巩义市滤料工业有限公司
GONGYI FILTER INDUSTRY CO., LTD.
Web: www.lvyuanchem.com Tel: 0371-64133426
E-mail: info@lvyuanchem.com Fax: 0371-64133719

Material Safety Data Sheet

Polyaluminum Chloride

Section 1: Chemical Product and Company Identification

Product Name: Polyaluminum Chloride

Brand: Southwest Water Innovations

Synonyms: PAC; Poly Aluminum Chloride; Poly Aluminium Chloride; Polyaluminium Chloride

CAS No.: 1327-41-9

EC No.: 215-477-2

Molecular Formula: $[Al_n(OH)_mCl_{(3n-m)}]$, $0 < m < 3n$

Recommended Use: Coagulant/flocculant for drinking water, wastewater and industrial water treatment.

Uses Advised Against: Food, drug, pesticide or biocidal product use.

Produced For / Distributed By: Southwest Water Innovations LLC, 4539 N 22nd St, STE N, Phoenix, AZ 85016

Telephone: 602-742-0002

Company Identification

Name of the Company: Gongyi Filter Industry Co., Ltd

Address: No. 8 Chaoyang West Road, Gongyi Industry Area, Gongyi, Henan, China

Post Code: 451200

Telephone: 0371-64133426 **Fax:** 0371-64133719

E-mail: info@lvyuanchem.com **Web:** www.lvyuanchem.com

Emergency Telephone Number: 0371-64133426

Section 2: Hazard(s) Identification

Classification (GHS)

Hazard Class	Category
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1



Signal Word: Danger

Hazard Statements: Causes skin irritation. Causes serious eye damage.

Precautionary Statements

Prevention: Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF ON SKIN: Wash with plenty of soap and water; if irritation occurs, get medical advice/attention; take off contaminated clothing. IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do; continue rinsing; immediately call a poison center or physician.

Storage: Store in a dry, cool, well-ventilated place away from incompatible materials.

Disposal: Dispose of contents/container to an approved waste disposal facility in accordance with local, regional and national regulations.

Other Hazards: May cause respiratory irritation from dust. Prolonged overheating may release hydrogen chloride gas. Non-combustible.

Section 3: Composition and Information on Ingredients

Component	CAS No.	Concentration (wt %)
Polyaluminum Chloride (Basic Aluminum Chloride)	1327-41-9	100% (30% as Al_2O_3)

Note: hazard, exposure-limit and toxicological data in this SDS are referenced against aluminum chloride, CAS 7446-70-0, per supplier safety data sheet cross-reference. As a partially hydrolyzed, basic polymeric form (product pH 3.5–5.0, versus pH 2.4 for a 10% aqueous solution of the anhydrous reference compound), Polyaluminum Chloride is inherently less corrosive than the anhydrous reference compound; classifications below reflect this difference.

Section 4: First-Aid Measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact: Remove contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes. If skin irritation persists, consult a physician.

Inhalation: Move victim to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if the victim ingested or inhaled the substance. If not breathing, give artificial respiration and get medical attention immediately.

Ingestion: Do not induce vomiting. Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

Most Important Symptoms/Effects: May cause nausea and vomiting if swallowed; causes serious eye damage; may cause skin and respiratory irritation.

Notes to Physician: Treat symptomatically.

Protection of First Responders: Ensure medical personnel are aware of the substance involved; use appropriate personal protective equipment and prevent spread of contamination.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: Dry chemical, carbon dioxide, or alcohol-resistant foam suited to the surrounding fire; the product itself is non-combustible.

Unsuitable Extinguishing Media: Do not use a solid water stream, as it may scatter or spread the material.

Specific Hazards: Keep product and empty containers away from heat and ignition sources. Prolonged heating may release hydrogen chloride gas. Fire may produce irritating or corrosive gases; containers may vent or rupture under fire conditions.

Hazardous Combustion Products: Hydrogen chloride gas; aluminum oxide fumes.

Hazard Ratings (0 = minimal, 1 = slight, 2 = moderate, 3 = serious, 4 = severe)

Health	Flammability	Instability	Physical Hazards
2	0	0	—

Protective Equipment for Firefighters: Wear self-contained breathing apparatus (SCBA) and full protective gear. Fight fire from a safe distance with adequate cover; prevent contaminated fire-fighting water from entering surface water or groundwater.

Section 6: Accidental Release Measures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation and contact with skin/eyes. Keep unprotected persons away and upwind of the spill/leak.

Environmental Precautions: Prevent product from entering drains, surface water, or groundwater. Should not be released into the environment without proper governmental permits.

Containment and Clean-Up: Sweep or shovel into suitable, closed containers for disposal. Avoid dust formation; do not expose spilled material to water unnecessarily. Dispose of collected material in accordance with local regulations.

Section 7: Handling and Storage

Handling: Handle in a well-ventilated area. Wear suitable personal protective equipment. Avoid contact with skin, eyes and clothing; avoid dust formation and inhalation.

Storage: Store in a cool, dry place out of direct sunlight, in a well-ventilated area, and away from oxidizing agents and foodstuffs. Keep containers tightly closed. Product is hygroscopic — protect from moist air and water. Prevent severe overheating, as overheating may produce hydrogen chloride gas.

Section 8: Exposure Controls / Personal Protection

Occupational Exposure Limits

ACGIH TLV	OSHA PEL	NIOSH REL	Mexico OEL (TWA)
No data available	(Vacated) TWA: 2 mg/m³	REL: 2 mg/m³ (TWA)	No data available

Basis: aluminum chloride, CAS 7446-70-0.

Engineering Controls: Ensure eyewash stations and safety showers are close to the workstation; provide adequate ventilation; use local exhaust or dust control for powder handling.

Eye Protection: Tightly fitting safety goggles (approved to EN 166 (EU) or NIOSH (US)).

Skin and Body Protection: Wear protective clothing made from rubber or plastic, impervious under conditions of use.

Hand Protection: Wear protective gloves (such as rubber or plastic) meeting EN 374 (EU), US F739 or AS/NZS 2161.1.

Respiratory Protection: Use a NIOSH/MSHA- or EN 149-approved particulate respirator (filter type conforming to EN 143) if exposure limits are exceeded or irritation is experienced.

Other Protection / Hygiene: Smoking, eating and drinking should be avoided while using the product. Shower and change clothes after use.

Section 9: Physical and Chemical Properties

Appearance: White, yellow or brown powder

Odor: No information available

Odor Threshold: No information available

pH (1% aqueous solution): 3.5 – 5.0 (per GB 15892)

Initial Boiling Point and Range (°C): No information available

Melting Point/Freezing Point: No information available (reference compound melts at ~194 °C)

Density (20 °C): Not applicable (solid powder); reference density ($AlCl_3$) 2.440 g/cm³ @ 20 °C

Saturated Vapor Pressure (kPa): Not applicable

Evaporation Rate: Not applicable

Viscosity (mm²/s): Not applicable

Flash Point (°C): Not applicable

Flammability: Not applicable (non-combustible)

N-octanol/Water Partition Coefficient: No information available

Decomposition Temperature (°C): No information available

Auto-Ignition Temperature (°C): No information available

Upper/Lower Explosive Limits [% (v/v)]: No information available

Solubility: Soluble in water

Molecular Weight (reference, $AlCl_3$ basis): 133.34 g/mol

Section 10: Stability and Reactivity

Stability: Stable under proper operating and storage conditions. Hygroscopic — avoid exposure to moist air or water; prolonged moisture exposure may cause caking.

Conditions to Avoid: Excess heat, moisture, and incompatible materials.

Incompatible Materials: Strong oxidizing agents, active/alkali metals, strong bases, and foodstuff containers.

Hazardous Reactions: Contact with strong bases may generate heat. Reacts with active metals to release hydrogen gas.

Hazardous Decomposition Products: Hydrogen chloride gas; aluminum oxide fumes. Under normal storage and use conditions, hazardous decomposition products should not be produced.

Hazardous Polymerization: Does not occur.

Section 11: Toxicological Information

Acute Toxicity: LD50 (oral, rat): 3470 mg/kg (aluminum chloride basis) — does not meet GHS Category 4 criteria (≤ 2000 mg/kg); not classified for acute oral toxicity.

Skin Corrosion/Irritation: Category 2 — causes skin irritation.

Serious Eye Damage/Irritation: Category 1 — causes serious eye damage.

Skin/Respiratory Sensitization: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity

Component	IARC	NTP	ACGIH	OSHA	Mexico
Aluminum chloride	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive Toxicity: No data available.

STOT – Single Exposure: Not classified. Dust may cause respiratory irritation.

STOT – Repeated Exposure: No data available.

Aspiration Hazard: Not applicable (solid).

Chronic Effects: No known effects under normal use; prolonged or repeated overexposure to dust may cause respiratory irritation.

Section 12: Ecological Information

Ecotoxicity: Harmful to aquatic organisms. Reference toxicity data (aluminum chloride, CAS 7446-70-0): freshwater fish (*Gambusia affinis*) LC50 = 27.1 mg/L (97 h); water flea EC50 = 3.9–27.3 mg/L (48 h); freshwater algae and Microtox — not listed. Do not allow material to contaminate groundwater, surface water or drains.

Persistence and Degradability: Persistence is unlikely based on information available.

Bioaccumulative Potential: No information available.

Mobility in Soil: Not likely mobile in the environment.

Other Adverse Effects: No information available.

Section 13: Disposal Considerations

Waste Disposal Methods: Dispose of in accordance with local, regional and national regulations. Chemical waste generators must determine whether a discarded chemical is classified as hazardous waste and consult applicable regulations to ensure correct classification.

Contaminated Packaging: Containers may still present a chemical hazard when empty. Keep away from heat and ignition sources; do not reuse empty containers. Direct discarded packaging towards recycling when possible.

Section 14: Transport Information

UN Number: None

UN Proper Shipping Name: None

Transport Hazard Class: None

Packing Group: None

Marine Pollutant (Yes/No): No

DOT / TDG / IATA / IMDG-IMO: Not regulated

Additional Information: Not dangerous according to the above transport specifications. The anhydrous reference compound (aluminum chloride, CAS 7446-70-0) is separately regulated for transport as UN1726, Class 8, Packing Group II; Polyaluminum Chloride, as supplied in its basic/hydrolyzed polymeric form, does not meet these transport hazard criteria.

Section 15: Regulatory Information

China Regulatory Information

Component	A	B	C	D	E	F	G	H
Polyaluminum Chloride	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

[A] Catalog of Hazardous Chemicals (2015 Edition), Notice 5th 2015, China State Administration of Work Safety.
[B] Catalog of Priority Hazardous Chemicals for Environment Management, Notice 33rd 2014, Ministry of Environmental Protection of PRC.
[C] List of Toxic Chemicals Restricted to be Imported/Exported in China, Notice 85th 2013, Ministry of Environmental Protection of PRC.
[D] Catalog of Stupefacient and Psychotropic Substances (2013 Edition), Notice 230th 2013, China Food and Drug Administration.
[E] Catalog of Hazardous Chemicals for Priority Management (First and Second batches), Notice 95th 2011, Notice 12th 2013, China State Administration of Work Safety.
[F] List of Ozone Depletion Chemicals Controlled to be Imported/Exported in China (First to Sixth batches), Notice 2000–2012, Ministry of Environmental Protection of PRC.
[G] Dangerous Chemicals Directory Used to Manufacture Exploder (2011 Edition), Notice 25th Nov. 2011, Ministry of Public Security of PRC.
[H] Catalog of Highly Toxic Chemicals, Notice 142nd 2003, China Ministry of Health.

United States Regulatory Information (reference basis: aluminum chloride, CAS 7446-70-0)

TSCA Inventory: Listed / Active

SARA 311/312 Hazards: Skin corrosion or irritation; Serious eye damage or eye irritation.

SARA 313: Not subject to reporting requirements of Section 313 of Title III (SARA)

CERCLA / SARA Reportable Quantity (RQ): No Reportable Quantity (RQ) established for aluminum chloride, CAS 7446-70-0.

California Proposition 65: This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know: Listed in Massachusetts, New Jersey, Pennsylvania and Rhode Island.

Section 16: Other Information

Information on Revision

Creation Date: 2020/06/13

Revision Date: 2026/09/03

Reason for Revision: Hazard classification, exposure limits, toxicological and regulatory data updated with reference to the supplier safety data sheet for CAS 7446-70-0 (Revision Date 19-Dec-2025), prepared under the US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200). GHS07 pictogram removed (not required alongside GHS05); SARA 311/312 hazard categories added.

Prepared By: Gongyi Filter Industry Co., Ltd — Health, Safety and Environmental Department

Disclaimer

This Safety Data Sheet (SDS) was prepared according to GB/T16483 and GB/T17519. The data included was derived from international authoritative databases, including supplier reference data for CAS 7446-70-0, and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information; however, due to the diversity of information sources and the limitations of our knowledge, this document should be considered only one reference source. Users must make their own independent judgment of the suitability of this information for their intended purpose. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.