

MATERIAL SAFETY DATA SHEET

Aluminum Chlorohydrate

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Supplier's Name and Address:

Chanjao Longevity Co., Ltd.
50 Ramindra 14
Bangkok
Thailand
+66 2 002 7 002

PRODUCT NAME: Aluminum Chlorohydrate
CHEMICAL NAME/ FAMILY: Metal Salts
SYNONYMS: Aluminum Chlorohydrate, Polyaluminum Chloride, Aluminum Chlorohydroxide
MOLECULAR FORMULA: $Al_n(OH)_mCl_{3n-m}$
PRODUCT USE: Coagulant/ Flocculant

SECTION 2: COMPOSITION/ INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	% RANGE
Aluminum Chlorohydrate	12042-91-0	> 95%

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

White powder. CAUTION! May cause skin, eye and respiratory irritation. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS**EYE**

May cause irritation with redness and swelling. Prolonged exposure may cause conjunctivitis.

SKIN

Revised: 01/21/2014
Revision Number: 4

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Possible irritant. May cause irritation, especially on prolonged contact.

INGESTION

May be harmful if swallowed. Irritation of the mouth and stomach. May cause nausea, vomiting, and diarrhea.

INHALATION

Inhalation of mist or spray may cause irritation to the mucous membranes.

SIGNS AND SYMPTOMS OF EXPOSURE

Irritation to exposed tissue. Nausea, vomiting, stomach cramps, diarrhea.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

No available information for the product.

EFFECTS FOLLOWING REPEATED EXPOSURE

This product is expected to be an irritant to the skin, eyes and mucous membrane. Irritation may become severe on prolonged contact. Persons with kidney disorders have an increased risk from exposure based on general information found on aluminum salts.

SECTION 4: FIRST AID MEASURES

EYES

Hold the eyelids apart and flush the eye gently with a large amount of water for at least 15 minutes or until irritation subsides. If irritation persists get medical attention.

SKIN

Remove contaminated clothing and shoes. Rinse skin well with plenty of soap and water for 15-20 minutes. If irritation persists get medical attention. Wash clothing and thoroughly clean shoes before reuse.

INGESTION

Seek medical attention immediately. Have person sip a glass of water if able to swallow. **Do not induce vomiting unless told to do so by a poison control center or doctor.** Do not give anything by mouth to an unconscious person.

INHALATION

Remove person from exposure to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration (CPR). If individual is breathing, but with difficulty, get immediate medical attention.

NOTES TO PHYSICIAN

Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents. Treatment of overexposure should be directed at the control of symptoms and the clinical conditions.

Note: Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

See Section 11 for Toxicological Information.

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SECTION 5: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT

None

AUTO IGNITION TEMPERATURE

Not Flammable

FLAMMABLE LIMITS IN AIR (% BY VOLUME)

LEL: Not Flammable UEL: Not Flammable

EXTINGUISHING MEDIA

Dry chemical, carbon dioxide or water mist as appropriate for surrounding material.

HAZARDOUS COMBUSTION PRODUCTS

Oxides of aluminum and carbon. Thermal decomposition may release toxic and/ or hazardous gases such as hydrogen chloride gas.

FIRE FIGHTING INSTRUCTIONS

Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in a fire. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Move container from fire area if it can be done without risk. Use water spray to cool closed containers and protect fire-fighters. Do not release runoff from fire control methods to sewers or waterways. Dike area to prevent runoff and water source contamination.

SECTION 6: ACCIDENTAL RELEASE MEASURES

WATER SPILL

Prevent additional discharge of material, if possible to do so without hazard. This material is water soluble/dispersible and may not be recoverable.

LAND SPILL

Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, advise authorities.

GENERAL PROCEDURES

No smoking in spill areas. Isolate spill area and deny entry to unnecessary or unprotected personnel. Remove all sources of ignition, such as flames, hot glowing surfaces or electric arcs. Stop source of spill as soon as possible and notify appropriate personnel. Cleanup personnel must wear proper protective equipment (refer to Section 8). Decontaminate all clothing. Notify all downstream water users of possible contamination.

Create a dike or trench to contain all liquid material. Spill materials may be absorbed using clay, soil or nonflammable commercial absorbents. Treat as any dilute acid. **Aluminum Chlorohydrate** can be carefully neutralized with Soda Ash or Lime.

Do not place spill materials back in their original container. Containerize and label all spill materials properly.

RELEASE NOTES

Notify the National Response Center (800/424/8802) of uncontained releases to the environment in excess of the Reportable Quantity (RQ). See Section 15, Regulatory Information. Recycle or dispose of recovered material in accordance with all federal, state, and local, regulations.

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SECTION 7: HANDLING AND STORAGE

HANDLING

Do not get in eyes, or on skin, or clothing. Do not taste or swallow. Avoid breathing mists or fumes. Do not handle with bare hands. When preparing the working solution ensure there is adequate ventilation.

Carefully monitor handling, use and storage to avoid spills and leaks. Follow protective controls set forth in Section 8 when handling this product. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking, or using restroom.

STORAGE

STORAGE CONDITIONS

Store in closed, properly labeled tanks or containers. Do not remove or deface labels or tags. Store in a cool, well ventilated place away from incompatible materials and sources of ignition. Keep drums upright. DO NOT reuse empty containers without commercial cleaning or reconditioning. Dry rubber-lined, plastic (HDPE) and FRP are all suitable storage materials for this product. Do not store in steel, mild stainless steel, aluminum, nickel, copper or brass containers. Product should be used within one year.

STORAGE TEMPERATURE

0°C (32°F) minimum to 30°C (86°F) maximum. Do not allow product to freeze. Freezing will affect the physical condition and may damage the material.

INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT

Oxidizing agents, reducing agents, metals and magnesium (evolves hydrogen gas).

SECTION 8: EXPOSURE CONTROLS PERSONAL PROTECTION

ENGINEERING CONTROLS

VENTILATION

Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE AND FACE PROTECTION

Wear chemical goggles. A face shield should be worn in addition to goggles where splashing or spraying is possible.

SKIN PROTECTION

Wear chemical resistant clothing. Neoprene gloves, boots and apron or slicker suit.

RESPIRATORY PROTECTION

Not likely an inhalation hazard unless hydrogen chloride mist forms. If airborne exposures exceed the PEL, use a NIOSH/ MSHA approved negative pressure air-purifying respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134.

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GENERAL

Safety shower and eye wash station must be provided in the immediate work area. Protective equipment and clothing should be selected, used, and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer.

EXPOSURE GUIDELINES

Component Data Polyaluminum Chloride (1327-41-9): OSHA PEL: 2.0 mg/m³ soluble salts as Al
ACGIH TLV: 2.0 mg/m³ soluble salts as Al

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL FORMULA	Al _n (OH) _m Cl _{3n-m}
MOLECULAR WEIGHT	N/A
APPEARANCE	White powder
ODOR	Odorless
pH	3.5-5.0
VAPOR PRESSURE	Not Established
VOLATILES, % BY VOLUME	Not Established
BOILING POINT	Not Established
FREEZING POINT	Not Established
SOLUBILITY IN WATER	Soluble
EVAPORATION RATE	Not Established

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY

Stable under normal temperatures and pressure.

CONDITIONS TO AVOID

High temperature decomposition. Avoid contact with alkalis and metals.

INCOMPATIBILITY WITH OTHER MATERIALS

Bases (alkaline materials).

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition may release toxic and/or hazardous gases such as hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ANIMAL TOXICOLOGY

EYES

No available data for product.

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SKIN

No available data for product.

Component Data Aluminum Chlorohydrate (12042-91-0): Skin Irritation (human): 150 mg/3D-I Mild irritation effects (1) "Cutaneous Toxicity" Drill, V.A. and P. Lazar, eds., New York, NY, Academic Press, 1977.

ACUTE ORAL EFFECTS

No available data for product.

ACUTE INHALATION EFFECTS

No available data for product.

EFFECTS FOLLOWING PROLONGED OR REPEATED EXPOSURE

No available data for product.

CARCINOGENICITY

This product (or any component at a concentration of 0.1% or greater) is not listed by NTP, IARC, OSHA, EPA, or any other authority as a carcinogen.

MUTAGENICITY

No available data.

REPRODUCTIVE/DEVELOPMENTAL TOXICITY

No available data for product.

Component Data Aluminum Chlorohydrate (12042-91-0): Oral Rat TDLo 13g/kg (7-19 day(s) pregnant female continuous).

SECTION 12: ECOLOGICAL INFORMATION

GENERAL COMMENT

No available data for product.

Component Data Aluminum Chlorohydrate (12042-91-0): Fish 1000 ug/l 24 week(s) (mortality) coho salmon, silver salmon (oncorhynchus kisutch). Persistence and degradation, no data available.

ENVIRONMENTAL FATE

No available data for product.

SECTION 13: DISPOSAL CONSIDERATIONS

All disposals of this material must be done in accordance with Federal, state and local regulations. Waste characterization and compliance with disposal regulations are the responsibilities of the waste generator.

SPILL RESIDUES

Clean-up material may be a RCRA Hazardous waste on disposal if the pH is <2. Test waste for corrosivity, D002, prior to disposal.

EMPTY CONTAINERS

"Empty" containers retain product residue (liquid and/ or vapor). Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

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SECTION 14: TRANSPORT INFORMATION

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.01 BY THE U.S DEPARTMENT OF TRANSPORTATION.

SECTION 15: REGULATORY INFORMATION

U S FEDERAL REGULATIONS

CERCLA REPORTABLE QUANTITY (RQ)

Not Applicable.

TSCA (TOXIC SUBSTANCES CONTROL ACT)

All components of this product are listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III

SARA SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 302.4):

Not Applicable.

SARA SECTION 311/312 HAZARD CATEGORIES (40 CFR 370.2):

Fire Hazard	No
Reactivity Hazard	No
Release of Pressure	No
Acute Health Hazard	Yes
Chronic Health Hazard	No

SARA SECTION 313 (40 CFR 372.65):

Components identified with an asterisk (*) in Section 2 are subject to the reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372.

INTERNATIONAL REGULATIONS

CANADA

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)

This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

SECTION 16: OTHER INFORMATION

NFPA CODES	
HEALTH	1
FLAMMABILITY	0
INSTABILITY	0

HMIS CODES	
HEALTH	1
FLAMMABILITY	0
INSTABILITY	0
PROTECTION	C

RATING NOTES

Hazardous Materials Identification: 4 = Severe, 3 = Serious, 2 = Moderate, 1 = Slight, 0 = Minimal.

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Emergency Information:

Business Hours: 713-658-9000
After Hours: CHEMTREC: 800-424-9300

Revisions

12/19/2005: Prepared to ANSI Standard Z400.1-1998.
04/17/2012: Revised product specifications.
05/22/2012: Update of Address.
01/21/2014: Update of Name & Contact Numbers. This MSDS replaces all previous MSDS for this product.

Disclaimer of Warranty:

The information provided in this Material Safety Data Sheet has been obtained from sources believed to be reliable. We provide no warranties; either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration, and investigation. You should satisfy yourself that you have all current data relevant to your particular use. We know of no medical condition, other than those noted on this material safety data sheet, which are generally recognized as being aggravated by exposure to this product.