

SAFETY DATA SHEET

Product Name: PFA Powder (Perfluoroalkoxy Alkane)

SDS Revision Date: 15-Apr-2026

Version: 1.0

Product Code: PFA-PWD-001

Applies to: PFA (Perfluoroalkoxy) high-performance fluoropolymer powder.

1. Identification

1.1. Product identifier

Product Name: PFA Powder (Perfluoroalkoxy Alkane)

Product Code: PFA-PWD-001

Chemical Family: Fluoropolymer (Perfluoroalkoxy)

CAS Number: 26655-00-5 (Perfluoroalkoxy polymer)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use: Industrial raw material for semiconductor tank linings, anti-corrosion coatings, chemical processing equipment, non-stick coatings, high-purity piping, valve linings, electrostatic spraying, fluidized bed coating, and rotational molding.

Uses Advised Against: Any use not approved by the supplier. Do not process at temperatures exceeding 425°C. Avoid contact with molten alkali metals, fluorine gas, and halogen compounds under high temperature/pressure.

1.3. Details of the supplier of the safety data sheet

Company Name: PolymerVerse

Address: 32 N Gould St., Sheridan, WY 82801, USA

Contact Phone: USA: 001-800-ACROS-01 / Europe: +32 14 57 52 11

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

E-mail: sales@magerial.com

1.4. Emergency telephone number

USA: 001-800-ACROS-01 / Europe: +32 14 57 52 11

2. Hazard(s) identification

2.1. Classification of the substance or mixture (in accordance with GHS)

Hazard Category	Classification
Flammable Solids	Not classified (PFA is non-flammable and self-extinguishing, UL94 V-0)
Combustible Dust	Fine powder may form combustible dust clouds when dispersed
STOT – Single Exposure (Category 3)	May cause respiratory irritation (H335)
STOT – Repeated Exposure (Category 1)	Causes damage to lungs through prolonged or repeated inhalation of dust (H372)
Serious Eye Damage/Eye Irritation (Category 2B)	Causes eye irritation (H320)

2.2. GHS Label elements

Exclamation Mark	Health Hazard
Respiratory/eye irritation	Long-term lung damage risk

Signal Word: DANGER

Hazard Statements (H-phrases):

H320: Causes eye irritation.

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

H335: May cause respiratory irritation.

H372: Causes damage to lungs through prolonged or repeated exposure (inhalation of dust).

Precautionary Statements (P-phrases):

Prevention: Avoid breathing dust (P261). Use only with adequate ventilation (P271). Wear protective gloves, eye/face protection (P280). Use explosion-proof electrical equipment where dust may be generated (P241).

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340). Call a POISON CENTER or doctor if you feel unwell (P312). If eye irritation persists: Get medical advice/attention (P337+P313).

Storage: Store locked up (P405). Keep container tightly closed in a cool, dry place.

Disposal: Dispose of contents/container in accordance with local, regional, national, and international regulations (P501).

2.3. Other hazards

Fine PFA powder can form combustible dust clouds when dispersed in air in the presence of an ignition source. Thermal decomposition (during processing > 400°C or fire) may release highly toxic and corrosive fumes including hydrogen fluoride (HF), perfluoroisobutylene (PFIB), carbon monoxide (CO), and other fluorinated compounds. PFA is chemically inert under normal conditions.

3. Composition/information on ingredients

Ingredient	Weight %	CAS Number	EC Number
Perfluoroalkoxy Polymer (PFA)	≥ 99.9%	26655-00-5	—
Particle Size Distribution	20 – 500 µm (selectable)	—	—

Note: PFA is a high-purity fluoropolymer. No residual monomers or additives are typically present. Batch-specific details available upon request.

4. First aid measures

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

4.1. Description of first aid measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. In case of thermal decomposition fume inhalation, monitor for pulmonary edema and seek specialized medical care.

Skin Contact: Wash with plenty of soap and water. Remove contaminated clothing. If molten material contacts skin, cool rapidly with cold water; do not attempt to remove solidified material. Seek medical attention for thermal burns.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Get medical attention if irritation persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Get medical attention if discomfort occurs.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation of dust may cause respiratory tract irritation (polymer fume fever). Prolonged or repeated overexposure may lead to lung damage. Thermal decomposition products (hydrogen fluoride, PFIB) are highly toxic and corrosive to eyes, skin, and respiratory tract. Polymer fume fever may occur from exposure to decomposition products.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media: Dry powder, carbon dioxide (CO₂), water spray/fog, or foam. Use water spray to disperse dust and prevent dust clouds.

Unsuitable Extinguishing Media: Do not use a solid water jet (straight stream), as it can disperse and spread the dust.

5.2. Special hazards arising from the substance or mixture

Dust Explosion Hazard: Finely dispersed PFA powder can form explosive mixtures with air.

Self-Extinguishing: PFA is non-flammable and self-extinguishing (UL94 V-0). It will not sustain combustion without an external flame source.

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

Hazardous Decomposition Products: Thermal decomposition ($> 400^{\circ}\text{C}$) or burning may produce: hydrogen fluoride (HF), perfluoroisobutylene (PFIB), carbon monoxide (CO), carbon dioxide (CO_2), and other toxic and corrosive fluorinated compounds.

5.3. Advice for fire-fighters

Wear self-contained breathing apparatus (SCBA) with full protective clothing. Hydrogen fluoride gas is highly corrosive; use acid-resistant protective equipment. Evacuate all personnel from the danger area. Cool fire-exposed containers with water spray. Fight fire from a safe distance and upwind.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For Non-Emergency Personnel: Evacuate area immediately. Isolate immediate hazard area. Eliminate all ignition sources. Use only non-sparking tools.

For Emergency Responders: Wear full protective clothing and NIOSH-approved SCBA. Avoid inhalation of dust.

6.2. Environmental precautions

Prevent entry into drains, sewers, and waterways. PFA is environmentally persistent.

6.3. Methods and material for containment and cleaning up

Do NOT dry sweep. Use only an explosion-proof vacuum cleaner or wet clean (using water or a wetting agent) to minimize dust generation. Place collected material into a clean, closed, and labeled container. Avoid creating dust clouds.

7. Handling and storage

7.1. Precautions for safe handling

Technical Measures: Use explosion-proof local exhaust ventilation and dust collection systems for powder handling. Ensure all electrical equipment is rated for combustible dust (NFPA 70 Class II, Division 1 or 2).

Preventive Measures: Use non-sparking tools. Bond and ground equipment to prevent static discharge.

Advice on Safe Handling: Avoid formation of dust. Handle in closed, automated systems where possible. Avoid processing at temperatures exceeding 400°C to prevent decomposition.

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

Hygiene Measures: Wash hands after handling. Do not eat, drink, or smoke in work areas.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area in tightly closed original containers. Isolate from: Strong oxidizing agents, molten alkali metals, fluorine gas. Keep away from heat, sparks, and ignition sources. Use explosion-proof electrical systems in storage areas. Shelf life: 12 months when stored in unopened original packaging under recommended conditions.

8. Exposure controls/personal protection

8.1. Control parameters

Component	Recommended Exposure Limit	Regulatory Limit (China GBZ 2.1)
Inhalable Fluoropolymer Dust	3 mg/m ³ (8-hour TWA)	1 mg/m ³ (PC-TWA)
Total Fluoropolymer Dust	10 mg/m ³ (8-hour TWA)	5 mg/m ³ (PC-TWA)
Hydrogen Fluoride (HF) (decomposition product)	3 ppm (ceiling)	2 mg/m ³ (MAC)

No specific ACGIH or OSHA PEL has been established for PFA. The above dust values are based on nuisance dust / particle not otherwise regulated (PNOR) limits.

8.2. Exposure controls

Engineering Controls: Provide adequate local exhaust ventilation and general ventilation to maintain airborne dust levels below the occupational exposure limits. Provide explosion-proof dust collection systems.

Respiratory Protection: Wear an N95 or higher particulate respirator if airborne concentrations exceed exposure limits. For high concentrations or potential thermal decomposition, use a full-face powered air-purifying respirator (PAPR) with acid gas cartridges or SCBA.

Hand Protection: Wear nitrile or neoprene gloves.

Eye Protection: Wear chemical safety goggles with side shields.

Skin and Body Protection: Wear antistatic work clothing. Use disposable coveralls to prevent dust accumulation.

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

9. Physical and chemical properties

Property	Value
Appearance	White, free-flowing powder
Odor	Odorless
Particle Size (D50)	20 – 500 μm (selectable)
Density	2.12 – 2.17 g/cm^3
Bulk Density	~ 0.8 – 1.2 g/cm^3
Melting Point	300 – 310°C
Continuous Service Temperature	-200°C to +260°C
Decomposition Temperature	> 400°C (do not exceed 425°C)
Flash Point	Not applicable (non-flammable)
Flame Rating	UL94 V-0 (self-extinguishing)
Coefficient of Friction	~ 0.06 (very low, self-lubricating)
Dielectric Constant (1GHz)	~ 2.1
Volume Resistivity	> $10^{15} \Omega \cdot \text{cm}$
Solubility in Water	Insoluble
Solubility in Organic Solvents	Insoluble (chemically inert)

10. Stability and reactivity

Property	Information
----------	-------------

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

Reactivity	Extremely stable under normal handling conditions due to fully fluorinated structure.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	None under normal use. Avoid contact with molten alkali metals, fluorine gas, and halogen compounds at high temperatures.
Conditions to avoid	Temperatures exceeding 400°C (decomposition), open flames, dust cloud formation.
Incompatible materials	Molten alkali metals (e.g., sodium, potassium), fluorine gas, strong fluorinating agents.
Hazardous decomposition products	Thermal decomposition (> 400°C) may release: hydrogen fluoride (HF), perfluoroisobutylene (PFIB), carbon monoxide (CO), and other toxic fluorinated compounds.
11. Toxicological information	
Property	Information
Acute Toxicity	Expected to be very low due to chemical inertness. LD50 > 10,000 mg/kg.
Skin Corrosion/Irritation	Not classified. May cause mechanical irritation from dust.
Serious Eye Damage/Irritation	May cause mechanical irritation (H320).
Respiratory or Skin Sensitization	Not classified. Dust may cause respiratory irritation.
Germ Cell Mutagenicity	Not classified.
Carcinogenicity	IARC: Not classified. PFA is not known to be carcinogenic.
STOT – Single Exposure	May cause respiratory irritation. Inhalation of decomposition products (HF, PFIB) can cause pulmonary edema.
STOT – Repeated Exposure	Causes damage to lungs through prolonged or repeated inhalation of dust (H372). Prolonged overexposure may cause pneumoconiosis.
Aspiration Hazard	Not classified.

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

Decomposition Hazard	Thermal decomposition products (hydrogen fluoride, PFIB) are highly toxic and corrosive. PFIB is a pulmonary chemical warfare agent analog.
12. Ecological information	
Property	Information
Toxicity	Very low acute toxicity to aquatic life due to chemical inertness.
Persistence and Degradability	PFA is extremely persistent in the environment. Does not biodegrade.
Bioaccumulative potential	May bioaccumulate. PFA is classified as a PFAS compound with potential long-term environmental persistence.
Mobility in soil	Low mobility (solid particles).
Other adverse effects	Avoid direct release into the environment. PFA is an environmentally persistent pollutant. Thermal decomposition releases HF, contributing to acidification.
13. Disposal considerations	
13.1. Waste treatment methods	
Dispose of in accordance with all local, state, federal, and international environmental regulations. Recycling is recommended where facilities exist. Do not allow dust to enter drains or watercourses. Incineration must be performed in a permitted facility equipped with acid gas scrubbers to capture hydrogen fluoride.	
14. Transport information	
Regulation	Information
UN Number	Not regulated (PFA powder is not classified as dangerous goods for transport)
Proper Shipping Name	Not regulated
Transport hazard class	Not applicable
Packing group	Not applicable

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

Marine pollutant	No
Special precautions	Avoid dust formation during transport. Ensure secure stowage.
Note: If the powder is extremely fine (< 100 mesh) and forms combustible dust clouds, consult a dangerous goods professional for potential classification as UN1325.	
15. Regulatory information	
Regulation	Status
TSCA (USA)	Listed
EINECS (EU)	Listed
IECSC (China)	Listed
ENCS (Japan)	Listed
KECI (Korea)	Listed
AICS (Australia)	Listed
RoHS (EU)	Compliant
REACH (EU)	Compliant (SVHC < 0.1%)
California Proposition 65	Not known to contain any Prop 65 listed chemicals above safe harbor levels (in supplied form)
FDA (Food Contact)	Compliant for select grades
PFAS Status	PFA is a fluoropolymer and subject to increasing regulatory scrutiny as a PFAS compound. Users should monitor regional PFAS regulations.
16. Other information	
Key/Legend:	
H320: Causes eye irritation.	

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS

H335: May cause respiratory irritation.

H372: Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation).

Processing Note: PFA is typically processed at 360 – 400°C (do not exceed 425°C). Processing temperatures above 400°C may cause significant decomposition and release of hydrogen fluoride (HF) and perfluoroisobutylene (PFIB). Ensure adequate ventilation and use corrosion-resistant processing equipment (chrome-plated molds recommended). PFA is self-extinguishing (UL94 V-0).

Storage Note: Store in sealed original packaging in a cool, dry place. Protect from sunlight. Shelf life is typically 12 months when properly stored.

Training Advice: Personnel handling PFA powder should be trained in combustible dust hazards, proper use of personal protective equipment (PPE), emergency procedures, and the extreme toxicity of thermal decomposition products (HF and PFIB).

Disclaimer:

The information provided in this Safety Data Sheet is based on our current knowledge and is believed to be accurate as of the revision date. This SDS applies to PFA powder products supplied by PolymerVerse. It does not constitute a warranty or specification, nor does it replace product-specific SDS for modified or custom grades. Users should conduct their own testing to determine suitability for their specific applications. Processing recommendations are general guidelines; actual conditions may vary based on equipment and formulation. The company shall not be held liable for any damages resulting from handling or from contact with the above product. It is the user's responsibility to comply with all applicable health, safety, and environmental laws and regulations, including those specific to PFAS compounds.

SDS Revision Date: 15-Apr-2026

Prepared by: PolymerVerse

Version: 1.0

End of Safety Data Sheet

Magerial Science (www.magerial.com) - A reliable supplier of

ELEMENTS, POLYMERS, LAB SUPPLIES, DEPOSITION MATERIALS, METALS, ALLOYS, OXIDES, COMPOUNDS, RARE EARTH MAGNETS AND RARE EARTH MATERIALS