

**MATERIAL SAFETY DATA SHEET****ALUMINUM POTASSIUM SULPHATE**

PRODUCT CODE NUMBER(S): 1140-1

**PRODUCT IDENTIFICATION****Chemical Name and Synonyms:** *Aluminum potassium sulphate hydrated, Potash alum***Chemical Family:** *Inorganic aluminum compounds***Chemical Formula:**  $AlK(SO_4)_2 \cdot 12H_2O$ **Product Use:** *Laboratory reagent***Manufacturer's Name and Address:***Caledon Laboratories Ltd.**40 Armstrong Avenue**Georgetown, Ontario L7G 4R9***Telephone No:** (905) 877-0101**Fax No:** (905) 877-6666**Emergency Telephone No:** CANUTEC (613) 996-6666**HAZARDOUS INGREDIENTS OF MATERIALS**

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
<i>Aluminum potassium sulphate hydrated</i>	<i>100</i>	<i>2 mg/m<sup>3</sup> (Al, soluble salts)</i>	<i>7784-24-9</i>

**PHYSICAL DATA****Physical State:** *Solid***Odour and Appearance:** *White, odourless powder or colourless crystals***Odour Threshold (ppm):** *Not applicable***Vapour Pressure (mm Hg):** *Essentially zero***Vapour Density (Air = 1):** *Not applicable***Evaporation Rate:** *Not applicable***Boiling Point (degrees C):** *Loses water at 60-65°C; becomes anhydrous at 200°C***Melting Point (degrees C):** *92.5°C***pH:** *3.3 (0.2M aqueous solution)***Specific Gravity:** *1.725***Coefficient of Water/Oil distribution:** *Not available***SHIPPING DESCRIPTION****UN:** *Not regulated***T.D.G. Class:** *Not regulated***Pkg. Group:** *Not regulated***REACTIVITY DATA****Chemical Stability:** *Stable under normal conditions of use and storage. If stored at temperatures >60°C, may lose water, and become anhydrous.***Incompatibility with other substances:** *Can react vigorously with strong bases. Dry material is not corrosive, but combines with moisture to form sulphuric acid which is corrosive to many metals, including gray cast iron, brass, some types of stainless steel.***Reactivity:** *Avoid elevated temperatures, incompatible materials, generation of dust, incompatible materials.***Hazardous Decomposition Products:** *Can form low concentrations of sulphuric acid.***FIRE AND EXPLOSION DATA****Flammability:** *Not combustible; will not burn.***Extinguishing Media:** *Use an extinguisher appropriate to the surrounding material which is burning. Use water as spray or fog to minimize dust, absorb heat, cool containers, and disperse vapours. Fight fire from upwind, from a safe distance. Firefighters should wear protective equipment, full face-piece positive-pressure self-contained breathing apparatus, and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes.***Flash Point (Method Used):** *Does not burn***Autoignition Temperature:** *Not applicable***Upper Flammable Limit (% by volume):** *Not applicable***Lower Flammable Limit (% by volume):** *Not applicable***Hazardous Combustion Products:** *Decomposes above 200°C to form corrosive sulphuric acid fumes.***Sensitivity to Impact:** *None***Sensitivity to Static discharge:** *None***TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:****LD<sub>50</sub>:** *Not available***LC<sub>50</sub>:** *Not available***Effects of Acute Exposure to Product:****Inhaled:** *No human or animal information available. Dusts and mists may cause mild, temporary irritation of nose and throat. Reacts with moisture in air to form weak sulphuric acid which is irritating to mucous membranes.***In contact with skin:** *No human or animal information available. May irritate and cause redness (see "Inhaled"). Risk of skin absorption is slight.***In contact with eyes:** *Dusts and solutions are moderate to severe eye irritants, based on the pH of solutions and the fact that low concentrations of sulfuric acid may form upon contact with moisture. A closely related chemical, aluminum sulfate hydrate, caused severe irritation in animals. No human information available.***Ingested:** *No human or animal information available. Small doses are probably not harmful. Large doses may cause gastrointestinal irritation, stomach burns, nausea, vomiting, abdominal pain and diarrhea. Ingestion is not a typical route of occupational exposure.***Effects of Chronic Exposure to Product:***Introduction of aluminum compounds into the blood stream has been linked to neurological effects resembling senility,*

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but results are inconclusive. Such effects are unlikely from ingestion or inhalation. Ingestion of large amounts of aluminum salts over a prolonged period may cause phosphate deficiency, or osteomalacia (softening and bending of the bones, based on animal and human information.

**Carcinogenicity:** No specific data. Aluminum compounds are probably not carcinogenic.

**Teratogenicity:** Teratogenic in animal studies only at doses toxic to mother.

**Reproductive Effects:** No human or animal information available

**Mutagenicity:** Results inconclusive

**Synergistic Products:** None known

## PREVENTIVE MEASURES

**Engineering Controls:** Local exhaust recommended.

**Respiratory Protection:** Dust/mist mask. Up to 10x TLV, or the maximum use specified by the respirator supplier, whichever is lowest, NIOSH approved half-face dust/mist filter respirator. Up to 50x TLV, or the maximum use specified by the respirator supplier, whichever is lowest, NIOSH approved full face-piece dust/mist filter respirator. Higher or unknown concentrations, or for fire or spill conditions, self-contained breathing apparatus, or full face-piece, positive-pressure supplied-air respirator.

**Eye Protection:** Chemical safety glasses.

**Skin Protection:** Butyl or natural rubber, neoprene, polyethylene, polyvinyl chloride, Teflon, Viton, Saranex, 4H (polyethylene/ethylene vinyl alcohol), Barricade, CPF 3, Responder, Trelchem HPS, Tychem 10000 gloves. Other protective clothing, apron, sleeves, coveralls, boots sufficient to prevent contact.

**Other Personal Protective Equipment:** Safety shower and eye-wash fountain in work area.

**Leak and Spill Procedure:** Ventilate area of spill. Clean-up personnel should wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes. Gather up in a method that does not generate dust, (wetting before cleanup is advised) and collect for disposal. Flush site of spill thoroughly with running water.

**Waste Disposal:** Dispose of in compliance with local, provincial and federal regulations.

**Handling Procedures and Equipment:** IRRITANT. Workers using this chemical must be thoroughly trained in its hazards and its safe use, and must wear appropriate protective equipment and clothing. Prevent release of dust into workplace air. Avoid inhalation. Avoid contact with skin, eyes and clothing. Keep away from all incompatible materials. Use the smallest possible amount for the purpose, in designated areas with adequate ventilation. Keep containers closed when not in use and when empty. Wash thoroughly after handling.

**Storage Requirements:** Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight, and away from incompatible materials. Keep containers tightly closed when not in use and when empty. Protect from damage. Store away from incompatible materials.

## FIRST AID MEASURES

### Specific Measures:

**Eyes:** Flush eyes thoroughly with gently running water, holding eyelids open while flushing, for five to ten (5-10)

minutes, or until no trace of chemical remains. Get medical advice if irritation develops.

**Skin:** Remove contaminated clothing. Brush or wipe off dry material. Flush skin with plenty of running water until no evidence of chemical remains. If irritation develops get medical attention.

**Inhalation:** Remove to fresh air. Give oxygen and get medical attention for any breathing difficulty.

**Ingestion:** If the victim is alert and not convulsing, rinse mouth thoroughly with water and give 2 to 4 glasses of water to drink to dilute. If victim feels unwell, or if a large amount has been ingested, get medical attention.

## REFERENCES USED

CCINFO disc: MSDS's

Budavari: The Merck Index, 12th ed., 1997

Sax, Lewis: Hawley's Condensed Chemical Dictionary, 11th ed., 1987

Sax: Dangerous Properties of Industrial Materials, 5th ed., 1979

Suppliers' Material Safety Data Sheets

## ADDITIONAL INFORMATION

**Date Issued:** February 20, 1990

**Revision:** November 2010

**MSDS:** 1140-1

**Proposed Whmis Designation:** D2B (eye irr)

Prepared by: Caledon Laboratories Ltd. (905) 877-0101  
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