



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	Aluminum Chloride, Anhydrous, GR	Product Code	AX0684
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	10/27/2005
For More Information Call	856-423-6300 Technical Service Monday-Friday: 8:00 AM - 5:00 PM	In Case of Emergency Call	800-424-9300 CHEMTREC (USA) 613-996-6666 CANUTEC (Canada) 24 Hours/Day: 7 Days/Week
Synonym	Trichloroaluminum		
Material Uses	Analytical reagent.		
Chemical Family	Inorganic salt.		

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Aluminum Chloride, Anhydrous	7446-70-0	100

Section 3. Hazards Identification

Physical State and Appearance	Solid. (Powder. Granular solid.)
Emergency Overview	DANGER! CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. HARMFUL IF INHALED OR SWALLOWED. CONTACT WITH WATER OR MOIST AIR LIBERATES HYDROGEN CHLORIDE GAS. MAY CONTAIN GAS UNDER PRESSURE. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: MUCOUS MEMBRANES, SKIN, EYES, EYE, LENS OR CORNEA.
Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Potential Acute Health Effects	Eyes Hazardous in case of eye contact (corrosive). Causes eye burns. Skin Hazardous in case of skin contact (corrosive). Skin contact produces burns. Inhalation Hazardous in case of inhalation (lung corrosive). Ingestion Hazardous in case of ingestion.
Potential Chronic Health Effects	Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information
(section 11)

Medical Conditions	Repeated exposure of the eyes to a low level of dust can produce eye irritation.
Aggravated by	Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.
Overexposure:	Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product	May be combustible at high temperature.
Auto-ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	Some metallic oxides.
Fire Hazards in Presence of Various Substances	Not available.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of static discharge: No.
Fire Fighting Media and Instructions	Risks of explosion of the product in presence of mechanical impact: No. SMALL FIRE: Use DRY chemical powder.
Protective Clothing (Fire)	LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	Be sure to use an approved/certified respirator or equivalent.
Special Remarks on Explosion Hazards	Not available.
	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling	Do not ingest. Do not breathe dust. Keep container closed. Do not get in eyes, on skin, or on clothing.
Storage	Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	
Eyes	Splash goggles.

Body Synthetic apron.

Respiratory Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent.
Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name

Exposure Limits

Aluminum Chloride, Anhydrous

Tyterveyslaitos (Finland, 1998).

TWA: 2 mg/m³ 8 hour(s).

INRS (France, 1996).

VME: 2 mg/m³ 8 hour(s).

AFS (Sweden, 1996).

NGV: 1 mg/m³ 8 hour(s).

ACGIH (United States, 1994).

TWA: 2 mg/m³ 8 hour(s).

Section 9. Physical and Chemical Properties

Odor Pungent. hydrochloric acid (Strong.)

Color Yellowish. Grayish white.

Physical State and Appearance Solid. (Powder. Granular solid.)

Molecular Weight 133.33 g/mole

Molecular Formula Al-Cl₃

pH Not available.

Boiling/Condensation Point Not available.

Melting/Freezing Point Not available.

Specific Gravity 2.44 (Water = 1)

Vapor Pressure Not available.

Vapor Density Not available.

Odor Threshold 5 ppm

Evaporation Rate Not available.

LogKow Not available.

Solubility Not available.

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Conditions of Instability Not available.

Incompatibility with Various Substances Highly reactive with moisture.

Reactive with combustible materials, organic materials, metals.

Rem/Incompatibility Not available.

Hazardous Decomposition Products Not available.

Hazardous Polymerization Will not occur.

Section 11. Toxicological Information

RTECS Number:

Aluminum Chloride, Anhydrous, GR BD0525000

Toxicity	Acute oral toxicity (LD50): 1130 mg/kg [Mouse].
Chronic Effects on Humans	Not available.
Acute Effects on Humans	Hazardous in case of eye contact (corrosive). Causes eye burns. Hazardous in case of skin contact (corrosive). Skin contact produces burns. Hazardous in case of inhalation (lung corrosive). Hazardous in case of ingestion.
Synergetic Products (Toxicologically)	Not available.
Irritancy	Draize Test: Not available.
Sensitization	Not available.
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.
Toxicity to Reproductive System	Tests on laboratory animals for reproductive effects are cited in Registry of Toxic Effects on Chemical Substances (RTECS).
Teratogenic Effects	Not available.
Mutagenic Effects	Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number	D002
Treatment	Specified Technology - Contact your local permitted waste disposal site (TSD) for permissible treatment sites. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification	Proper Shipping Name: ALUMINUM CHLORIDE, ANHYDROUS Hazard Class: 8 UN number: UN1726 Packing Group: II RQ: Not applicable.
TDG Classification	Not available.
IMO/IMDG Classification	Proper Shipping Name: ALUMINIUM CHLORIDE, ANHYDROUS Hazard Class: 8 UN number: UN1726 Packing Group: II RQ: Not applicable.
ICAO/IATA Classification	Not available.

Section 15. Regulatory Information

U.S. Federal Regulations	TSCA 8(b) inventory: Aluminum Chloride, Anhydrous SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Aluminum Chloride, Anhydrous SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Aluminum Chloride, Anhydrous: reactive, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard SARA 313 toxic chemical notification and release reporting: No products were found.
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Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada)

CLASS E: Corrosive solid.
CEPA DSL: Aluminum Chloride, Anhydrous
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS Aluminum Chloride, Anhydrous 231-208-1
DSCL (EEC) R34- Causes burns.
International Lists Australia (NICNAS): Aluminum Chloride, Anhydrous
Japan (MITI): Aluminum Chloride, Anhydrous
Korea (TCCL): Aluminum Chloride, Anhydrous
Philippines (RA6969): Aluminum Chloride, Anhydrous
China: No products were found.

State Regulations

Pennsylvania RTK: Aluminum Chloride, Anhydrous: (generic environmental hazard)
Massachusetts RTK: Aluminum Chloride, Anhydrous
New Jersey: Aluminum Chloride, Anhydrous
California prop. 65: No products were found.

Section 16. Other Information

**National
Fire
Protection
Association
(U.S.A.)** **0** **Fire
Hazard**
Health **32** **Reactivity**
W **Specific
Hazard**

**Changed Since Last
Revision** **+**
Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.
