

Material Safety Data Sheet (MSDS)

Section 1: Chemical Product and Company Identification

Product Name	Polyaluminium Chloride 28% (PAC 28%)
CAS Number	1327-41-9
Chemical Formula	[Al2(OH)nCl6-n]m
Company Name	CAMACHEM (Part of CAMAL Group) 3F Jinlong East Beijing Station Road Chaoyang District, Beijing, China
Contact	sales@camachem.com
Company Website	www.camachem.com

Section 2: Composition and Information on Ingredients

CHEMICAL NAME	CAS NUMBER	WEIGHT %	Hazardous
Polyaluminium Chloride	1327-41-9	29 – 32 (as Aluminium oxide) 40-90 (basicity)	No

Section 3: Hazards Identification

Emergency Overview: CORROSIVE! Inhalation, ingestion or skin contact with material may cause injury. Causes eye and skin irritation. Mist and Vapor: Causes respiratory tract and mucous membrane irritation.

Potential HealthEffects:

Inhalation: Irritation to mucous membranes

Skin Contact: Possible irritation

Eye Contact: May cause irritation with redness and swelling. Ingestion: Irritation of the mouth and stomach.

Sub-chronic Effects: No data available

Chronic Effects: None known

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Carcinogenicity: Polyaluminum chloride is not classified as a carcinogen by ACGIH (American Conference of Governmental Industrial Hygienists) or IARC (International Agency for Research on Cancer), not regulated as a carcinogen by OSHA (Occupational Safety and Health Administration) and not listed as a carcinogen by NTP (National Toxicology Program).

Section 4: First Aid Measures

General: If you feel unwell, seek medical advice (show the label where possible).

Inhalation: If symptoms are experienced, move victim to fresh air. Give artificial respiration **ONLY** if breathing has stopped. Obtain medical attention.

Skin Contact: Remove contaminated clothing, jewelry and shoes. Immediately wash skin with soap or mild detergent and running water for at least 15 minutes, until no evidence of chemical remains. For minor skin contact, avoid spreading material on unaffected skin. Obtain medical attention if irritation persists.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes, occasionally lifting upper and lower lids, until no evidence of chemical remains. Obtain medical attention if irritation persists.

Ingestion: If swallowed, **DO NOT INDUCE VOMITING**. Give large quantities of water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.

NOTE TO PHYSICIAN: Antidote: There is no specific antidote for aluminum chlorohydrate. Treatment of overexposure should be directed at the control of symptoms and the clinical condition

Section 5: Fire and Explosion Data

Flash point	Not applicable.
Flammable Limits (Lower)	Not applicable
Flammable Limits (Upper)	Not applicable
Auto Ignition Temperature	Not applicable
Combustion and Thermal Decomposition Products	Hydrogen chloride, aluminum oxides
Rate of Burning	Does not burn
Explosive Power	Not applicable
Sensitivity to Static Discharge	Not available

Fire and Explosion Hazards: During a fire, irritating/toxic hydrogen chloride gas may be generated.

Extinguishing Media: Water spray, fog or regular foam appropriate for surrounding material. Cool any exposed containers with water.



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Special Information:

Fire fighters should wear protective equipment and self-contained breathing apparatus with full-face piece operated in positive pressure mode. Move exposed containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

NOTE: Also see "Section 10 – Stability and Reactivity"

Section 6: Accidental Release Measures

IN CASE OF SPILL OR OTHER RELEASE:

Dike area to contain spill. Neutralize spilled material with alkali such as soda ash. When using carbonates for neutralization, adequate precautions should be taken to minimize hazards from carbon dioxide gas generation. Collect liquid and/or residue and dispose of in accordance with applicable regulations.

Section 7: Handling and Storage

Handling: Avoid contact with skin, eyes and clothing. Do not breathe product mists. Use with adequate ventilation. Handle as material of moderate oral toxicity. Do not smoke or eat while handling. Use good housekeeping and personal hygiene. Wash thoroughly after handling.

Storage Recommendations: Store at moderate temperatures in a dry, well-ventilated area. Protect from physical damage and from freezing. Keep containers tightly closed.

Section 8: Exposure Controls/Personal Protection

PREVENTIVE MEASURES

Recommendations listed in this section indicate the type of equipment, which will provide protection against over-exposure to this product. Conditions of use, adequacy of engineering or other control measures and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Controls: A ventilation system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Ensure that eyewash station and safety showers are proximal to the workstation location.

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection: Wear splash resistant chemical goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Recommended Protective Material: Neoprene or rubber

Respiratory Protection: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. For exposures under 20 mg/m³, a NIOSH/MSHA approved air-purifying respirator with high efficiency particulate cartridge(s) may be used. For unknown concentration, use any supplied air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode.

EXPOSURE GUIDELINES

Product: ACGIH: TLV – 2mg/m³ (as Al) (Aluminum salts, soluble)

Section 9: Physical and Chemical Properties

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Alternate Name	Aluminium Chloride Hydroxide
Chemical Name	Polyaluminium Chloride
Chemical Family	Inorganic salt
Molecular Formula	$[Al_2(OH)_nC_{16-n}]_m$
Molecular Weight	133.5 -174.5
Appearance	Yellow to brown powder
Odor	Slight chlorine odor
pH(1% aqueous solution)	3.5-5.0
Melting Point	No Data
Solubility (Water)	100% Soluble
Solubility (Other)	Not available
Evaporation Rate	Not applicable
% Volatile Organic Compounds	Not applicable

Section 10: Stability and Reactivity Data

Hazardous Decomposition Products: Thermal decomposition: hydrochloric acid, aluminium oxides.
 Chemical Stability: Stable at normal temperatures and pressure.
 Conditions to Avoid: None
 Incompatibility with other Substances: Bases (alkaline materials) such as ammonia and its solutions, carbonates, sodium hydroxide (caustic), and potassium hydroxide. Corrosive to common metals such as aluminium, stainless and mild steel, nickel, copper, and brass.
 Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

TOXICOLOGICAL DATA:

Polyaluminum chloride: No data available

Aluminum chloride hydroxide: (base unit of polymer- monomer) Irritation data: 150mg/m³ day(s)-
intermittent skin-human mild

Toxicity data: 25mg/m³/6 hour(s)-2 year(s) intermittent inhalation-rat TCLO; 25g/m³/6 hour(s)-2
year(s) intermittent inhalation-guinea pig TCLO

Mutagenicity: Not available



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Reproductive Effects Data: ND
Teratogenicity and Fetotoxicity: Not available
Synergistic Materials: Not available

Section 12: Ecological Information

Ecotoxicological Information: fish toxicity: 10000 g/L 24 week(s) (Mortality) Coho salmon, silver salmon (Oncorhynchus kisutch)
Persistence and Degradation: No data available

Section 13: Disposal Considerations

Review federal, state and local government requirements prior to disposal.

Whatever cannot be saved for recovery or recycling, including containers, should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options

RCRA: Hazardous if pH is less than 2. Test waste material for corrosivity, D002, prior to disposal.

Section 14: Transport Information

Shipping information:
Not regulated as a hazardous material by DOT, IMO, or IATA.
Shipping Containers:
Tank Cars Tank Trucks
Flexible Intermediate Bulk Containers Tote Bins
Bags

Section 15: Other Regulatory Information

USA CLASSIFICATION:
OSHA Classification: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)
SARA Regulations sections 313 and 40 CFR 372: N
SARA Hazard Categories, SARA SECTIONS 311/312 (40 CFR 370.21):
Acute: N
Chronic: N
Fire: N
Reactive: N
Sudden Release: N
OSHA Process Safety (29CFR1910.119): N

TSCA Inventory Status: Y
This product does not contain, nor is it manufactured with, ozone-depleting substances.
Other Regulations/Legislation which apply to this product:

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California Proposition 65: N

CANADIAN CLASSIFICATION

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all information required by the CPR.

Controlled Products Regulation (WHMIS) Classification:

E: Corrosive

CEPA / Canadian Domestic Substances List (DSL): The substance in this product is on the Canadian Domestic Substances List (CEPA DSL).

EEC CLASSIFICATION EINECS: 215-477-2

Section 16: Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if we have been advised of the possibility of such damages.

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