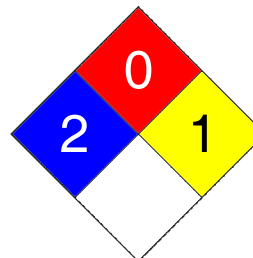


## 1. Product and Company Identification

**Product Name** Liquid Alum  
**Product Use** Water treatment / Industrial applications  
**Manufacturer** Benson Chemicals Ltd.  
 RR#1  
 Freulton  
 ON L0R1K0 CA  
 Phone: 1-800-265-0014  
 Emergency Services (24 hours / 7 days ) 1-519-821-0215  
 Emergency Responder 1-800-567- 7455 Newalta Industrial SVC

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 2
Flammability	0
Physical Hazard	1
Personal Protection	B



## 2. Hazards Identification

**Emergency Overview** WARNING  
 Corrosive to metals.  
 Eye and skin irritant.

**Potential short term health effects**

**Routes of exposure** Eye, Skin contact, Inhalation, Ingestion.  
**Eyes** May cause severe irritation or chemical burns.  
**Skin** May cause irritation.  
**Inhalation** May cause respiratory tract irritation.  
**Ingestion** May cause stomach distress, nausea or vomiting.

**Target organs** Eyes. Skin.

**Chronic effects** Prolonged or repeated exposure can cause drying, defatting and dermatitis.

**Signs and symptoms** Symptoms may include redness, oedema, drying, defatting and cracking of the skin.  
 The product may cause burns to eyes, skin and mucous membranes.

## 3. Composition/Information on Ingredients

Ingredient(s)	CAS #	Percent
Aluminium sulphate	10043-01-3	30 - 60

## 4. First Aid Measures

**First aid procedures**

**Eye contact** Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

**Skin contact** Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.

**Inhalation** If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

**Ingestion** Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

**Notes to physician** Symptoms may be delayed.

**General advice**

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

## 5. Fire-fighting Measures

<b>Flammable properties</b>	Not flammable by WHMIS criteria.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Treat for surrounding material.
<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Not available
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of sulphur.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available
<b>Sensitivity to static discharge</b>	Not available

## 6. Accidental Release Measures

<b>Personal precautions</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Methods for containment</b>	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for cleaning up</b>	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

## 7. Handling and Storage

<b>Handling</b>	Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.
<b>Storage</b>	Keep out of the reach of children. Store in a closed container away from incompatible materials.

## 8. Exposure Controls / Personal Protection

**Exposure limit values****Ingredient(s)****Exposure limit values**

Aluminium sulphate

**ACGIH-TLV**

TWA: 2 mg/m3

**Engineering controls**

Use only under good ventilation conditions or with respiratory protection. Local exhaust recommended.

**Personal protective equipment****Eye/Face protection**

Wear chemical goggles. Use a face shield if splashing is possible.

**Hand protection**

Rubber gloves. Confirm with a reputable supplier first.

**Skin and body protection**

Wear suitable protective clothing.

**Respiratory protection**

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

**General hygiene considerations**

Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

## 9. Physical and Chemical Properties

**Appearance**

Clear.

<b>Colour</b>	Colourless / Light green / Amber
<b>Form</b>	Not available
<b>Odour</b>	Odourless
<b>Odour threshold</b>	Not available
<b>Physical state</b>	Liquid
<b>pH</b>	3.5 (1% solution)
<b>Melting point</b>	-16 °C (3.20 °F)
<b>Freezing point</b>	Not available
<b>Boiling point</b>	101 °C (213.80 °F)
<b>Pour point</b>	Not available
<b>Flash point</b>	Not flammable
<b>Evaporation Rate</b>	not determined
<b>Flammability limits in air, lower, % by volume</b>	Not available
<b>Flammability Limits in Air, Upper, % by Volume</b>	Not available
<b>Vapour pressure</b>	Not applicable
<b>Vapour density</b>	Not applicable
<b>Specific gravity</b>	1.34
<b>Octanol/water coefficient</b>	Not available
<b>Auto-ignition temperature</b>	Not applicable

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## 10. Stability and Reactivity

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<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Excessive heat. Do not mix with other chemicals.
<b>Incompatible materials</b>	Caustics.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of sulphur.
<b>Possibility of hazardous reactions</b>	Hazardous polymerisation does not occur.

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## 11. Toxicological Information

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### Component analysis - LC50

Ingredient(s)	LC50
Aluminium sulphate	Not available

### Component analysis - Oral LD50

Ingredient(s)	LD50
Aluminium sulphate	1930 mg/kg rat

### Effects of acute exposure

<b>Eye</b>	May cause severe irritation or chemical burns.
<b>Skin</b>	May cause irritation.
<b>Inhalation</b>	May cause respiratory tract irritation.
<b>Ingestion</b>	May cause stomach distress, nausea or vomiting.
<b>Sensitisation</b>	Non-hazardous by WHMIS criteria.
<b>Chronic effects</b>	Non-hazardous by WHMIS criteria.
<b>Carcinogenicity</b>	Non-hazardous by WHMIS criteria.
<b>Mutagenicity</b>	Non-hazardous by WHMIS criteria.
<b>Reproductive effects</b>	Non-hazardous by WHMIS criteria.
<b>Teratogenicity</b>	Non-hazardous by WHMIS criteria.
<b>Synergistic Materials</b>	Not available

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## 12. Ecological Information

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<b>Ecotoxicity</b>	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.
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<b>Environmental effects</b>	Not available
<b>Aquatic toxicity</b>	Not available
<b>Persistence and degradability</b>	Not available
<b>Bioaccumulation/accumulation</b>	Not available
<b>Partition coefficient</b>	Not available
<b>Mobility in environmental media</b>	Not available
<b>Chemical fate information</b>	Not available
<b>Other adverse effects</b>	Not available

### 13. Disposal Considerations

<b>Waste codes</b>	Not available
<b>Disposal instructions</b>	Review federal, provincial, and local government requirements prior to disposal.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

### 14. Transport Information

#### Transportation of Dangerous Goods (TDG - Canada)

**Basic shipping requirements:**

<b>Proper shipping name</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Aluminium sulphate)
<b>Hazard class</b>	8
<b>UN number</b>	UN3264
<b>Packing group</b>	III
<b>Additional information:</b>	
<b>Special provisions</b>	16



### 15. Regulatory Information

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

**Canada - WHMIS - Ingredient Disclosure List**

Aluminium sulphate 10043-01-3 1%; English Item 53; French Item 198

**WHMIS classification** Class D - Division 2B, Class E - Corrosive Material

**WHMIS status** Controlled

**WHMIS labeling**



**Inventory Status**

Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

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## 16. Other Information

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<b>Disclaimer</b>	Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.
<b>Issue date</b>	04-Feb-2010
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<b>Expiry Date</b>	01-Feb-2013
<b>Prepared by</b>	Dell Tech Laboratories Ltd. (519) 858-5021
<b>Other Information</b>	For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.