

# Material Safety Data Sheet

## Aluminum chloride, anhydrous, powder, 98.5%

ACC# 00106

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Aluminum chloride, anhydrous, powder, 98.5%

**Catalog Numbers:** AC195780000, AC195780010, AC195780050, AC195785000, AC217460000, AC217460030, AC217460050, AC217461000, AC217465000, AC364810000, AC364810100, AC364810200, S75023, S93113, A575-100, A575-500, NC9522957

**Synonyms:** Trichloroaluminum; Aluminum trichloride.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7446-70-0	Aluminum chloride	98.5	231-208-1

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: White.

**Danger!** Corrosive. Water-reactive. Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. Causes severe eye burns. Causes respiratory tract burns. Causes severe digestive tract burns.

**Target Organs:** Eyes, skin, mucous membranes.

#### Potential Health Effects

**Eye:** Causes severe eye burns.

**Skin:** Contact with skin causes irritation and possible burns, especially if the skin is wet or moist.

**Ingestion:** Causes gastrointestinal tract burns. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

**Inhalation:** Causes delayed lung injury. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma.

**Chronic:** Aluminum may be implicated in Alzheimer's disease. Inhalation of aluminum containing dusts may cause pulmonary disease.

### Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid immediately.

**Skin:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

**Ingestion:** If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** Water reactive. Material will react with water and may release a flammable and/or toxic gas. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Use water with caution and in flooding amounts. Containers may explode when heated or if contaminated with water. Aluminum chloride reacts violently with water producing hydrochloric acid and heat. Hydrochloric acid solutions react with most metals, forming flammable hydrogen gas.

**Extinguishing Media:** Use foam, dry chemical, or carbon dioxide. DO NOT USE WATER! Do NOT get water inside containers.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 2; Special Hazard: -W-

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Do not expose spill to water.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Loosen closure cautiously before opening. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Do not allow contact with water.

**Storage:** Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Corrosives area. Loosen closure cautiously before opening. Storage under a nitrogen blanket has been recommended. Store protected from moisture. Bottles should be vented periodically in order to overcome pressure buildup. Separate from organic materials.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Aluminum chloride	2 mg/m <sup>3</sup> TWA (as Al) (listed under Aluminum, soluble salts).	2 mg/m <sup>3</sup> TWA (as Al) (listed under Aluminum, soluble salts).	none listed

**OSHA Vacated PELs:** Aluminum chloride: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear chemical goggles and a face shield.

**Skin:** Wear impervious gloves.

**Clothing:** Wear appropriate protective gloves to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** White

**Odor:** Strong acid odor.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** sublimes @ 181 deg C

**Freezing/Melting Point:** 194 deg C @ 2.5 atm

**Decomposition Temperature:** Not available.

**Solubility:** Reacts.

**Specific Gravity/Density:** 2.4400g/cm<sup>3</sup>

**Molecular Formula:** AlCl<sub>3</sub>

**Molecular Weight:** 133.34

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable.

**Conditions to Avoid:** Dust generation, exposure to moist air or water.

**Incompatibilities with Other Materials:** Organic materials, Aluminum chloride reacts violently with water producing hydrochloric acid and heat.

**Hazardous Decomposition Products:** Hydrogen chloride, aluminum oxide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 7446-70-0: BD0525000

**LD50/LC50:**

**CAS#** 7446-70-0:

Draize test, rabbit, skin: 10%/6D (Intermittent);

Oral, mouse: LD50 = 1130 mg/kg;

Oral, rat: LD50 = 3450 mg/kg;

Skin, rabbit: LD50 = >2 gm/kg;

**Carcinogenicity:**

**CAS#** 7446-70-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No known effects.

**Teratogenicity:** May have teratogenic effects in animal studies.

**Reproductive Effects:** May have reproductive effects in animal studies.

**Mutagenicity:** No known effects.

**Neurotoxicity:** No known effects.

**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	ALUMINUM CHLORIDE, ANHYDROUS	ALUMINUM CHLORIDE ANHYDROUS
<b>Hazard Class:</b>	8	8
<b>UN Number:</b>	UN1726	UN1726
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7446-70-0 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 7446-70-0: immediate, delayed, reactive.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7446-70-0 can be found on the following state right to know lists: California, (listed as Aluminum, soluble salts), New Jersey, Pennsylvania, Minnesota, (listed as Aluminum, soluble salts), Massachusetts.

## California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

## European/International Regulations

### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

C

#### Risk Phrases:

R 34 Causes burns.

#### Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 7/8 Keep container tightly closed and dry.

S 28A After contact with skin, wash immediately with plenty of water

## WGK (Water Danger/Protection)

CAS# 7446-70-0: 1

## Canada - DSL/NDSL

CAS# 7446-70-0 is listed on Canada's DSL List.

## Canada - WHMIS

This product has a WHMIS classification of E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

## Canadian Ingredient Disclosure List

CAS# 7446-70-0 is listed on the Canadian Ingredient Disclosure List.

## Section 16 - Additional Information

**MSDS Creation Date:** 12/02/1997

**Revision #6 Date:** 6/22/2006

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*