



SAFETY DATA SHEET

Section 1. Identification

Product Name:	Aluminum chloride, anhydrous
Product Type:	Solid
CAS Number:	7446-70-0
Product Number:	AL6700
Product Manufacturer:	Ereztech LLC 11555 Medlock Bridge Road, Suite 100 Johns Creek, GA 30097
Product Information:	(888) 658-1221
<u>In case of an emergency:</u>	CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International); CCN836180 *** Contact manufacturer for all non-emergency calls.

Section 2. Hazards Identification

Emergency Overview

Appearance/Odor:	Light yellow powder, pungent/strong chlorine odor.
Classification:	CORROSIVE TO METALS; - Category 1, H290 SKIN CORROSION/IRRITATION; - Category 1B, H314 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1, H318 HAZARDOUS TO THE AQUATIC ENVIRONMENT, ACUTE TOXICITY - Category 3, H402

GHS label elements

Signal word:	DANGER
Hazard statements:	H290: May be corrosive to metals. H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage. H402: Harmful to aquatic life.

Hazard pictograms:



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Section 2. Hazards Identification

Precautionary statements

Prevention:

P234: Keep only in original container.
P260: Do not breathe fumes/gases/mists/vapors or sprays.
P264: Wash skin thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: If on skin (or hair): 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. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.
P363: Wash contaminated clothing before reuse.
P390: Absorb spillage to prevent material damage.
P403 + P233 + P235: Store in a well ventilated place. Keep container tightly closed. Keep cool.
P405: Store locked up.

Storage:

P406: Store in corrosive resistant container with resistant inner lining.

Disposal:

P501: Dispose of contents/ container to an approved wasted disposal plant.

General:

None.

OSHA/HCS status:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified:

None known.

Section 3. Composition/Information on Ingredients

Substances

Formula : AlCl_3
Molecular weight : 133.34 g/mol
CAS-No. : 7446-70-0
Synonyms : Aluminum trichloride

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Section 3. Composition/Information on Ingredients

Ingredient Name	%	CAS Number
Aluminum chloride, anhydrous	>98	7446-70-0

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First Aid Measures

Description of Necessary First Aid Measures

- General Advice:** Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.
- Eye Contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue rinsing. Call a POISON CENTER or doctor/physician immediately.
- Skin Contact:** Wash off contaminated skin with soap and plenty of water. Call a POISON CENTER or doctor/physician immediately.
- Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Call a POISON CENTER or doctor/physician immediately.
- Ingestion:** Rinse mouth. Do NOT induce vomiting. Remove dentures if any. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Call a physician or POISON CONTROL CENTER immediately.

Most Important Symptoms/Effects, Acute And Delayed Potential Acute Health Effects

- Eye Contact:** Symptoms may include stinging, tearing, redness, swelling, blurred vision and temporary/permanent loss of vision. Product exerts a strong caustic effect on eye tissues which will result in severe irritation and possibly permanent damage.
- Inhalation:** Product exerts a strong caustic on mucous membranes; may be expected to be irritating to respiratory system.
- Skin Contact:** Product exerts a caustic effect on the skin which may be expected to cause severe burns of exposed skin tissue.

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Section 4. First Aid Measures

Ingestion: Product exerts a strong caustic effect on the mouth and throat and may cause perforation of the esophagus and stomach. Symptoms may include severe swelling and severe damage to exposed tissues.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Notes to Physician: Treat symptomatically.

Specific Treatments: No specific treatment.

Protection of First Responders: No action taken shall be taken involving any personal risk without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire Fighting Measures

General Hazards: Fire may produce irritating, corrosive and/or toxic gases.

Suitable Extinguishing Media: Use alcohol resistant foam, dry chemical or carbon dioxide (CO₂).

Unsuitable Extinguishing Media: DO NOT USE WATER. Product reacts violently with water to produce hydrogen chloride and hydrogen chloride gas.

Unusual Fire and Explosion Hazards: If product is involved in a fire, toxic and corrosive gases will be produced.

Product of Combustion: Decomposition products include aluminum oxides, hydrogen chloride and hydrogen chloride gas.

Protection of Firefighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire-fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-emergency Personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid inhalation of dusts, vapors or fumes. Provide adequate ventilation. Wear respiratory protection. Put on appropriate personal protective equipment.

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Section 6. Accidental Release Measures

- For Emergency Responders:** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
- Environmental Precautions:** Do not allow dispersal of spilled material and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for Containment

- Small Spill:** Contain spill with an inert, dry binding material (sand, diatomite, acid binders, universal binders) and place in a dry, corrosion resistant waste disposal container. Do not flush spill area with water or aqueous cleaning solution. Dispose of via a licensed waste disposal contractor.
- Large Spill:** Contain and collect spillage with an inert, dry binding material e.g. sand, earth, vermiculite or diatomaceous earth and place in dry, corrosion resistant container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated binding material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

- Precautions:** Product is moisture sensitive. Handle under a dry, inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen is recommended. Avoid contact with skin, eyes and clothing. Avoid the formation of dusts and the inhalation of vapors or fumes. Do not ingest. Provide adequate ventilation.
- Protective Measures:** Put on appropriate personal protective equipment (see Section 8). Keep in the original container kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- General Occupational Hygiene:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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Section 7. Handling and Storage

Safe Storage Conditions:

Product is moisture sensitive. Store under an inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen is recommended. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (oxidizing agents, water) and food and drink. Keep container tightly closed and sealed until ready for use. Store locked up.

Section 8. Exposure Controls/Personal Protection

Introductory Remarks:

These recommendations provide general guidance for handling this product. Because work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and conduct regular repairs. Waste from these procedures should be handled in accordance with Section 13.

Occupational Exposure Limits

List	Components	CAS-No.	Type	Value
ACGIH	Aluminum chloride	7446-70-0	TLV	2.0 mg/m ³ (Al metal) TWA

Engineering Controls:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Provide an eyewash/shower station.

Environmental Exposure Controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual Protection Measures

Hygiene Measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Remove all soiled and contaminated clothing immediately. Do not inhale dusts/gases/fumes/vapors. Avoid contact with eyes and skin. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/Face Protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to dust, vapors, or gases.

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Section 8. Exposure Controls/Personal Protection

Eye/Face Protection (cont.):

If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles, faceshield (8-inch minimum). Refer to 29 CFR 1910.133, ANSI Z87.1, or European Standard EN166.

Skin Protection

Hand Protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Chemical-resistant gloves.

Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. For full contact, wear gloves made from Neoprene or nitrile rubber.

Other Skin Protection:

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory Protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) 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).

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Section 9. Physical and Chemical Properties

Physical State:	Powder.
Color:	Light yellow.
Odor:	Pungent, strong chlorine odor.
Odor Threshold:	No data available.
pH:	2.4 (100 g/l aqueous solution).
Melting Point:	194 °C (381.2 °F).
Boiling Point:	187.7 °C (369.9 °F) at 1,003 hPa (752 mmHg).
Flash Point:	No data available.
Auto-ignition temperature:	No data available.
Relative Density:	2.44 g/cm ³ @ 20 °C.
Vapor Pressure:	No data available.
Vapor Density:	No data available.
Water Solubility:	Product decomposes when exposed to water; will react violently with water if water is added to product and will produce toxic gases. Solubility: 450 g/l @ 20 °C.

Section 10. Stability and Reactivity

Reactivity:	Product reacts violently if water is added to product. Reaction will liberate toxic and corrosive gases (hydrogen chloride).
Chemical Stability:	Stable at normal ambient temperature and pressure and under recommended storage conditions.
Conditions to Avoid:	Moisture sensitive. Handle/store under an inert dry gas.
Incompatible Materials:	Strong oxidizing agents, strong bases, alkali metals, metals, water/moisture.
Hazardous Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products formed under fire conditions: aluminum oxides, hydrogen chloride and hydrogen chloride gas. In the event of a fire: see section 5.
Possibility of Hazardous Reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.

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Section 11. Toxicological Information

Information on Toxicological Effects

Acute Toxicity

Component	CAS No	Result	Species	Dose	Exposure
Aluminum chloride	7446-70-0	LD50 Oral	Rat	3,470 mg/kg	-
		LD50 Dermal	Rat	> 2,000 mg/kg	-

Irritation/Corrosion

: Severe erythema/edema, skin rabbit and mouse, 10%, open exposure. Product produces chemical burns on skin, mucous membranes and eye tissues.

Sensitization

: No specific data available.

Germ Cell Mutagenicity

: No specific data available.

Carcinogenicity

IARC

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

ACGIH

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

NTP

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

OSHA

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

Reproductive Toxicity

: This product is not expected to cause reproductive or developmental effects.

Teratogenicity

: No specific data available.

Specific Target Organ Toxicity (single exposure)

: No specific data available.

Specific Target Organ Toxicity (repeated exposure)

: Respiratory system, skin.

Aspiration Hazard

: No specific data available.

Information on the likely routes of exposure

: Causes burns for all routes of exposure (skin, eye, inhalation, ingestion).

Additional Information

: Prolonged or chronic exposure may cause irreversible damage to the lungs; symptoms may include bronchial irritation with chronic cough and frequent bouts of pneumonia. Gastrointestinal disturbances may also occur.

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Section 11. Toxicological Information

Additional Information (cont.) : To the best of our knowledge, the chemical, physical and toxicological properties of this product have not been thoroughly investigated.

Section 12. Ecological Information

Numerical Measures of Toxicity

Component	CAS No	Test	Species	Dose	Exposure
Aluminum chloride	7446-70-0	LC50	Gambusia affinis	27.1 mg/l	97 h
		EC50	Daphnia magna (water flea)	3.9 mg/l	48 h

Persistence and Degradability

Biodegradability : No specific data available.

Bioaccumulative potential : No specific data available.

Mobility in soil : No specific data available.

Other Adverse Effects : Harmful to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13. Disposal Considerations

Waste Treatment Methods

Product Dispose of in accordance with local, state, and federal regulations. Refer to 40 CFR 260-299 for complete waste disposal regulations. Consult your local, state, or federal agency before disposing of any chemicals.

Contaminated packaging Empty containers retain product residue (powder and/or vapors) and can be dangerous. Dispose of in the same manner as unused product.

Section 14. Transport Information

	DOT	IMDG	IATA
UN Number	UN 1726	UN 1726	UN 1726
UN Proper Shipping Name	Aluminum chloride, anhydrous	ALUMINUM CHLORIDE, ANHYDROUS	Aluminum chloride, anhydrous
Transport Hazard Classes	8	8	8
Packing Group	II	II	II

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Section 14. Transport Information

	DOT	IMDG	IATA
Environmental Hazards	-	-	-
Additional Information	-	EMS No. F-A, S-B	-

Special Precautions for User : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transporting in Bulk According to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

Section 15. Regulatory Information

TSCA (Toxic Substance Control Act):

This product is listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory).

SARA 302 Components

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

SARA 313 Components

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 (Skin Corrosion or Irritation, Serious eye damage or eye irritation); HNOC: Releases corrosive/toxic gases when exposed to water.

Massachusetts Right to Know Components

Aluminum chloride, anhydrous	CAS-No. 7446-70-0	Revision Date 1993-04-24
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Pennsylvania Right to Know Components

Aluminum chloride, anhydrous	CAS-No. 7446-70-0	Revision Date 1993-04-24
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New Jersey Right to Know Components

Aluminum chloride, anhydrous	CAS-No. 7446-70-0	Revision Date 1993-04-24
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California Proposition 65 Components

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

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Section 16. Other Information

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

HMIS Rating

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	2

History

Date of printing	: 1/29/2020
Date of issue/Date of Revision	: 1/29/2020
Date of previous issue	: 4/12/19
References	: None available

Abbreviations and Acronyms

- ACGIH: American Conference of Governmental Industrial Hygienists.
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstracts Service (division of the American Chemical Society).
- DOT: US Department of Transportation.
- GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
- HMIS: Hazardous Materials Identification System.
- IARC: International Agency for Research on Cancer.
- IATA: International Air Transport Association.
- IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA).

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Section 16. Other Information

Abbreviations and Acronyms (cont.)

IDLH: Immediately Dangerous to Life or Health (US National Institute for Occupation Health and Safety (NIOSH)).

IMDG: International Maritime Code for Dangerous Goods.

NFPA: National Fire Protection Association.

NIOSH: National Institute of Occupational Safety and Health.

NTP: National Toxicology Program.

OSHA: Occupational Safety and Health Administration.

PEL: Permissible Exposure Limits.

REL: Recommended Exposure Limits.

SARA: Superfund Amendments and Reauthorization Act.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limit Values (ACGIH).

TWA: Time Weighted Average.

VOC: Volatile Organic Compound.

Disclaimer

The information herein is believed to be accurate and is presented in good faith; however, no warranties or representations are made by Ereztech LLC regarding the accuracy or completeness of the information. Ereztech LLC shall not be liable for any damages resulting from the handling, or from the contact with the above product.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

BRIDGING CHEMICAL GAPS