Safety Data Sheet

According to 29 CFR 1910.1200 (OSHA Hazard Communication Standard, 2024)

Version 2 · Date of preparation 2026-10-07

Section 1. Identification

Product identifier used on the label	PyAOP (product number 31007)
Other means of identification	Synonyms: PyAOP; (7-Azabenzotriazol-1-yloxy)tripyrrolidinophosphonium hexafluorophosphate; (7-Aza-1H-benzotriazol-1-yloxy)tri(1-pyrrolidinyl)phosphonium hexafluorophosphate. CAS No.: 156311-83-0.
Recommended use of the chemical and restrictions on use	Recommended use: laboratory chemical; coupling reagent for peptide synthesis and the manufacture of substances. Restrictions on use: for research and manufacturing use only. Not for food, drug, pesticide or biocidal product use.
Name, U.S. address, and U.S. telephone number of the chemical manufacturer, importer, or other responsible party	P3 BioSystems 270 Haven Hill Rd, Shelbyville, KY 40065 Telephone: +1 888-737-5598 Email: info@p3bio.com
Emergency phone number	+1 888-737-5598 (P3 BioSystems office line, business hours)

Section 2. Hazard identification

Classification of the chemical in accordance with paragraph (d)(1) of § 1910.1200, except for classification under paragraph (d)(1)(ii)	• Skin corrosion/irritation, category 2 • Eye damage/irritation, category 2A • Specific target organ toxicity (single exposure), category 3

Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of § 1910.1200	**Signal word: Warning** Hazard pictograms: Exclamation Mark Hazard statements: • H315 Causes skin irritation. • H319 Causes serious eye irritation. • H335 May cause respiratory irritation. Precautionary statements: • P261 Avoid breathing dust. • P264 Wash hands thoroughly after handling. • P271 Use only outdoors or in a well-ventilated area. • P280 Wear protective gloves/protective clothing/eye protection/face protection. • P302+P352 If on skin: Wash with plenty of soap and water. • P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing. • P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. • P312 Call a poison center/doctor if you feel unwell. • P332+P313 If skin irritation occurs: Get medical advice/attention. • P337+P313 If eye irritation persists: Get medical advice/attention. • P362+P364 Take off contaminated clothing and wash it before reuse. • P405 Store locked up. • P501 Dispose of contents/container to a licensed waste disposal facility in accordance with local, state and federal regulations.
Hazards classified under paragraph (d)(1)(ii) of § 1910.1200	None identified.
Hazards not otherwise classified that have been identified during the classification process	None identified.
Where an ingredient with unknown acute toxicity is used in a mixture at a concentration ≥ 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity	Not applicable: the product is a substance, not a mixture.

Section 3. Composition/information on ingredients

Chemical name	tripyrrolidin-1-yl(triazolo[4,5-b]pyridin-3-yloxy)phosphanium hexafluorophosphate
Common name and synonyms	PyAOP; (7-Azabenzotriazol-1-yloxy)tripyrrolidinophosphonium hexafluorophosphate; (7-Aza-1H-benzotriazol-1-yloxy)tri(1-pyrrolidinyl)phosphonium hexafluorophosphate.

CAS number and other unique identifiers	• CAS number: 156311-83-0 • InChIKey: CBZAHNDHLWAZQC-UHFFFAOYSA-N • PubChem CID: 11038641
Impurities and stabilizing additives (constituents) which are themselves classified and which contribute to the classification of the substance	None known.

Section 4. First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion	General: Move out of the danger area. Show this safety data sheet to the attending physician. If symptoms persist, call a physician. Inhalation: Remove the person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Call a poison center or doctor if you feel unwell. Skin: Take off contaminated clothing. Wash off immediately with plenty of soap and water for at least 15 minutes. If skin irritation occurs or persists, get medical advice/attention. Wash contaminated clothing before reuse. Eyes: Rinse cautiously with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention. Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Causes skin irritation and serious eye irritation. May cause respiratory irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Delayed effects: no information available.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically.

Section 5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media	Suitable: water spray, carbon dioxide, dry chemical or alcohol-resistant foam. Unsuitable: no information available.
Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products)	Keep the product and empty containers away from heat and sources of ignition. Thermal decomposition can release irritating and toxic gases and vapors. Hazardous combustion products: carbon monoxide, carbon dioxide, nitrogen oxides (NOx), oxides of phosphorus and hydrogen fluoride.
Special protective equipment and precautions for fire-fighters	Wear pressure-demand self-contained breathing apparatus (NIOSH-approved or equivalent) and full protective gear.

Section 6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Use personal protective equipment (see section 8). Avoid dust formation and avoid breathing dust. Avoid contact with skin and eyes. Ensure adequate ventilation. Evacuate personnel to safe areas.
Methods and materials for containment and cleaning up	Prevent further spillage if safe to do so. Do not let the product enter drains. Pick up without creating dust: sweep up and shovel into suitable, closed containers for disposal (see section 13).

Section 7. Handling and storage

Precautions for safe handling	Avoid contact with skin, eyes and clothing. Avoid breathing dust. Avoid formation of dust and aerosols; use only with adequate ventilation and provide exhaust ventilation where dust is formed. Wear personal protective equipment (see section 8). Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a dry, well-ventilated place. Store refrigerated (2-8 °C), protected from light and moisture. Store locked up. Incompatible materials: strong oxidizing agents, strong acids, strong bases.

Section 8. Exposure controls/personal protection

OSHA permissible exposure limit (PEL), ACGIH Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available	No OSHA PEL or ACGIH TLV has been established.
Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas; provide local exhaust ventilation where dust is formed. Provide eyewash stations and safety showers close to the workstation.
Individual protection measures, such as personal protective equipment	Eyes/face: safety glasses with side shields or chemical safety goggles (29 CFR 1910.133); a face shield where dust or splashes are likely. Skin: protective gloves, inspected before use and removed without touching the outer surface; protective clothing to prevent skin exposure. Respiratory: not normally required with adequate ventilation. If dust is generated or irritation occurs, use a NIOSH-approved P95 (or higher) particle respirator (29 CFR 1910.134). Hygiene: wash hands before breaks and at the end of the workday.

Section 9. Physical and chemical properties

Physical state	Solid: crystalline powder (per specification).

Color	White to off-white (per specification).
Odor (includes odor threshold)	No applicable information available.
Melting point/freezing point	153-168 °C (values reported by US suppliers: 153-155 °C, 158-168 °C and 163-168 °C).
Boiling point (or initial boiling point or boiling range)	No applicable information available.
Flammability	No data available; not classified as a flammable solid.
Lower and upper explosion limit/flammability limit	No applicable information available.
Flash point	No applicable information available.
Auto-ignition temperature	No applicable information available.
Decomposition temperature	178 °C.
pH	No applicable information available.
Kinematic viscosity	Not applicable (solid).
Solubility	No applicable information available.
Partition coefficient n-octanol/water (log value)	No applicable information available.
Vapor pressure (includes evaporation rate)	No applicable information available.
Density and/or relative density	No applicable information available.
Relative vapor density	Not applicable (solid).
Particle characteristics	No applicable information available.

Section 10. Stability and reactivity

Reactivity	None known, based on the information available.
Chemical stability	Stable under recommended storage conditions. Moisture sensitive, air sensitive and light sensitive.
Possibility of hazardous reactions, including those associated with foreseeable emergencies	None under normal processing. Hazardous polymerization does not occur.
Conditions to avoid (e.g., static discharge, shock, or vibration)	Excess heat; exposure to moisture, air and light; dust formation; incompatible materials.
Incompatible materials	Strong oxidizing agents, strong acids, strong bases.
Hazardous decomposition products	Carbon monoxide, carbon dioxide, nitrogen oxides (NOx), oxides of phosphorus and hydrogen fluoride.

Section 11. Toxicological information

Information on the likely routes of exposure (inhalation, ingestion, skin, and eye contact)	Inhalation of dust, skin contact, eye contact, ingestion.
Symptoms related to the physical, chemical, and toxicological characteristics	Skin: irritation. Eyes: serious eye irritation. Inhalation: irritation of the respiratory tract. Ingestion: may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Delayed and immediate effects and also chronic effects from short- and long-term exposure	Immediate: skin, eye and respiratory tract irritation. Delayed and chronic effects: no data available. The toxicological properties have not been fully investigated.
Numerical measures of toxicity (such as acute toxicity estimates)	Oral LD50, rat: > 2000 mg/kg. Dermal and inhalation: no data available.
Interactive effects; information on interactions should be included if relevant and readily available	No applicable information available.
Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA	Not listed by NTP, IARC or OSHA.
When specific chemical data or information is not available, whether alternative information is used and the method used to derive the information (e.g., information from a class of chemicals rather than the exact chemical, using SAR)	No alternative information (analogue or class data) was used.

Section 12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available)	No data available. Do not empty into drains.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects (such as hazardous to the ozone layer)	No data available.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging	Offer surplus and non-recyclable material to a licensed disposal company. Chemical waste generators must determine whether a discarded chemical is a hazardous waste and consult local, state and federal regulations for complete and accurate classification. Dispose of contaminated packaging as unused product.

Section 14. Transport information

US DOT: not regulated.

IMDG: not offered — P3 does not ship by sea.

IATA: not regulated.

UN number	See above: not regulated by any mode P3 ships by.
UN proper shipping name	See above: not regulated by any mode P3 ships by.
Transport hazard class(es)	See above: not regulated by any mode P3 ships by.
Packing group, if applicable	See above: not regulated by any mode P3 ships by.
Environmental hazards (e.g., Marine pollutant (Yes/No))	See above: not regulated by any mode P3 ships by.
Transport in bulk (according to IMO instruments)	Not applicable: P3 does not ship by sea.
Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises	No special precautions are known.

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product in question	TSCA: The chemicals shipped by P3 BioSystems are not subject to TSCA. SARA 302: no components subject to reporting. SARA 313: no components above the de minimis reporting levels. SARA 311/312 hazard categories: Skin corrosion or irritation; Serious eye damage or eye irritation; Specific target organ toxicity (single or repeated exposure). CERCLA: contains no substances regulated as hazardous substances under CERCLA (40 CFR 302). California Proposition 65: this product does not contain any Proposition 65 chemicals.

Section 16. Other information, including date of preparation or last revision

The date of preparation of the SDS or the last change to it	Date of preparation: 2026-10-07.

The information above is believed to be accurate and represents the best information available to P3 BioSystems on the date of preparation. It is provided for the safe handling of the product by trained persons in a laboratory and is not a warranty of any kind.