Bluepha® PHA BP330-05 Safety Data Sheet

Version: V3.1
Revision Date: 2023/11/29
In accordance with 29 CFR 1910. 1200: 2012, ANSI Z400.1-2010, and ISO 11014-1: 2009.
In accordance with WHMIS 2015.

Section 1: Identification

1.1 Product identifiers

Substance Name: Poly((R)-3-hydroxybutyrate-co-(R)-3-hydroxyhexanoate)
Product Name: Bluepha® BP330-05

1.2 Supplier

Company: Jiangsu Lansu Biomaterial Co., Ltd.
Address: Zhongshan 6th Road, Binhai Coastal Industrial Park, Yancheng, China
Postal code: 224555
E-mail address: contact@bluepha.com
Emergency phone number: 13912339519

1.3 Recommended use

A biopolymer suitable for processes such as extrusion, injection molding, casting, and blister molding.

Section 2: Hazard(s) identification

2.1 Hazard classification

This chemical is NOT classified according to 29 CFR 1910.1200 Hazard Communication Standard 2012, WHMIS 2015.

2.2 Signal word

None.

2.3 Hazard Statements

None.

2.4 Precautionary Statements

This chemical is flammable and may produce hazardous gases or vapors when ignited.

2.5 Potential Health effects

Inhalation: Inhalation of chemical in its powdered form or dust particulates may cause respiratory irritation.

Skin contact: Skin contact may cause irritation.
Eye contact: Eye contact may cause irritation.
Ingestion: Ingestion may cause discomfort.

2.6 Environmental precautions

See Section 12 for more information.

2.7 Other hazards

It is possible to form combustible dust in the air, potentially reaching flammable concentrations, if small particles are generated during further processing and handling. It is advised to refer to the protective measures listed in Sections 7 and 8.

Section 3: Composition/Information on Ingredients

Chemical Name	Weight %	CAS No.
Poly((R)-3-hydroxybutyrate-co-(R)-3-hydroxyhexanoate)	≥ 99.5	198007-37-3

Section 4: First Aid Measures

Inhalation: Move to fresh air.
Skin contact: Wash thoroughly with soap and water.
Eye contact: Rinse immediately with plenty of flowing water or saline solution, including the eyelids, for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Ingestion: Drink water (up to 2 cups) and do not induce vomiting. Consult doctor if needed.
Notes to physician: Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

5.1 Extinguishing equipment

Suitable extinguishing media: Water spray, Dry powder, Chemical foam, or Carbon dioxide.

5.2 Advice on specific hazards

This chemical is a flammable carbon compound and may generate hazardous gases or vapors upon ignition.

5.3 Special protective equipment for firefighters

Wear self-contained breathing apparatus (MSHA/NIOSH: approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

6.1 Personal precautions and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Avoid formation of too much dust.

Avoid contact with skin and eyes. Sweep up to prevent slipping hazard. Ensure all equipment is properly grounded during operation. Mark a restricted area and evacuate unrelated personnel to a safe zone.

6.2 Environmental precautions

Sweep up pellets. Avoid flushing into surface water, sanitary sewer system or ground water system.

6.3 Methods for cleaning up

Clean up: vacuum, scoop, shovel or sweep into suitable containers for disposal.

Section 7: Handling and Storage

7.1 Safety handling advice

For personal precautions, see section 6.1.
Operators should undergo specialized training and adhere to operating procedures.
During the processing, avoid contact with molten chemicals and provide appropriate ventilation equipment.

7.2 Storage

Handle containers carefully to prevent damage and spillage.
Keep tightly sealed in the original container.
Store in a cool, dry place, away from direct sunlight and high heat source.

Section 8: Exposure Controls/Personal Protection

8.1 Exposure limits

No data available.

8.2 Engineering control

Provide reasonable ventilation and exhaust.
Provide additional local ventilation where the hot polymer may reside for long periods (such as leak areas, above the nozzles or die, etc.).
Provide appropriate exhaust in areas where dust may be formed.

8.3 Personal protection

Eye protection:
Wear appropriate protective eyeglasses described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.

Skin and body protection:

Wear protective work clothing and avoid skin contact with chemicals.

Hand protection:

Wear gloves when handling chemicals. It is crucial to wear insulated gloves when contact in with molten polymers to prevent thermal burns.

Respiratory protection:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.
Use a NIOSH/MSHA or European Standard EN 149 approved respirators if there is potential for exposure to dust or toxic fumes, or if irritation or other symptoms are experienced.
Consult an industrial hygiene professional prior to selection and use of a proper respirator.

Section 9: Physical and Chemical Properties

Appearance: Ivory-colored solid pellets
Odor: Odorless to slightly sourish
pH: No data available
Melting Temperature (T_m): 148 ± 2 °C
Glass Transition Temperature (T_g): 1 ± 2 °C
Initial boiling point and boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability: No data available
Upper/lower flammability or explosive limits: No data available
Vapor pressure: No data available
Vapor density: No data available
Relative density: 1.21 ± 0.02 g/cm^3
Water Solubility: Not soluble
Partition coefficient: No data available
Auto-ignition temperature: No data available
Decomposition temperature: 240 °C
Viscosity: No data available

Section 10: Stability and Reactivity

10.1 Reactivity

Not reactive under normal use conditions.

10.2 Chemical stability

Chemically stable under cool and dry conditions.

10.3 Conditions to avoid

Avoid damp air, high temperatures, and direct sunlight.
Prolonged exposure can cause chemical degradation.

10.4 Materials to avoid

Strong oxidizing agents.

10.5 Hazardous decomposition products

No data available.

Section 11: Toxicological Information

Principle routes of exposure: Eye contact, Skin contact, Inhalation, Ingestion.
Acute toxicity: Oral LD50 (rat) > 5000 mg/kg.
Skin irritation or corrosion: No data available.
Eye irritation or corrosion: No data available.
Respiratory or skin sensitization: No data available.
Reproductive cell mutagenicity: No data available.
Carcinogenic effects: No data available.
Reproductive toxicity: No data available.
Target organ effects: No data available.

Section 12: Toxicological Information

12.1 Ecotoxicity

The activity and growth of earthworms, barley, watercress, corn, and cucumber in soil containing the chemical have not been negatively affected after its degradation.
The activity of aquatic invertebrates, represented by large water fleas, in water containing residues of the chemical after its degradation has not been negatively affected.

12.2 Persistence and degradability

Inherently biodegradable in soil, seawater, freshwater, household compost, and industrial compost conditions.

12.3 Bioaccumulation

No data available.

12.4 Mobility

No data available.

Section 13: Disposal Considerations

Waste from residues / unused products: Disposal should be in accordance with local and national regulations. The chemical is a bio-based and biodegradable material that can degrade in environments abundant in microorganisms, such as soil and compost condition.
Contaminated packaging: Empty remaining contents. Do not re-use empty containers. Empty containers should be disposed of in accordance with national and local regulations.

Section 14: Transport Information

U.S. Department of Transportation (DOT):

Proper shipping name: Not dangerous goods

Hazard class: Not regulated

UN-No: None assigned

Packing group: None

Hazardous Substances RQs: None

IMDG:

Proper shipping name: Not dangerous goods

Hazard class: Not regulated

UN/Id-No.: None assigned

Packing group: None

ICAO/IATA:

Proper shipping name: Not dangerous goods

Hazard Class: Not regulated

UN-No.: None assigned

Packing group: None

Section 15: Regulatory Information

U.S. REGULATIONS

TSCA Inventory List: Not Listed

INTERNATIONAL INVENTORIES

China inventory of existing chemical substances list (IECSC): Listed

European Inventory of Existing Commercial Chemical Substances (EINECS): Not Listed

Section 16: Other Information

This chemical has not yet undergone comprehensive testing. The information provided in this document is based on current knowledge and is for reference only. It should not be considered as an absolute guideline. As information on the testing of this chemical continues to improve, the content of this document will be updated in a timely manner.