

## Material Safety Data Sheet

Version 4.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Aluminum chloride hexahydrate

Product Number : 11091

Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd  
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CANADA

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2. HAZARDS IDENTIFICATION

## Emergency Overview

## WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Moderate eye irritant  
E Corrosive

## GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H303 May be harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H402 Harmful to aquatic life.

Precautionary statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician.

## HMIS Classification

Health hazard: 3  
Flammability: 0  
Physical hazards: 0

## Potential Health Effects

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin** May be harmful if absorbed through skin. Causes skin burns.

**Eyes** Causes eye burns.

**Ingestion** May be harmful if swallowed. Causes burns.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$

Molecular Weight : 241.43 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Aluminium chloride hexahydrate</b>			
7784-13-6	231-208-1	013-003-00-7	-

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#### 4. FIRST AID MEASURES

##### **General advice**

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

##### **If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

##### **In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

##### **In case of eye contact**

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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#### 5. FIRE-FIGHTING MEASURES

##### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### **Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

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#### 6. ACCIDENTAL RELEASE MEASURES

##### **Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

##### **Environmental precautions**

Do not let product enter drains.

##### **Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

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#### 7. HANDLING AND STORAGE

##### **Precautions for safe handling**

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

##### **Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

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#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

##### **Personal protective equipment**

##### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves.

**Eye protection**

Face shield and safety glasses

**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form crystalline

Colour colourless

**Safety data**

pH 2.5 - 3.5 at 20 °C (68 °F)

Melting point 100 °C (212 °F)

Boiling point no data available

Flash point not applicable

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Vapour pressure 1 hPa (1 mmHg) at 100 °C (212 °F)

Density 2.398 g/cm<sup>3</sup>

Water solubility no data available

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**10. STABILITY AND REACTIVITY****Chemical stability**

Stable under recommended storage conditions. Stable under recommended storage conditions.

**Conditions to avoid**

no data available

**Materials to avoid**

Strong acids

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Aluminum oxide

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**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 3,311 mg/kg

LD50 Oral - rat - 3,311 mg/kg

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

Genotoxicity in vitro - Mammal - lymphocyte  
DNA damage

**Carcinogenicity**

no data available

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

Developmental Toxicity - mouse - Intravenous

Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Other developmental abnormalities.

**Specific target organ toxicity - single exposure (GHS)**

no data available

**Specific target organ toxicity - repeated exposure (GHS)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	May be harmful if swallowed. Causes burns.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.

**Signs and Symptoms of Exposure**

Cough, Shortness of breath, Headache, Nausea, Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**

RTECS: BD0530000

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**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish	LC50 - other fish - 27.1 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 27.3 mg/l - 48 h

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

May be harmful to aquatic organisms due to the shift of the pH. Avoid release to the environment.

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**13. DISPOSAL CONSIDERATIONS**

**Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN-Number: 3260 Class: 8 Packing group: III  
Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Aluminium chloride hexahydrate)  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 3260 Class: 8 Packing group: III EMS-No: F-A, S-B  
Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Aluminium chloride hexahydrate)  
Marine pollutant: No

**IATA**

UN-Number: 3260 Class: 8 Packing group: III  
Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Aluminium chloride hexahydrate)

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**15. REGULATORY INFORMATION****DSL Status**

All components of this product are on the Canadian DSL list.

**WHMIS Classification**

D2B	Toxic Material Causing Other Toxic Effects	Moderate eye irritant
E		Corrosive

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**16. OTHER INFORMATION****Further information**

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