

Bluepha® PHA BP330-05 Safety Data Sheet

Version: V3.0

Revision Date: 2023/10/17

In accordance with Regulation (EC) No 1907/2006 (REACH)

Section 1: Identification of the substance and of the company/undertaking

1.1 Product identifiers

Substance Name: Poly((R)-3-hydroxybutyrate-co-(R)-3-hydroxyhexanoate)

Product Name: Bluepha® BP330-05

1.2 Relevant identified uses of the substance and uses advised against

Relevant identified uses: Suitable for processes such as extrusion, injection moulding, casting, and blister moulding.

1.3 Details of the Supplier of the safety data sheet

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

1.4 Emergency telephone number

Emergency number: 13912339519

Section 2: Hazards identification

2.1 Classification of the substance

This chemical is NOT classified according to GHS.

This chemical is NOT classified according to Regulation (EC) No 1272/2008 (CLP).

2.2 Label Elements

None.

2.3 Precautionary Statements

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

2.4 Other hazards

2.4.1 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.

2.4.2 Potential Risks

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

| Substance Name | Content (%) | CAS No. |
|---|-------------|-------------|
| Poly((R)-3-hydroxybutyrate-co-(R)-3-hydroxyhexanoate) | ≥ 99.5 | 147398-31-0 |

Section 4: First Aid Measures

4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance

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

5.3 Advice 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, protective equipment 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 and material for containment and cleaning up

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

Section 7: Handling and Storage

7.1 Precautions for safe handling

- 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 Conditions for safe storage, including any incompatibilities

- 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 Control parameters

Occupational exposure limit value: No data available.

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.

8.2 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 in contact 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-coloured solid pellets

Odour: Odourless 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/cm³

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 Possibility of Hazardous Reaction

No data available.

10.4 Conditions to avoid

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

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

No data available.

Section 11: Toxicological Information

Acute toxicity: Oral LD50 (rat) > 5000 mg/kg.

Skin irritation or corrosion: No data available.

Serious eye damage/irritation: No data available.

Respiratory or skin sensitization: No data available.

Germ cell mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: No data available.

Summary of evaluation of the CMR properties: No data available.

STOT-single exposure: No data available.

STOT-repeated exposure: No data available.

Aspiration hazard: No data available.

Section 12: Ecological information

12.1 Toxicity

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 Bioaccumulative potential

No data available.

12.4 Mobility in soil

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

TDG:

Proper shipping name: Not dangerous goods

Hazard Class: Not regulated

UN-No.: None assigned

Packing group: None

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

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

EU Authorized Substances for Food Contact Plastic Materials and Products (EU 10/2011): 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.

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