volatile by Volume: Not Available.

Evaporation Rate: Not Available.

Solubility: Completely soluble.

VOCs: Not Available.

Viscosity: Not Available.

Molecular Weight: Not Available.

Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: High temperatures.

Materials to Avoid: Strong bases. Sodium hydroxide. Reaction may be violent. Metals.

Hazardous Decomposition Products: Sulfuric acid vapors may be released upon heating and sulfur dioxide and sulfur trioxide may be released upon decomposition.

Additional Information:

Can be very corrosive to most metals including cast iron, steel and aluminum. The corrosivity depends on factors such as concentration, temperature and impurities.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: May cause irritation of the lining of the stomach.

Skin Contact: Mild to moderate irritation can occur. Aluminum is very poorly absorbed through the skin and toxic effects would not be expected following short-term skin contact. Prolonged or repeated contact may cause defatting and drying of the skin. Prolonged or repeated contact may cause discomfort and local redness.

Inhalation: Inhalation of vapours or mists of the product may be irritating to the respiratory system. May irritate mouth, nose, and throat.

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11. TOXICOLOGICAL INFORMATION

Eye Contact: Causes eye irritation. May result in mild to moderate irritation to eyes.

Additional Information: Prolonged and repeated contact with the skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. May cause asthma, lung diseases and skin diseases.

Acute Test of Product:

Acute Oral LD50: Oral LD50 (Rat) >9000 mg/kg

Acute Dermal LD50: Not Available.

Acute Inhalation LC50: Not Available.

Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Water	Not listed.	Not listed.
Sulfuric acid, aluminum salt	Not listed.	Not listed.

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Not Available.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Water	Not Available.	Not Available.	Not Available.
Sulfuric acid, aluminum salt	LC50 96 h (Carassius auratus) 100 mg/L LC50 96 h (Gambusia affinis) 37 mg/L static	Not Available.	Not Available.

Other Information:

May be harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

DOT (U.S.):

DOT Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINUM SULPHATE)

DOT Hazardous Class 8

DOT UN Number: UN3264

DOT Packing Group: III

DOT Reportable Quantity (lbs): Not Available.

Note: No additional remark.

Marine Pollutant: No.

TDG (Canada):

TDG Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINUM SULPHATE)

Hazard Class: 8

UN Number: UN3264

Packing Group: III

Note: No additional remark.

Marine Pollutant: No.

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

Note: Not available.

U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Water	Not Listed.	Not Listed.	Not Listed.
Sulfuric acid, aluminum salt	Not Listed.	Listed	Not Listed.

California Proposition 65: Not Listed.

MA Right to Know List: Listed.

New Jersey Right-to-Know List: Listed.

Pennsylvania Right to Know List: Listed.

WHMIS Hazardous Class:

E CORROSIVE MATERIAL



16. OTHER INFORMATION

Additional Information:

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

Disclaimer:

NOTICE TO READER:

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Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar Sales Office.

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*****END OF MSDS*****