

---

**1. Product and Company Identification**

---

**Product Name** Aluminum Sulphate Solution (Liquid Alum)  
**CAS #** Mixture  
**Product Use** Water treatment / Industrial applications  
**Supplier information** PVS Benson  
1012 Gore Road  
Freelton, ON L0R1K0 CA  
Phone: 1-800-265-0014  
Emergency Services (24 hours / 7 days ): 1-519-821-0215

---

**2. Hazards Identification**

---

**Emergency overview** WARNING  
CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION.  
Corrosive to metals.

**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. May cause severe irritation or chemical burns.

**Potential environmental effects** See section 12.

---

**3. Composition/Information on ingredients**

---

Components	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** Treat patient symptomatically.

**General advice** If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Avoid contact with eyes, skin and clothing. Keep out of reach of children.

---

**5. Fire-fighting Measures**

---

**Flammable properties** Not flammable by WHMIS criteria.

**Extinguishing media**

**Suitable extinguishing media** Treat for surrounding material.

---

<b>Unsuitable extinguishing media</b>	Not available
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Firefighters should wear a self-contained breathing apparatus.
<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. Oxides of aluminium. Sulfuric acid.
<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 damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Do not discharge into lakes, streams, ponds or public waters.
<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. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
<b>Storage</b>	Keep out of the reach of children. Store in a closed container away from incompatible materials.

---

## 8. Exposure controls/Personal protection

---

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminium sulphate (CAS 10043-01-3)	TWA	1 mg/m3	Respirable fraction.

<b>Exposure limits</b>	See above
<b>Engineering controls</b>	Ensure adequate ventilation.
<b>Personal protective equipment</b>	
<b>Eye/Face protection</b>	Wear chemical goggles. Use a face shield if splashing is possible.
<b>Hand protection</b>	Rubber gloves. Confirm with a reputable supplier first.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
<b>General hygiene considerations</b>	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

---

<b>Appearance</b>	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)

Freezing point	Not available.
Boiling point	101 °C (213.8 °F)
Pour point	Not available.
Evaporation Rate	not determined
Flash point	Not flammable
Auto-ignition temperature	Not applicable
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapour pressure	Not applicable
Vapour density	Not available.
Specific gravity	1.34
Partition coefficient (n-octanol/water)	Not available.
Solubility (Water)	Not available.
Relative density	Not available.
Viscosity	Not available.
VOC	Not available
Percent volatile	Not available

---

## 10. Stability and reactivity

---

Reactivity	May react with incompatible materials.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Excessive heat. Do not mix with other chemicals.
Incompatible materials	Caustics. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of sulphur. Oxides of aluminium. Sulfuric acid.

---

## 11. Toxicological information

---

### Toxicological data

Components	Species	Test results
Aluminium sulphate (CAS 10043-01-3)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Guinea pig	490 mg/kg
	Mouse	> 730 mg/kg
	Rat	1930 mg/kg

### Effects of acute exposure

<b>Eye contact</b>	May cause severe irritation or chemical burns.
<b>Skin contact</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.

## ACGIH Carcinogens

Aluminium sulphate (CAS 10043-01-3)

A4 Not classifiable as a human carcinogen.

<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>Name of Toxicologically Synergistic Products</b>	Not available.

---

## 12. Ecological information

---

**Ecotoxicity** See below

### Ecotoxicological data

#### Components

Aluminium sulphate (CAS 10043-01-3)

#### Aquatic

	Species	Test results
Crustacea	EC50 Amphipod ( <i>Crangonyx pseudogracilis</i> )	11.8 - 14 mg/L, 48 hours
Fish	LC50 Fathead minnow ( <i>Pimephales promelas</i> )	3.4 - 5.6 mg/L, 96 hours

**Persistence and degradability** Not available.

**Bioaccumulation/accumulation** Not available

**Mobility in environmental media** Not available.

**Environmental effects** Not available.

**Aquatic toxicity** Not available.

**Partition coefficient** Not available.

**Chemical fate information** Not available.

---

## 13. Disposal considerations

---

**Disposal instructions** Review federal, provincial, and local government requirements prior to disposal.

**Waste from residues / unused products** Not available

**Contaminated packaging** Not available

---

## 14. Transport information

---

**General** Canada: TDG Proof of Classification: In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue. If applicable, the technical name and the classification of the product will appear below.

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

#### Basic shipping requirements:

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

### TDG



## 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 Priority Substances List (Second List): Listed substance**

Aluminium sulphate (CAS 10043-01-3) Listed.

**Canada WHMIS Ingredient Disclosure: Threshold limits**

Aluminium sulphate (CAS 10043-01-3) 1 %

**WHMIS status** Controlled

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

**WHMIS labeling**



**Inventory Status**

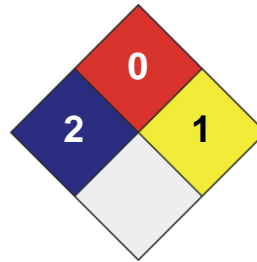
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

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

## 16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

<b>HEALTH</b>	/ 2
<b>FLAMMABILITY</b>	0
<b>PHYSICAL HAZARD</b>	1
<b>PERSONAL PROTECTION</b>	X



**Disclaimer**

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.

**Issue date** 26-January-2016

**Effective date** 01-February-2016

**Expiry date** 01-February-2019

**Prepared by** Dell Tech Laboratories Ltd. Phone: (519) 858-5021

**Other information** This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.