SAFETY DATA SHEET

Revision Date 06/10/2024

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name	: PyBOP
Product Number	: RC8602
Brand	: Advanced ChemTech
CAS-No.	: 128625-52-5

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

Identified uses	: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company	: Advanced ChemTech 5609 Fern Valley Rd, Louisville, KY 40228 USA
Telephone	: +1 833-317-5620
Fax	: +1 502-968-1000

1.4 Emergency telephone number : +1 800-424-9300 Chemtrec

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements:

Pictogram

Signal Word Warning

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye protection/ face protection.
P280	Wear protective gloves.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula	: $C_{18}H_{28}F_6N_6OP_2$
Molecular Weight	: 520.39g/mole
CAS-No.	: 128625-52-5

Hazardous Components

Component	Classification	Concentration
(Benzotriazol-1-yloxy)tripyrrolidinophosphonium hexafluorophosphate		
	Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5%

calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician. First treatment with calcium gluconate paste.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 **Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3 **Indication of any immediate medical attention and special treatment needed:** No data available

5. FIREFIGHTING MEASURES

5.1 **Extinguishing media**

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 **Special hazards arising from the substance or mixture:** No data available

5.3 **Advice for firefighters:** Wear self contained breathing apparatus for fire fighting if necessary.

5.4 **Further information:** No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 **Personal Precautions, protective equipment, and emergency procedure:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 **Environmental precautions:** Do not let product enter drains.

6.3 **Methods and materials for containment and cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 **Reference to other sections:** For disposal see section 13.

7. HANDLING AND STORAGE

7.1 **Precautions for safe handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols.Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C. Light sensitive. Moisture sensitive. Storage class (TRGS 510): Non Combustible Solids

7.3 **Specific end use(s):** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 **Control parameters**

Components with workplace control parameters Contains no substances with occupational exposure limit values.

8.2 **Exposure controls**

Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 **Information on basic physical and chemical properties**

a) Appearance	Form: White to Off-White powder
b) Odor	no data available
c) Odor Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: 154 - 156 °C (309 - 313 °F) - dec.
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	no data available
l) Vapor density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n- octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available

	s) Explosive properties	no data available
	t) Oxidizing properties	no data available
9.2	**Other safety information:**	no data available

10. STABILITY AND REACTIVITY

10.1 **Reactivity:** No data available
10.2 **Chemical stability:** Stable under recommended storage conditions.
10.3 **Possibility of hazardous reactions:** No data available
10.4 **Conditions to avoid:** No data available
10.5 **Incompatible materials:** Strong oxidizing agents
10.6 **Hazardous decomposition products:** Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Oxides of phosphorus, Hydrogen fluoride Other decomposition products - No data available In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 **Information on toxicological effects**

Acute toxicity: No data available
Inhalation: No data available
Dermal: No data available
Skin corrosion/irritation: No data available
Serious eye damage/eye irritation: No data available
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available
Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available
Specific target organ toxicity - single exposure: Inhalation - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure: No data available
Aspiration hazard: No data available
Additional Information: RTECS: Not available
Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 **Toxicity:** No data available
12.2 **Persistence and degradability:** No data available
12.3 **Bioaccumulative potential:** No data available
12.4 **Mobility in soil:** No data available
12.5 **Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6 **Other adverse effects:** No data available

13. DISPOSAL CONSIDERATIONS

13.1 **Waste treatment methods**

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US) Not dangerous goods
IMDG Not dangerous goods
IATA Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
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.
SARA 311/312 Hazards: Acute Health Hazard
Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right to Know Components

PyBOP	CAS-No. 128625-52-5	Revision Date

New Jersey Right to Know Components

PyBOP	CAS-No. 128625-52-5	Revision Date

California Prop. 65 Components
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

Eye Irrit.	Eye irritation
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
Skin Irrit.	Skin irritation
STOT SE	Specific target organ toxicity - single exposure
HMIS Rating	
Health hazard:	2
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0
NFPA Rating	
Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product regarding appropriate safety precautions. It does not represent any guarantee of the properties of the product. Advanced ChemTech shall not be liable for any damage resulting in the handling or from contact with the above product.