

Aluminum Chlorohydrate

MSDS No. 660
2/9/2010

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

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| Product/Chemical Name: | Aluminum chlorohydrate, solution | Manufacturer: | Delta Chemical Corporation |
| Chemical Family: | Inorganic metal salt | | 2601 Cannery Avenue |
| General Use: | Water Treatment Chemical | | Baltimore, MD 21226-1595 |
| Emergency Contact: | 800-424-9300 Chemtrec | | Phone 410-354-0100 (7:00am 5:00pm) |
| | | | FAX 410-354-1021 |

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| HMIS |
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| PPE † |
| †Sec. 11 |

Section 2 - Composition / Information on Ingredients

| Ingredient Name | OSHA PEL | | ACGIH TLV | | NIOSH REL | | NIOSH IDLH |
|------------------------|---|-------------|---|-------------|---|-------------|-------------|
| | TWA | STEL | TWA | STEL | TWA | STEL | |
| Aluminum chlorohydrate | | | | | | | |
| Water | | | | | | | |
| | | | | | | | |
| Ingredient | TWA | STEL | TWA | STEL | TWA | STEL | IDLH |
| Aluminum chlorohydrate | 2 mg/m ³ <i>as aluminum</i> | none estab. | 2 mg/m ³ <i>as aluminum</i> | none estab. | 2 mg/m ³ <i>as aluminum</i> | none estab. | none estab. |

Section 3 - Emergency Overview

Description: Clear to light grey and slightly hazy liquid with no or very mild odor. Not flammable.
Hazards: Harmful by inhalation, in contact with skin and if swallowed. Risk of serious damage to eyes. Not flammable, but may release toxic vapors if decomposed in a fire.

Section 4 - First Aid Procedures

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| Inhalation: | Remove from exposure; seek medical treatment if any symptoms occur. Provide oxygen or cardiopulmonary resuscitation if necessary. |
| Eye Contact: | Immediately flush with water for at least 15 minutes, occasionally lifting upper and lower lids. Seek medical attention immediately. |
| Skin Contact: | Immediately bring the clothed subject under a shower. Remove contaminated clothing while rinsing with water. Rinse for at least 15 minutes. Seek medical attention if needed. |
| Ingestion: | Do not induce vomiting. If conscious, have the victim rinse mouth then drink large amounts of water. Seek medical attention immediately. |

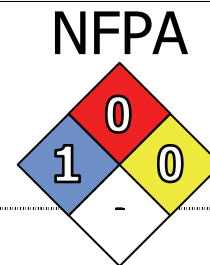
After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Physical and Chemical Properties

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| Physical State: | Liquid | Water Solubility: | Complete |
| Appearance: | Clear to light grey and slightly hazy | Specific Gravity (H₂O=1, at 4 °C): | 1.15 – 1.35 |
| Odor Threshold: | negligible odor | Freezing/Melting Point: | -5±2 °C |
| | | Boiling Point: | 105±5 °C |
| | | Viscosity: | 10 – 100 centistokes |
| % VOC: | 0.0 | Vapor Pressure: | NA |
| pH (neat): | 3.0 – 4.0 | Vapor Density (Air=1): | NA |

Section 6 - Fire Fighting Measures

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| Flash Point: | NA |
| Burning Rate: | NA |
| Auto ignition Temperature: | NA |
| LEL: | NA |
| UEL: | NA |
| Flammability Classification: | Not flammable |
| Extinguishing Media: | NA |
| Unusual Fire or Explosion Hazards: | May decompose to Hydrogen chloride (Hydrochloric acid) and Chlorine in a fire. If fumes are present wear an OSHA/NIOSH approved full-face respirator with an acid gas cartridge or SCBA. |
| Hazardous Combustion Products: | See Section 7. |
| Fire-Fighting Instructions: | Use water to keep fire-exposed containers cool. Do not release runoff to sewers or waterways. |



Section 7 - Stability and Reactivity

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| Stability: | Stable. |
| Polymerization: | Hazardous polymerization does not occur. |
| Chemical Incompatibilities: | Not compatible with bases (such as Sodium hydroxide and Potassium hydroxide); alcohols, organic materials (such as wood, paper, leather) and Ammonia. Mixing may generate heat, spattering or boiling and toxic vapors. |
| Conditions to Avoid: | Will react with most metals (aluminum, iron, zinc, tin, etc.) |
| Hazardous Decomposition Products: | May decompose to Hydrogen chloride (Hydrochloric acid) and Chlorine at elevated temperatures. |

Section 8 - Health Hazard Information

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| Primary Entry Routes: | Skin, ingestion. |
| Target Organs: | N/A |
| Acute Effects | <i>Small Quantities:</i> nausea, vomiting, stomach cramps, diarrhea. <i>Large Quantities:</i> Ulcerations and necrosis of the mucous membranes in the throat, mouth, and esophagi. |
| Eye: | Risk of serious damage to eyes. Will cause painful burning and tearing. |
| Skin: | May cause irritation, swelling and dermatitis. |
| Carcinogenicity: | IARC, NTP, and OSHA do not list any of the ingredients as a carcinogen. |
| Medical Conditions Aggravated by Long-Term Exposure: | None reported. |
| Chronic Effects: | IARC, NTP, and OSHA list no evidence showing that any of the ingredients cause cancer or affect reproduction. |

Section 9 - Spill, Leak, and Disposal Procedures

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| Spill /Leak Procedures: | Spill procedures are dictated by site wastewater flow controls and will vary from site to site. General procedures are provided in this document, but authorization for any wastewater discharge must be obtained prior to the discharge. |
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| Small Spills: | If directed to an industrial sewer, wash down with large volumes of water. Spills can be neutralized and absorbed with soda ash or lime, but neutralization will release carbon dioxide, which can generate a breathing hazard. |
| Large Spills | For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Pump residue into storage containers or neutralize with lime or soda ash. Neutralization will release carbon dioxide, which can generate a breathing hazard. |
| Cleanup: | Wash or neutralize impacted areas after liquid removal to remove residues. |
| Regulatory Requirements: | Aluminum chloride hydroxide does not have a reportable quantity under CERCLA. |
| Disposal: | Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations. |
| Container Cleaning and Disposal: | Rinse with water, dispose of containers in accordance with State and local regulations. |

Section 10 - Regulatory Information

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| EPA Regulations: | |
| RCRA Hazardous Waste Number: | Not listed (40 CFR 261.33) |
| RCRA Hazardous Waste Classification | (40 CFR 261.): Not classified |
| CERCLA Hazardous Substance (40 CFR 302.4) | Not listed CWA, Sec. 311 (b)(4) |
| CERCLA Reportable Quantity (RQ) | NA |
| SARA 311/312 Category: | acute (immediate) health hazard |
| SARA Toxic Chemical (40 CFR 372.65): | Not listed |
| SARA EHS (Extremely Hazardous Substance) (40 CFR 355): | Not listed |
| OSHA Regulations: | |
| Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): | Not listed |
| OSHA Specifically Regulated Substance (29CFR 1910.) | Not listed |
| State Regulations: | State specific regulatory requirements have not been determined by Delta Chemical Corporation |

Section 11 - Exposure Controls / Personal Protection

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| Ventilation: | Provide local exhaust ventilation. |
| Respiratory Protection: | Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. <i>Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.</i> If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas. |
| Protective Clothing/Equipment: | Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses. |
| Safety Stations: | Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area. |
| Contaminated Equipment: | Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. |
| Comments: | Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. |

Section 12 - Special Precautions and Comments

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| Handling Precautions: | Ensure that all containers are labeled in accordance with OSHA regulations. Treat as an acid. Avoid contact with metal as product will corrode iron, brass, copper, aluminum and mild steel. Avoid skin and eye contact. Wear appropriate protective clothing. |
| Storage Requirements: | Store in rubber-lined, plastic or FRP vessels, Keep storage temperature between 0°C/32° F and 30°C/86° F. Store away from incompatible materials. Keep containers tightly closed when not in use. |

Section 13 - DOT Transportation Data (49 CFR 172.101)

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| Shipping Name: | | Packaging Authorizations | |
| Shipping Symbols: | | a) Exceptions: | |
| Hazard Class: | | b) Non-bulk Packaging: | |
| DOT No.: | | c) Bulk Packaging: | |
| Packing Group: | Not a DOT/IMO Hazardous Material | Quantity Limitations | Not a DOT/IMO Hazardous Material |
| Label: | | a) Passenger, Aircraft, or Railcar: | |
| Special Provisions (172.102): | | b) Cargo Aircraft Only: | |
| | | Vessel Stowage Requirements | |
| | | a) Vessel Stowage: | |
| | | b) Other: | |

Prepared By: Craig Owen
Effective Date: 1/4/2006 **Supersedes:** None
Revision Notes: 2/9/2010 – Reviewed, no change; 4/18/2007 – Minor changes to sections 5, 7 and 12.

Disclaimer: The information presented herein is believed to be accurate and reliable, but is given without guaranty or warranty, expressed or implied. The user should not assume that all safety measures are indicated so that other measures may not be required. The user is responsible for assuring that the product and equipment are used in a safe manner that complies with all appropriate legal standards and regulations.

