

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT IDENTIFICATION

Chemical Name Aluminum Sulphate, Ground
Synonyms Trade Alum, Cake Alum, Aluminum Trisulphate, Dry Alum
Name Formula Aluminum Sulphate, Ground
Shipping Name Al₂(SO₄)₃
CAS Number Solid Aluminum Sulphate
10043-01-3

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	%byWT	Hazardous?	OSHA- PEL	ACGIH- TLV
Aluminum sulphate	10043-01-3	100%	Yes	2 mg/m ³ (TWA)	2 mg/m ³ (TWA)

SECTION 3 HAZARDS IDENTIFICATION

Ingestion **Small Quantities:** Nausea, vomiting, stomach cramps, diarrhea.
Large Quantities: In addition to nausea, vomiting, stomach cramps, and diarrhea, ulcerations and necrosis of the mucous membranes in the throat and mouth and esophagi, liver and kidney damage, hemorrhagic gastroenteritis and intense thirst.

Inhalation Exposure to dust or mists results in irritation of the respiratory tract.

Eye Contact Irritation

Skin Contact Irritation may occur on contact with moist skin.

Chronic Exposure Frequent or prolonged contact may cause dermatitis. Toxicity hazards will be higher for individuals who have kidney deficiency on massive or chronic ingestion.

Medical conditions aggravated Kidney disease

Exposure Limits ACGIH(TLV): 2 mg/m³ (TWA)
OSHA(TLV): None (TWA)

Carcinogenicity None of the ingredients present at concentrations equal to or greater than 0.1% are listed as a carcinogen or potential carcinogen by IARC, NTP, or OSHA

SECTION 4 FIRST AID MEASURES

Inhalation In case of discomfort, remove to a ventilated area. If discomfort persists, consult a physician.

Skin Contact Remove contaminated clothes. Flush skin thoroughly with water.

Eye Contact Flush eyes with water and carefully rinse under eyelids. Continue flushing for a minimum 15 minutes. If irritation persists, consult a physician.

Ingestion Do not induce vomiting. Give water or milk. Consult a physician. Do not give bicarbonate to neutralize.

SECTION 5 FIRE FIGHTING METHODS

Flash Point Not Flammable

Auto-Ignition Temperature Fire Not Combustible

Extinguishing Media Hazardous Dry chemical, CO₂, water spray, or regular foam.

Combustion Products N/A

SECTION 6 HANDLING, RELEASES AND STORAGE

Handling Precautions	Avoid generating dust during handling. Avoid prolonged or repeated skin contact.
Release Measures	Vacuum and place in an airtight container, keeping airborne dust generation to a minimum. Recycle if possible. Avoid contaminating surface, waterways, or sewers leading to surface water. Do not flush with water. Will give a strong astringent taste to water supply. High concentration may increase lead content of water if lead supply pipes are used.
Storage Conditions	Store in a dry weather-proof area. Store away from bases. Due to risk of corrosion, do not store this product in steel containers. Avoid generating or raising dust.

SECTION 7 EXPOSURE CONTROLS /PERSONAL PROTECTION

Engineering Controls	Provide general and/or local exhaust ventilation to keep concentrations below ACGIH TLV.
Respiratory Protection	Mask or full-face respirator should be provided if excessive dust concentrations occur. Normal
Skin Protection	body-covering work clothing recommended.
Eye Protection	Tight fitting goggles should be worn when dust concentration exceeds recommended exposure limits.

SECTION 8 PHYSICAL AND CHEMICAL PROPERTIES

pH (1% Solution)	3.7
Boiling Point	N/D
Melting Point	770 °C
Vapour Pressure	(1418 °F)
Vapour Density	N/A
Relative Density	N/A
Partition Coefficient	2.7
Flash Point	N/D
Autoignition Temperature	N/A
Lower Flammable Limit	N/A
Upper Flammable Limit	N/A
Explosive Properties	N/A
Odour	N/A
Threshold Oxidizing	N/A
Properties Water Solubility	N/A
	310
	g/L

SECTION 9 STABILITY AND REACTIVITY

Stable	Yes
Conditions and Materials to Avoid	High Humidity: Hydrolysis of aluminum sulphate to sulphuric acid will occur under conditions of high humidity. Also, high humidity will cause a decrease in pH of aqueous solutions (a 1% solution has a pH of 3.7)
Hazardous Decomposition Products	Decomposes to sulphur oxides (SO ₂ and SO ₃) at high temperatures (above 770 °C (1418 °F))

SECTION 10 TRANSPORT INFORMATION

	Transport Canada (TC)
Shipping Name	Aluminum Sulphate, solid

Placards are not required for this product

SECTION 11 REGULATORY INFORMATION**Canada**

WHMIS Classification Class E - Corrosive

United States

Section 313 Supplier Notification This product contains no chemical concentration subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (Title III of SARA) and of 40 CFR 372.

TCSA-DSL (USA and Canada)

This substance or all the ingredients of this product are on the Domestic Substances List, Canadian Environmental Protection Agency (Canada), as well as on the Chemical Substances Inventory (USA). The presence on these lists does not require any legal reporting.

Europe

EEC Classification

Warning Symbol

Warning Word Risk

Phrases Safety

Phrases

Xi

Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

S24/25: Avoid contact with skin and eyes. S29: Do not empty into drains.

SECTION 12 LEGEND

ACGIH	American Conference of Governmental Industrial Hygienists
CAS#	Chemical Abstracts Service Registry Number
DSL EC	Domestic Substances List
IARC	European Community
N/A	International Agency for Research on Cancer
N/D	Not Applicable
NSF	Not Determined
NTP	National Sanitation Foundation (United States)
OSHA	National Toxicology Program
PEL RQ	Occupational Safety and Health Administration (United States)
TLV	Permissible Exposure Limit
TWA	Reportable Quantity
WHMIS	Threshold Limit Value
	Time Weighted Average
	Workplace Hazardous Material Information System

SECTION 13 NSF CERTIFICATION INFORMATION

The maximum dosage in drinking water is 150 mg/L, according to NSF Standard 60.

Certified to ANSI/NSF 60

SECTION 14 NOTES

SECTION 14 NOTES

SECTION 15 MSDS PREPARATION INFORMATION

Prepared by	Lake Restoration (763) 428-9777
Date Revised	November 30, 2001
	January 03, 2003

While Lake Restoration believes that the information contained herein is reliable, this information is not to be taken as a warranty of representation for which Lake Restoration, assumes responsibility nor as permission or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Since conditions of use are beyond our control, user assumes all responsibility and risk.