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# Material Safety Data Sheet

## Polyacrylamide (PAM)

*Cationic (CPAM) • Anionic (APAM) • Non-ionic (NPAM) • Amphoteric/Zwitterionic (ZPAM)*

## Section 1: Chemical Product and Company Identification

**Product Name:** Polyacrylamide (PAM)

**Brand:** Southwest Water Innovations

**Synonyms:** Cationic Polyacrylamide (CPAM); Anionic Polyacrylamide (APAM); Non-ionic Polyacrylamide (NPAM); Amphoteric/Zwitterionic Polyacrylamide (ZPAM); poly(2-propenamide); poly(1-carbamoylethylene)

**CAS No.:** 9003-05-8 (parent polyacrylamide; see Section 3 note on ionic-modified grades)

**Molecular Formula:** $(C_3H_5NO)_n$

**Recommended Use:** Coagulant aid / flocculant for drinking water, wastewater and industrial process water treatment; sludge dewatering; papermaking; mining and mineral processing.

**Uses Advised Against:** Food, drink and animal feedingstuffs; household/private use; potable-water-contact use without separate verification of certification status (e.g., NSF/ANSI/CAN 60) and residual-monomer specification.

**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

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## Section 2: Hazard(s) Identification

**Classification (GHS) – per US OSHA Hazard Communication Standard, 29 CFR 1910.1200**

| Hazard Class | Category |
|---|---|
| Combustible Dust | Warning |

**Signal Word:** Warning

**Hazard Statements:** May form combustible dust concentrations in air.

**Precautionary Statements**

**Prevention:** Avoid generating or inhaling dust; control dust formation and accumulation on surfaces. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Wash hands and exposed skin after handling.

**Response:** IF ON SKIN: Take off contaminated clothing immediately; rinse skin with water/shower. IF IN EYES: Rinse out with plenty of water; remove contact lenses. IF INHALED: Move to fresh air. IF SWALLOWED: Rinse mouth; drink water (two glasses at most); consult a doctor if feeling unwell.

**Storage:** Store tightly closed in a dry place as a combustible solid, away from heat and ignition sources; minimize dust accumulation. Hygroscopic – protect from moisture.

**Disposal:** Dispose of contents/container in accordance with local, state and federal regulations. Do not empty into drains.

**Other Hazards:** May form an explosible dust-air mixture if dispersed. The following applies generally to flammable organic substances: in sufficiently fine distribution, when whirled up, a dust explosion potential may be assumed. **Slip hazard:** spilled product becomes extremely slippery when wet.

***Note on residual monomer:*** *Technical-grade CPAM, APAM, NPAM and ZPAM are acrylamide-based polymers/copolymers produced by free-radical polymerization and may contain trace, unreacted (residual) acrylamide monomer. Acrylamide monomer is classified by IARC as a Group 2A probable human carcinogen (ACGIH A3) and is a known neurotoxicant and reproductive toxicant. This SDS reports data for the polymerized substance (CAS 9003-05-8); batch-specific residual acrylamide content should be confirmed against the applicable Certificate of Analysis and, for potable-water applications, verified against NSF/ANSI/CAN 60 or equivalent certification.*

## Section 3: Composition and Information on Ingredients

| Component | CAS No. | Concentration (wt %) |
|---|---|---|
| Polyacrylamide, non-ionic (NPAM) | 9003-05-8 | up to 100% |
| Polyacrylamide, cationic (CPAM) – acrylamide copolymer | 9003-05-8* | up to 100% |
| Polyacrylamide, anionic (APAM) – acrylamide copolymer | 9003-05-8* | up to 100% |
| Polyacrylamide, amphoteric/zwitterionic (ZPAM) – acrylamide copolymer | 9003-05-8* | up to 100% |
| Acrylamide (residual monomer) | — | < 0.1%** |

**Ionic-modified (cationic/anionic/amphoteric) grades are acrylamide-based copolymers and are referenced to the polyacrylamide CAS number (9003-05-8).*

***Residual acrylamide monomer is below 0.1% in all grades, including cationic (CPAM). Batch-specific residual acrylamide content is reported on the Certificate of Analysis.*

No other hazardous ingredients requiring disclosure per 29 CFR 1910.1200. Hazard, exposure-limit, physicochemical and toxicological data in this SDS are referenced against polyacrylamide, CAS 9003-05-8, per

supplier safety data sheet cross-reference (Sigma-Aldrich Inc. / MilliporeSigma, Product No. 749222, Version 6.5, Revision Date 05/12/2025). See Section 2 (Other Hazards) regarding residual acrylamide monomer.

## Section 4: First-Aid Measures

**Eye Contact:** Rinse out with plenty of water. Remove contact lenses. Get medical attention if irritation develops or persists.

**Skin Contact:** Take off immediately all contaminated clothing. Rinse skin with water/shower.

**Inhalation:** Move victim to fresh air.

**Ingestion:** Make victim drink water (two glasses at most). Consult a doctor if feeling unwell. Never give anything by mouth to an unconscious person.

**Most Important Symptoms/Effects:** The most important known symptoms and effects are described in Section 2 (Hazards Identification) and Section 11 (Toxicological Information).

**Notes to Physician:** No data available.

**Protection of First Responders:** For personal protection, see Section 8.

## Section 5: Fire-Fighting Measures

**Suitable Extinguishing Media:** Water; foam; carbon dioxide ($CO_2$); dry powder.

**Unsuitable Extinguishing Media:** No limitations of extinguishing agents are given for this substance.

**Specific Hazards:** Combustible. Risk of dust explosion. Hazardous combustion gases or vapours may develop in the event of fire. Suppress (knock down) gases/vapours/mists with a water spray jet; prevent fire-extinguishing water from contaminating surface water or groundwater.

**Hazardous Combustion Products:** Carbon oxides; nitrogen oxides ($NO_x$).

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

| Health | Flammability | Instability | Physical Hazards |
|---|---|---|---|
| 1 | 1 | 0 | — |

**Protective Equipment for Firefighters:** In the event of fire, wear self-contained breathing apparatus (SCBA) and full protective gear.

## Section 6: Accidental Release Measures

**Personal Precautions:** Avoid inhalation of dust. Spilled product becomes extremely slippery when wet – mark or barricade the spill area to prevent falls. Evacuate the danger area if warranted; observe emergency procedures; consult an expert. For personal protection, see Section 8.

**Environmental Precautions:** Do not let product enter drains.

**Containment and Clean-Up:** Cover drains. Sweep or vacuum up dry material into suitable, closed containers; avoid generation of dust. Do not wash spills down with water. Absorb any wetted residue with an inert absorbent (e.g., sand) before removal. Dispose of properly and clean up the affected area. Observe possible material restrictions (see Sections 7 and 10).

## Section 7: Handling and Storage

**Handling:** Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Avoid generation of dust.

**Storage:** Store tightly closed in a cool, dry place as a combustible solid. Hygroscopic – protect from moisture and humidity; reseal opened bags. Recommended storage temperature per product label.

## Section 8: Exposure Controls / Personal Protection

**Occupational Exposure Limits:** No OSHA PEL, ACGIH TLV or NIOSH REL established for polyacrylamide, CAS 9003-05-8 (per supplier reference data). Residual acrylamide, if present: OSHA PEL 0.3 mg/m³ TWA (skin); ACGIH TLV 0.03 mg/m³ TWA (skin); NIOSH REL 0.03 mg/m³ TWA (skin).

**Engineering Controls:** No data available. Provide local and general ventilation to control dust at source.

**Eye Protection:** Use equipment for eye protection tested and approved under appropriate government standards, such as NIOSH (US); safety glasses.

**Skin and Body Protection:** Change contaminated clothing.

**Hand Protection:** Nitrile rubber gloves (e.g., KCL 741 Dermatril® L); glove thickness 0.11 mm; breakthrough time 480 minutes; full contact / splash contact protective index. Handle with impervious gloves.

**Respiratory Protection:** Required when dust is generated. Use a NIOSH-approved N95 (or better) particulate respirator.

**Other Protection / Hygiene:** Change contaminated clothing. Wash hands after working with the substance.

## Section 9: Physical and Chemical Properties

**Appearance:** Granular powder

**Color:** White to off-white

**Odor:** No data available

**Odor Threshold:** No data available

**pH:** No data available

**Melting Point/Range:** > 200 °C (> 392 °F)

**Boiling Point/Range:** No data available

**Density (25 °C):** 0.750 g/cm³

**Flash Point:** Not applicable

**Flammability:** May form combustible dust concentrations in air

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

**Saturated Vapor Pressure:** No data available

**Relative Vapor Density:** No data available

**Water Solubility:** Soluble; forms a viscous solution

**N-octanol/Water Partition Coefficient:** No data available

**Auto-Ignition Temperature:** No data available

**Decomposition Temperature:** No data available

**Viscosity (dynamic / kinematic):** No data available

**Explosive Properties:** No data available

**Oxidizing Properties:** None

**Particle Size:** No data available

## Section 10: Stability and Reactivity

**Reactivity:** The following applies generally to flammable organic substances: in sufficiently fine distribution, when whirled up, a dust explosion potential may be assumed.

**Chemical Stability:** The product is chemically stable under standard ambient conditions (room temperature).

**Possibility of Hazardous Reactions:** No data available.

**Conditions to Avoid:** Dust generation and accumulation; heat, open flames, sparks and other ignition sources; static discharge; moisture and high humidity.

**Incompatible Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** In the event of fire, see Section 5 (carbon oxides; nitrogen oxides).

## Section 11: Toxicological Information

**Acute Toxicity:** Oral LD50 (rat): > 5,000 mg/kg – not classified for acute oral toxicity. Inhalation: no data available. Dermal: no data available.

**Skin Corrosion/Irritation:** No data available.

**Serious Eye Damage/Irritation:** No data available.

**Skin/Respiratory Sensitization:** No data available.

**Germ Cell Mutagenicity:** No data available.

**Carcinogenicity**

| Component | IARC | NTP | ACGIH | OSHA |
|---|---|---|---|---|
| Polyacrylamide (CAS 9003-05-8) | Not listed | Not listed | Not listed | Not listed |
| Acrylamide (residual monomer, if present) | Group 2A | Reasonably anticipated human carcinogen | A3 | Not listed |

*No component of this product present at levels ≥ 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC; as a known or anticipated carcinogen by NTP; or on OSHA's list of regulated carcinogens. Acrylamide (residual monomer) additionally carries an ACGIH A3 classification (confirmed animal carcinogen) – see Section 2 note.*

**Reproductive Toxicity:** No data available for the base polymer. Residual acrylamide monomer is a recognized reproductive/developmental toxicant – see Section 2 note.

**STOT – Single Exposure:** No data available.

**STOT – Repeated Exposure:** No data available for the base polymer; acrylamide monomer is associated with neurotoxicity upon repeated/chronic exposure.

**Aspiration Hazard:** No data available.

*To the best of available knowledge, the chemical, physical and toxicological properties of this substance have not been thoroughly investigated.*

## Section 12: Ecological Information

**Ecotoxicity:** No data available for the base polymer. Cationic grades (CPAM) are known to be toxic to fish and other aquatic organisms at low concentrations, because the positively charged polymer binds to gill surfaces; anionic and non-ionic grades are generally of low aquatic toxicity. Avoid release to surface water. Grade-specific ecotoxicity data are available from the supplier on request.

**Persistence and Degradability:** No data available.

**Bioaccumulative Potential:** No data available.

**Mobility in Soil:** No data available.

**Other Adverse Effects:** No data available.

## Section 13: Disposal Considerations

**Waste Disposal Methods:** Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers; do not mix with other waste.

**Contaminated Packaging:** Handle uncleaned containers like the product itself.

## Section 14: Transport Information

**UN Number:** Not assigned

**UN Proper Shipping Name:** Not assigned

**Transport Hazard Class:** None

**Packing Group:** Not assigned

**Poison Inhalation Hazard:** No

**49 CFR (Road, US):** Not regulated as a dangerous good.

**IATA-DGR:** Not regulated as a dangerous good.

**IMDG-Code:** Not regulated as a dangerous good.

**Additional Information:** Not applicable for product as supplied in bulk under IMO instruments. Not classified as dangerous in the meaning of transport regulations.

## Section 15: Regulatory Information

### US Federal Regulations

**CERCLA Reportable Quantity:** This material does not contain any components with a CERCLA RQ.

**SARA 302 (EHS Threshold Planning Quantity):** This material does not contain any components with a Section 302 EHS TPQ.

**SARA 304 (EHS Reportable Quantity):** This material does not contain any components with a Section 304 EHS RQ.

**SARA 311/312 Hazards:** Combustible dust.

**SARA 313:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**TSCA Inventory:** Listed as active on the TSCA Inventory. Not subject to a Significant New Use Rule (SNUR). Not subject to TSCA Section 12(b) export notification requirements.

**California Proposition 65:** The base polymer (CAS 9003-05-8) is not listed under Proposition 65. Acrylamide (a potential residual monomer in technical-grade CPAM/APAM/NPAM/ZPAM) IS listed under California Proposition 65 as known to the State of California to cause cancer and reproductive toxicity – evaluate batch-specific residual monomer content to determine warning requirements.

### US State Right-to-Know

**Massachusetts:** No components are subject to the Massachusetts Right to Know Act.

**Maine:** Product does not contain any Chemicals of High Concern.

**Vermont:** Product does not contain any Chemicals of High Concern.

**Washington:** Product does not contain any Chemicals of High Concern.

### China Regulatory Information

| Component | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| Polyacrylamide (CPAM / APAM / NPAM / ZPAM) | 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.

### Global Chemical Inventory Status

| Country | Inventory | Status |
|---|---|---|
| Australia | AIIC | Listed |
| Canada | DSL | Listed |
| China | IECSC | Listed |
| Japan | CSCL-ENCS | Listed |
| Korea | KECI | Listed |
| New Zealand | NZIoC | Listed |
| Philippines | PICCS | Listed |
| Taiwan | TCSI | Listed |
| United States | TSCA | Listed (Active) |

## Section 16: Other Information

### Information on Revision

**Creation Date:** 2020/06/13

**Revision Date:** 2026/09/03

**Reason for Revision:** European reference data (Carl Roth GmbH + Co. KG / ROTH AG, “Polyacrylamide pure,” EU REACH Regulation (EC) No. 1907/2006 as amended by 2020/878/EU) replaced with US reference data: Sigma-Aldrich Inc. / MilliporeSigma, “Polyacrylamide,” Product No. 749222, Version 6.5, Revision Date

05/12/2025, prepared under the US OSHA Hazard Communication Standard (29 CFR 1910.1200). Hazard classification (now Combustible Dust, Signal Word Warning), physicochemical, toxicological, and US regulatory data (CERCLA/SARA/TSCA/state right-to-know, 49 CFR transport) updated accordingly; EU-specific content (REACH exemption status, SUVA/Swiss exposure limits, Germany AwSV water hazard class, TRGS 510 as a standalone regulatory citation) removed. Residual acrylamide limit, oral LD50, slip hazard, cationic-grade aquatic toxicity and SARA 311/312 combustible dust category 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 9003-05-8, 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, and should independently verify batch-specific residual acrylamide monomer content and applicable certifications (e.g., NSF/ANSI/CAN 60) for their intended application. 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.