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Material Safety Data Sheet

Version 4.0  
Revision Date 03/08/2010  
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Aluminum chloride hydrate  
Product Number : 229393  
Brand : Aldrich  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards  
Corrosive

GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.  
H402 Harmful to aquatic life.

Precautionary statement(s)

P260 Do not breathe dust or mist.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
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.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P363 Wash contaminated clothing before reuse.  
P405 Store locked up.  
P501 Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health hazard: 3  
Flammability: 0  
Physical hazards: 0

NFPA Rating

Health hazard: 3

Fire: 0  
Reactivity Hazard: 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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $AlCl_3 \cdot xH_2O$   
Molecular Weight : 133.34 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Aluminum chloride hydrate			
10124-27-3	231-208-1	013-003-00-7	-

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.

5. FIRE-FIGHTING MEASURES

Subtle 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.

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.

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.

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**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.  
Moisture sensitive. Store under inert gas.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**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.

**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) - dec.  
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/mL at 25 °C (77 °F)  
Water solubility no data available

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

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

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

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

**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**

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

**Signs and Symptoms of Exposure**

Cough, Shortness of breath, Headache, Nausea, Vomiting

**Additional Information****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.

no data available

**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.

**14. TRANSPORT INFORMATION**

**DOT (US)**

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

**IATA**

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

**15. REGULATORY INFORMATION**

**OSHA Hazards**

Corrosive

**DSL Status**

This product contains the following components that are not on the Canadian DSL nor NDSL lists.  
CAS-No.  
Aluminum chloride hydrate 10124-27-3

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

Aluminum chloride hydrate

CAS-No.  
10124-27-3

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**New Jersey Right To Know Components**

Aluminum chloride hydrate

CAS-No.  
10124-27-3

Revision Date

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION**

**Further information**

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