

ALUMINUM CHLORIDE SOLUTION

ACO

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Clear, colorless to amber	Mild, pungent odor, like hydrochloric acid
<p>Wear goggles, approved respirator and rubber overclothing (including gloves). Neutralize with sodium carbonate, lime, or limestone. Isolate and remove discharged material. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	<p>Not flammable. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Use extinguishing agents appropriate for the surrounding fire. Use water spray to cool exposed containers.</p>		
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR Corrosive. May burn eyes, respiratory tract and skin. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p>		
Water Pollution	<p>Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>		

<p>1. CORRECTIVE RESPONSE ACTIONS Stop discharge Do not add water to undissolved material</p>	<p>2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: AlCl₃·H₂O 2.3 IMO/UN Designation: Data not available. 2.4 DOT ID No.: 2581 2.5 CAS Registry No.: 7446-70-0 2.6 NAERG Guide No.: 154 2.7 Standard Industrial Trade Classification: 52329</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Wear impervious protective clothing and gloves to prevent skin contact. Wear splashproof chemical safety goggles and approved respirator.</p> <p>3.2 Symptoms Following Exposure: The material is corrosive and contact with the skin, eyes or respiratory tract may cause severe skin irritation and burns.</p> <p>3.3 Treatment of Exposure: Call for medical aid. INGESTION: If victim is conscious have him drink water or milk. SKIN: Flush immediately with plenty of water. EYES: Flush with water for at least 15 mins., lifting lids occasionally.</p> <p>3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 3; oral LD₅₀ = 770 mg/Kg (mouse). 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: None recognized. 3.10 Vapor (Gas) Irritant Characteristics: Vapor is moderately irritating such that personnel will not usually tolerate moderate or high vapor concentrations. 3.11 Liquid or Solid Characteristics: Fairly severe skin irritant; may cause pain and second-degree burns after a few minutes' contact. 3.12 Odor Threshold: Data not available. 3.13 IDLH Value: Data not available. 3.14 OSHA PEL-TWA: Not listed. 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed</p>	

4. FIRE HAZARDS

- 4.1 **Flash Point:**
Not flammable.
- 4.2 **Flammable Limits in Air:** Not pertinent.
- 4.3 **Fire Extinguishing Agents:** Use extinguishing agents appropriate for the surrounding fire.
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent.
- 4.5 **Special Hazards of Combustion Products:** At elevated temperatures, the material will decompose, producing hydrogen chloride.
- 4.6 **Behavior in Fire:** Not pertinent.
- 4.7 **Auto Ignition Temperature:** Not pertinent.
- 4.8 **Electrical Hazards:** Not pertinent.
- 4.9 **Burning Rate:** Not pertinent.
- 4.10 **Adiabatic Flame Temperature:** Not pertinent.
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent.
- 4.12 **Flame Temperature:** Not pertinent.
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent.
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction.
- 5.2 **Reactivity with Common Materials:** Corrosive to many metals, such as aluminum, steel, copper, and zinc. Reaction will produce flammable hydrogen gas.
- 5.3 **Stability During Transport:** Stable.
- 5.4 **Neutralizing Agents for Acids and Caustics:** Sodium carbonate (soda ash), lime (calcium hydroxide), or limestone (calcium carbonate).
- 5.5 **Polymerization:** Will not polymerize.
- 5.6 **Inhibitor of Polymerization:** Not pertinent.

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**
Data not available.
- 6.2 **Waterfowl Toxicity:** Data not available.
- 6.3 **Biological Oxygen Demand (BOD):** Data not available.
- 6.4 **Food Chain Concentration Potential:**
Data not available.
- 6.5 **GESAMP Hazard Profile:**
 Bioaccumulation: 0
 Damage to living resources: 1
 Human Oral hazard: 1
 Human Contact hazard: 1
 Reduction of amenities: X

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 32° Baume (28-32%)
- 7.2 **Storage Temperature:** Data not available.
- 7.3 **Inert Atmosphere:** Data not available.
- 7.4 **Venting:** None.
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Corrosive Material
- 8.2 **49 CFR Class:** 8
- 8.3 **49 CFR Package Group:** III
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**
- | | |
|---------------------------|----------------|
| Category | Classification |
| Health Hazard (Blue)..... | 2 |
| Flammability (Red)..... | 0 |
| Instability (Yellow)..... | 1 |
- 8.6 **EPA Reportable Quantity:** Not listed.
- 8.7 **EPA Pollution Category:** Not listed
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** 133.34
- 9.3 **Boiling Point at 1 atm:** 230°F = 110°C = 383°K
- 9.4 **Freezing Point:** -30°F = -34°C = 239°K
- 9.5 **Critical Temperature:** Data not available.
- 9.6 **Critical Pressure:** Data not available.
- 9.7 **Specific Gravity:** 1.2800
- 9.8 **Liquid Surface Tension:** Data not available.
- 9.9 **Liquid Water Interfacial Tension:** Data not available.
- 9.10 **Vapor (Gas) Specific Gravity:** Data not available.
- 9.11 **Ratio of Specific Heats of Vapor (Gas):**
Data not available.
- 9.12 **Latent Heat of Vaporization:** Data not available.
- 9.13 **Heat of Combustion:** Not pertinent.
- 9.14 **Heat of Decomposition:** Data not available.
- 9.15 **Heat of Solution:** Data not available.
- 9.16 **Heat of Polymerization:** Not pertinent.
- 9.17 **Heat of Fusion:** Data not available.
- 9.18 **Limiting Value:** Data not available.
- 9.19 **Reid Vapor Pressure:** Data not available.

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
39	10.700		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	M I S C I B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E