Aluminum Sulfate Anhydrous, Technical

SECTION 1. IDENTIFICATION

Product Identifier	Aluminum Sulfate Anhydrous, Technical
Other Means of Identification	Alum, Aluminum Trisulfate, Cake Alum
Product Code(s)	AL5610
Product Family	Inorganic Solid
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0382
Date of Preparation	February 18, 2016

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Eye irritation - Category 2A

Label Elements

Signal Word:
Warning

Hazard Statement(s):
Causes serious eye damage.

Precautionary Statement(s):
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Response:
IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Aluminum sulfate anhydrous	10043-01-3	>99	Alum, Aluminum Trisulfate, Cake Alum

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

Rinse with lukewarm, gently flowing water for 5 minutes. If skin irritation or a rash occurs, get medical advice or attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. Get medical advice or attention if you feel unwell.

First-aid Comments

All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace.

Most Important Symptoms and Effects, Acute and Delayed

None known.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Unsuitable Extinguishing Media

DO NOT use water or water-based extinguishing agents.

Specific Hazards Arising from the Product

Does not burn. Heating increases the release of toxic vapour. Forms toxic chemicals on contact with water. Closed containers may rupture violently when heated releasing contents.
In a fire, the following hazardous materials may be generated: corrosive sulfur oxides; corrosive sulfuric acid; flammable hydrogen.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: use the personal protective equipment recommended in Section 8 of this safety data sheet. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources if safe to do so. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: stop or reduce leak if safe to do so. Avoid generating dust. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Avoid generating dusts. Only use where there is adequate ventilation. Prevent accidental contact with incompatible chemicals. Keep dry. Prevent accidental contact with water and humidity. Never return unused or contaminated product to its original container. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity). Store in the original, labelled, shipping container. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Aluminum sulfate anhydrous	Not established		2 mg/m3			

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.
Suitable materials are: butyl rubber, natural rubber, neoprene rubber, nitrile rubber, polyvinyl chloride, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE).
The following materials should NOT be used: polyvinyl alcohol.

Respiratory Protection

No specific guidelines are available. The NIOSH recommendations for sulfuric acid may be applicable.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance White - grey powder. Absorbs moisture from the air.

Odour	Odourless
Odour Threshold	Not available
pH	3.7 (1% solution)
Melting Point/Freezing Point	Not applicable (melting); Not available (freezing)
Initial Boiling Point/Range	Not applicable
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Will not burn.
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	2.71 at 20 ºC
Solubility	Soluble in water; Mildly soluble in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not applicable
Decomposition Temperature	650 - 760 ºC (1202 - 1400 ºF)
Viscosity	Not available (kinematic); Not available (dynamic)

Other Information

Physical State	Solid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Reacts in the presence of water or humidity. Decomposes in the presence of increased temperature.

Conditions to Avoid

Generation of dust. Water, moisture or humidity. High temperatures.

Incompatible Materials

Water, strong oxidizing agents (e.g. perchloric acid), strong bases (e.g. sodium hydroxide).

Hazardous Decomposition Products

Corrosive sulfuric acid.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Aluminum sulfate anhydrous	Not available	2000-5000 mg/kg (rat)	> 5000 mg/kg (rabbit)

Dosage given as aluminum sulfate hydrate.

Skin Corrosion/Irritation

May cause moderate or severe irritation based on information for closely related materials.

Serious Eye Damage/Irritation

May cause serious eye irritation based on information for closely related materials.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause nose and throat irritation.

Ingestion

May cause a laxative effect if large amounts are swallowed. Symptoms may include nausea, vomiting, stomach cramps and diarrhea. Severe irritation or burns to the mouth, throat and stomach, harmful effects on the kidneys, harmful effects on the liver.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Following skin contact: may cause Symptoms may include dry, red, cracked skin (dermatitis).

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Aluminum sulfate anhydrous	Not evaluated	Not Listed	Not Listed	

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Alphachem Limited
Phone No.	(905)-821-2995
Date of Preparation	February 18, 2016
Date of Last Revision	February 22, 2016
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). Thunder Bay Chemicals database.
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