Material Safety Data Sheet

LA6891
ALUMINUM SULPHATE GROUND

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA6891
Product Name: ALUMINUM SULPHATE GROUND
Synonyms: None
Chemical Family: None Known
Application: Pulp and paper industry, water and waste treatment, productions of aluminum chemicals, general purpose food additive, fire extinguisher compounds, soaps, greases, drugs and cosmetics.

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Prepared By: The Safety, Health and Environment Department of Univar Canada Ltd.
Preparation date of MSDS: 08 January 2008
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Aluminum sulfate hydrate 16828-12-9	99	LD50 >9000 mg/kg (Rat) LD50 >9000 mg/kg (Mouse)

Note: No additional remark.

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:
Eye Contact: May irritate or burn eyes. Similar for the aqueous solution. The dust becomes acidic following contact with moisture in the eye and may result in moderate to severe irritation to eyes.
Skin Contact: May cause skin irritation, especially under repeated or prolonged contact or when moisture is present. Aluminum is very poorly absorbed through the skin and toxic effects would not be expected following short-term skin contact. Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin.
Inhalation: Dust or mist inhalation may irritate nose, throat and lungs.
Ingestion: May irritate the gastrointestinal tract and cause nausea, vomiting and purging. Acute exposure can cause incoorination, muscle spasms and kidney effects.

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 launder 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: Dry alum will dissolve in water to form sulfuric acid which reacts with some metals, especially when dilute, to give flammable, potentially explosive hydrogen gas. Hydrogen gas can accumulate to explosive concentrations inside confined spaces.
Hazardous Decomposition/Combustion Materials (under fire conditions): Oxides of sulphur. Aluminum oxides. Corrosive fumes.
Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.
NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 2, FLAMMABILITY 0, INSTABILITY 0
HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 2, 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. Consult local authorities.
Procedure for Clean Up: Pick up solids and put in an appropriate sealed container for later disposal. Neutralize with lime slurry, limestone, or soda ash. This will generate carbon dioxide, so additional ventilation may be necessary.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing in dust. Avoid breathing vapors, mist, fume or dust. Do not ingest. Use good personal hygiene. Keep the containers closed when not in use. Empty containers may contain hazardous product residues. Good housekeeping procedures should be followed to minimize dust generation and accumulation. When there is a large-scale use, do not use in areas equipped with sprinkler systems. Post "DO NOT USE WATER" signs. Good housekeeping is important to prevent accumulations of dust. Dry sweeping is not recommended. Contact with water forms sulphuric acid.
Storage: Store in a cool, dry, well ventilated area. Keep containers tightly closed. Place away from incompatible materials. Store in accordance with good industrial practices.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Respiratory Protection: A NIOSH/MSHA approved dust mask, for dust concentrations of up to 10 mg/m^3. A NIOSH/MSHA approved air-purifying respirator equipped with acid gas/fume, mist cartridges for concentrations up to 20 mg/m^3. An air-supplied respirator if concentrations are higher or unknown.

Gloves:

Neoprene gloves. PVC gloves. Vinyl gloves. Rubber 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
Aluminum sulfate hydrate	2 mg/m^3 TLV-TWA. Form as Aluminum (soluble salts)	2 mg/m^3 PEL-TWA Form as Aluminum (soluble salts)	Not Available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid Granules or Powder
Colour: White. to Creamy white.
Odour: Odourless
pH > 2.9 @ 5%
Specific Gravity: 1.61
Boiling Point: Not Available.
Freezing/Melting Point: 86 °C / 186 °F
Vapour Pressure: Not Available.
Vapour Density: Not Available.
% Volatile by Volume: Not Available.
Evaporation Rate: Not Available.
Solubility: Soluble in water.
VOCs: Not Available.
Viscosity: Not Available.
Molecular Weight: 594 g/mole
Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Temperatures over 760 °C. Contact with water forms sulphuric acid.
Materials to Avoid: Strong bases. Strong oxidizing agents. Alkalis. Water-reactive materials such as oleum cause exothermic reactions.
Hazardous Decomposition Products: At temperatures above 760°C, sulfur oxide gases are released which are toxic, corrosive and are oxidizers. The remaining residue is caustic. The trioxide is also a fire hazard. Oxides of aluminum.
Additional Information:

May corrode ferrous metals and mild steel in presence of moisture.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: May irritate the gastrointestinal tract and cause nausea, vomiting and purging. Acute exposure can cause incoorination, muscle spasms and kidney effects.

11. TOXICOLOGICAL INFORMATION

Skin Contact: May cause skin irritation, especially under repeated or prolonged contact or when moisture is present. Aluminum is very poorly absorbed through the skin and toxic effects would not be expected following short-term skin contact. Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin.
Inhalation: Dust or mist inhalation may irritate nose, throat and lungs.
Eye Contact: May irritate or burn eyes. Similar for the aqueous solution. The dust becomes acidic following contact with moisture in the eye and may result in moderate to severe irritation to eyes.

Additional Information: Aluminum Sulphate has been shown to cause liver, kidney and nervous system toxicity when tested in laboratory animals. Repeated ingestion may cause phosphate deficiency, which can weaken bones. Aluminum Sulphate has been shown to cause an increase in chromosomal breaks when tested in rat somatic cells IN VIVO and to induce sister chromatid exchanges, chromosomal aberrations and micronuclei in human leukocytes under IN VITRO conditions.
Skin irritation may be aggravated in individuals with existing skin lesions. Breathing of dust may aggravate acute or chronic asthma and chronic pulmonary disease such as emphysema and bronchitis.

Acute Test of Product:
Acute Oral LD50: Not Available.
Acute Dermal LD50: Not Available.
Acute Inhalation LC50: Not Available.

Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Aluminum sulfate hydrate	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
Aluminum sulfate hydrate	Not Available.	Not Available.	Not Available.

Other Information: Products of Degradation: These products are carbon and sulfur oxides (CO2, CO, SO3 & SO4). Toxicity is primarily associated with acidic pH. Acidic soil conditions can develop with the material present leading to release of some trace metals.

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: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ALUMINUM SULPHATE)
DOT Hazardous Class 9
DOT UN Number: UN3077
DOT Packing Group: III
DOT Reportable Quantity (lbs): Not Available.
Note: No additional remark.
Marine Pollutant: No.

14. TRANSPORT INFORMATION

TDG (Canada):
TDG Proper Shipping Name: Not Regulated.
Hazard Class: Not Applicable.
UN Number: Not Applicable.
Packing Group: Not Applicable.
Note: Only regulated for TDG under class 9 if intended for disposal.
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:
Aluminum sulfate hydrate	Not Listed.	Not Listed.	Not Listed.

California Proposition 65: Not Listed.
MA Right to Know List: Not Listed.
New Jersey Right-to-Know List: Not Listed.
Pennsylvania Right to Know List: Not Listed.

WHMIS Hazardous Class:
D2B TOXIC MATERIALS

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:

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