

Safety Data Sheet

Aluminum Sulfate

SECTION 1 – PRODUCT AND SUPPLIER IDENTIFICATION

Product: Aluminum Sulfate
Supplier: SingleTrack Solutions Corp.
Address: 4838 Richard Road SW, Calgary, Alberta, Canada T3E 6L1
Office: 1-587-353-4119

Product detail

Product Name: Aluminum Sulfate
Synonyms: Al₂-S₃-012; Al₂(SO₄)₃
CAS No.: 10043-01-3

SECTION 2 – HAZARD(S) IDENTIFICATION

Poisons Schedule: Not Applicable

Classification

Skin Corrosion/Irritation: Category 2

Serious Eye Damage: Category 1

Specific target organ toxicity: single exposure Category 3 (respiratory tract irritation)

Legend: Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 – Annex VI

Label elements

Hazard pictogram(s)



SIGNAL WORD: DANGER

Hazard Statement(s)

H315: Causes skin irritation.

H318: Causes serious eye damage.

H335: May cause respiratory irritation.

Supplementary statement(s)

Not applicable

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Precautionary statement(s) Prevention

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P305+P351+P338: If in eyes rinse carefully with water for several minutes. If applicable, remove contact lenses if possible and continue rinsing.

P310: Immediately call a poison center or doctor/physician.

Precautionary statement(s) Storage

P405: Store locked up.

P403+P223: Store in a well-ventilated place. Keep container closed.

Precautionary statement(s) Disposal

P501: Dispose of content/container at authorized hazardous or special waste collection point in accordance with local regulations.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

| <u>CAS No</u> | <u>% weight</u> | <u>Name</u> |
|---------------|-----------------|------------------|
| 10043-01-3 | >99 | aluminum sulfate |
| 7732-18-5 | <1 | water |

SECTION 4 – FIRST-AID MEASURES

Description of first aid measures

Eye Contact

- Immediately flush eyes with running water while holding eyelids open.
- Continue flushing eyes until advised to stop by poison control center, a doctor, or after 15 minutes.
- Transport affected individual to a medical professional.
- Removal of contact lenses should only be undertaken by a skilled professional.

Skin Contact

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (using soap if it is available).
- Seek medical attention in event of irritation.

Inhalation

- If dust is inhaled, remove the individual from the contaminated area.
- Encourage patient to blow nose to ensure clear passage for breathing and remove any product that may be lodged in nasal cavity.
- If irritation or discomfort persists, seek medical attention.

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Ingestion

- If swallowed, **do not** induce vomiting.
- If vomiting occurs, lean patient forward or place them on their left side (head down if possible) to maintain an open airway and prevent aspiration.
- Never give liquids to a person who shows signs of drowsiness or reduced awareness. i.e. on the verge of losing consciousness.
- If patient appears stable, provide water to rinse their mouth and to drink comfortably.
- Seek medical advice or attention depending on severity of ingestion.

Indication of any immediate medical attention and special treatment needed.

Treat symptomatically

SECTION 5 – FIRE-FIGHTING MEASURES

Extinguishing media

Use extinguishing media suitable for the surrounding environment. There is no restriction on the type of extinguishing media to be used.

Special hazards arising from the substrate or mixture

Fire incompatibility: May emit poisonous and/or corrosive fumes.

Advice for firefighters

Fire fighting: Alert the fire and rescue service of the location and nature of the hazard. Wear a self-contained breathing apparatus and protective gear in the event of a fire.

Fire/Explosion hazard: This product is non-combustible and not considered a fire risk. Decomposition of the product may generate toxic fumes consisting of sulfur oxides. These fumes may be poisonous and/or corrosive.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

See section 8.

Environmental Precautions

See section 12.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Store in original containers. Keep containers securely sealed.

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Conditions for safe storage, including any incompatibilities

Suitable Containers: DO NOT use aluminum, galvanised, or tin-plated containers.

Storage incompatibilities: When exposed to moisture, the product becomes corrosive to aluminum, zinc, and tin producing highly flammable hydrogen gas. Keep separate from alcohol, water, and strong bases.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Ingredient Data

| <u>Source</u> | <u>Ingredient</u> | <u>Material Name</u> | <u>TWA</u> | <u>STEL</u> | <u>Peak</u> | <u>Notes</u> |
|------------------------------------|-------------------|------------------------|--------------------|---------------|---------------|---------------|
| Australia Exposure Standards | Aluminum sulfate | aluminum soluble salts | 2mg/m ³ | Not Available | Not Available | Not Available |

Emergency Limits

| <u>Ingredient</u> | <u>Material Name</u> | <u>TEEL-1</u> | <u>TEEL-2</u> | <u>TEEL-3</u> |
|-------------------|----------------------|---------------------|---------------------|----------------------|
| aluminum sulfate | aluminum sulfate | 38mg/m ³ | 64mg/m ³ | 380mg/m ³ |

| <u>Ingredient</u> | <u>Original IDLH</u> | <u>Revised IDLH</u> |
|-------------------|----------------------|---------------------|
| aluminum sulfate | Not Available | Not Available |

Material Data

Exposure Controls

Appropriate engineering controls If exposure to workplace dust is not controlled, respiratory protection is required; wear SAA approved dust respirator

Personal Protection



- Eye and face protection** Mono-goggles
- Skin protection** See hand protection below
- Hand/feet protection** Wear protective gloves, e.g. P.V.C.
- Body protection** See other protection below
- Other protection** Overalls and P.V.C.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|---|--|--|----------------|
| Appearance | White lustrous crystals, granules, or power | | |
| Physical state | Divided solid | Relative Density (water=1) | Not available |
| Odour | Not available | Partition coefficient n-octanol/water | Not available |
| Odour threshold | Not available | Autoignition temperature(°C) | Not applicable |
| pH (as supplied) | Not applicable | Decomposition Temperature | 770 |
| Melting point/freezing point (°C) | 770 | Viscosity (cSt) | Not available |
| Initial boiling point and boiling range (°C) | Not available | Molecular weight (g/mol) | Not applicable |
| Flash point (°C) | Not available | Taste | Not available |
| Evaporation rate | Not applicable | Explosive properties | Not available |
| Flammability | Not available | Oxidising properties | Not available |
| Upper Explosive Limit (%) | Not applicable | Surface tension (dyn/cm or mN/m) | Not applicable |
| Lower Explosive Limit (%) | Not applicable | Volatile component (%vol) | Not applicable |
| Vapour pressure (kPa) | Not applicable | Gas group | Not available |
| Solubility in water | Reacts | pH as a solution (1%) | Not available |
| Vapour density | >1 | VOD g/L | Not available |

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: See section 7.

Chemical Stability: Product is considered stable but considered unstable in presence of incompatible materials.

Possibility of hazardous reactions: See section 7.

Conditions to avoid: See section 7.

Incompatible materials: See section 7.

Hazardous decomposition products: See section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhalation: The dust may cause sore throat and coughing. Persons with impaired respiratory function, airway diseases, and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

Ingestion: Accidental ingestion of the material may be damaging to the health of the individual.

Acute toxic responses to aluminium are confined to the more soluble forms.

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Skin Contact: Irritating to skin. The material may accentuate any pre-existing dermatitis condition. Open cuts and abraded or irritated skin should not be exposed to this material. Entry into the bloodstream through cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Eye: When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.

Chronic: Repeated minor skin contact may result in numbing of fingers. Repeated minor ingestion may cause phosphate deficiency, weakening bones. Long term exposure to high dust concentrations may cause changes in lung function (i.e. pneumoconiosis) caused by particles less than 0.5 microns penetrating and remaining in the lung. A prime symptom is breathlessness.

Occupational exposure to aluminium compounds may produce asthma, chronic obstructive lung disease and pulmonary fibrosis. Long-term overexposure may produce dyspnoea, cough, pneumothorax, variable sputum production and nodular interstitial fibrosis; death has been reported.

| | | |
|-------------------------|---------------------------|-------------------------------|
| | Toxicity | irritation |
| aluminum sulfate | Not Available | Not Available |
| aluminum sulfate | Oral (rat) LD50 1930mg/kg | Eye (rabbit) 10mg/24hr severe |

Value obtained from Europe ECHA Registered Substances -Acute toxicity 2. • Value obtained from manufacturer's SDS. Unless otherwise specified date extracted from RTECS - Register of Toxic Effect of chemical Substances

Oral (rat) TDLo:10138 mg/kg/8D-C: Exposure to the material may result in a risk of irreversible effects. The material may produce mutagenic effect in humans.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

For aluminium compounds: Aluminium present in food and drinking water is poorly absorbed through the gastrointestinal tract. The bioavailability of aluminium is dependent on the form in which it is ingested and the presence of dietary constituents with which the metal cation can complex Ligands in food can have a marked effect on absorption of aluminium, as they can either enhance uptake by forming absorbable (usually water soluble) complexes (e.g., with carboxylic acids such as citric and lactic), or reduce it by forming insoluble compounds (e.g., with phosphate or dissolved silicate). Considering the available human and animal data it is likely that the oral absorption of aluminium can vary 10-fold based on chemical form alone.

| | | | |
|--|---|--------------------------------|---|
| Acute Toxicity | X | Carcinogenicity | X |
| Skin Irritation/Corrosion | Y | Reproductivity | X |
| Serious eye damage/irritation | Y | STOT- single exposure | Y |
| Respiratory or skin sensitization | X | STOT- repeated exposure | X |
| Mutagenicity | X | Aspiration hazard | X |

Legend: X – Data either not available or does not fill the criteria for classification

Y – Data available to make classification

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SECTION 12 – ECOLOGICAL INFORMATION

| | End point | Test duration (HR) | Species | Value | Source |
|------------------|-----------|--------------------|-------------------------------|-----------------|--------|
| Aluminum Sulfate | LC50 | 96 | Fish | >0.42mg/L | 2 |
| | EC50 | 48 | Crustacea | 0.222mg/L | 4 |
| | EC50 | 72 | Algae or other aquatic plants | >100mg/L | 2 |
| | BCF | 1080 | Fish | 0.264mg/L | 4 |
| | NOEC | 720 | Crustacea | 0.001-0.092mg/L | 2 |

Legend

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information -Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) -Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database -Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Persistence and degradability

Ingredient

aluminum sulfate

Persistence: water/soil

High

Persistence: air

High

Bioaccumulative potential

Ingredient

aluminum sulfate

Bioaccumulation

LOW (LogKOW=-2.2002)

Mobility in soil

Ingredient

aluminum sulfate

Mobility

LOW (KOC=6.124)

SECTION 13 – DISPOSAL CONSIDERATIONS

Product and packaging disposal

Recycle wherever possible or consult manufacturer for recycling options. Consult the state land waste management authority for disposal.

SECTION 14 – TRANSPORTATION INFORMATION

Label requirements

Marine Pollutant

No

HAZCHEM

Not applicable

Land transport (ADG): Not regulated for transport of dangerous goods.

Air transport (ICAO-IATA/DGR): Not regulated for transport of dangerous goods.

Sea transport (IMDG-Code/GGVSee): Not regulated for transport of dangerous goods.

Transport in bulk according to Annex II of MARPOL and the IBC code: Not applicable.

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SECTION 15 – REGULATORY INFORMATION

Canadian Regulations: This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no) * |
|-----------------------------|---|-------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product are listed on the inventory administered by the governing country(s) or are exempt.
 A "No" indicates that one or more components of the product are not listed on the inventory administered by the governing country(s)

SECTION 16 – OTHER INFORMATION

These SDS summaries at the date of issue our best knowledge of the health and safety hazard information of the product, and how to safely handle and use the product in the workplace. Since SingleTrack Solutions cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company. Our responsibility for product as sold is subject to our standard term and conditions, a copy of which is sent to our customers and is also available upon request.

Last Revision Date: 9/14/2023