



Unilong Industry Co., Ltd

Add: No.2000 Shunhua Rd, High-Tech Zone , Jinan City, Shandong Province, China
Phone&Whatsapp: +86-18678775281 Website: www.china-polymer.com

Chemical Safety Data Sheet

1. CHEMICAL AND COMPANY IDENTIFICATION

1.1 Product identifier

Chemical common name or trade name: Poly 3-hydroxybutyrate

1.2 Other methods of identification

PHB; (R)-3-Hydroxybutyric acid

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

For research purposes only, not as medicine, home medicine or other purposes.

1.4 Details of the provider of the safety data sheet

company : Unilong Industry Co., Ltd

telephone number: 18678775281

email address: No.10 Bldg Shuntai, No.2000 Shunhua Rd, High-Tech Zone , Jinan City, Shandong Province, China

2. HAZARDS OVERVIEW

2.1 GHS classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

CAUTION - Substance has not been fully tested.

2.2 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Alias: PHB

(R) -3-Hydroxybutyric acid

4. FIRST AID MEASURES

4.1 Description of necessary first aid measures

if inhaled

If inhaled, remove victim to fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash with soap and plenty of water.

in case of eye contact

Flush eyes with water as a precaution.

if swallowed by mistake

Never give anything by mouth to an unconscious person. Rinse mouth with



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water.

4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical and toxicological properties have not been fully studied.

**4.3 Instructions for immediate medical attention and special treatment needed
no data available**

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Fire extinguishing method and fire extinguishing agent

Extinguish with water fog, alcohol resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture
carbon oxide**

5.3 Precautions for firefighters

If necessary, wear self-contained breathing apparatus to fight fire.

5.4 Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Prevent dust generation. Avoid breathing vapours, mist or gas.

6.2 Environmental precautions

Do not allow product to enter drains.

6.3 Methods and material for containment and cleaning up

Sweep and shovel away. Store in suitable closed disposal containers.

6.4 References to other sections

See Section 13 for disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe operation

Provide suitable exhaust ventilation where dust is formed. General fire protection measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep container tightly closed and store in a dry and ventilated place.

7.3 Specific use

no data available



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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Maximum allowable concentration

There are no known national exposure limits.

8.2 Exposure controls

appropriate technical controls

Normal industrial hygiene practice.

personal protective equipment

Eye/Face Protection

Use equipment for eye protection tested and approved by official standards such as NIOSH (US) or EN 166 (EU).

skin protection

Handling with gloves Gloves must be inspected before use.

Please use suitable method to remove gloves (do not touch the outer surface of gloves), avoid any skin contact with this product.

After use, please dispose of contaminated gloves carefully in accordance with relevant laws and regulations and effective laboratory regulations. Please wash and dry your hands

The selected protective gloves must comply with EU Directive 89/686/EEC and the EN 376 standard derived from it.

body protection

The choice of personal protective measures depends on the type, concentration and amount of the hazardous substance, and on the particular workplace.

The type of protective equipment must be selected according to the concentration and amount of the hazard in a particular workplace.

respiratory protection

Breathing protection is not required. For protection against dust damage use a type N95 (US) or type P1 (EN 143) dust mask.

Respirators use respirators and parts that have been tested and passed government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance and properties Shape: powder; Color: white
- b) Odor no data available
- c) Odor threshold no data available
- d) pH value No data available
- e) Melting point/freezing point 175° C
- f) Onset boiling point and boiling range No data available
- g) Flash point no data available



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- 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) Relative vapor density no data available**
- m) relative density 1.25g/cm³**
- n) Water solubility No data available**
- o) logarithm of the octanol/water partition coefficient no data available**
- p) Auto-ignition temperature no data available**
- q) Decomposition temperature 200°C**
- r) Viscosity No data available**

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible Materials

Strong oxidants

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

acute toxicity

no data available

skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

respiratory or skin allergies

no data available

germ cell mutagenesis

no data available

Carcinogenicity

IARC: There are no components in this product at levels greater than or equal to



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0.1% that IARC has identified as probable or probable human carcinogens.

reproductive toxicity

no data available

Specific target organ toxicity (single exposure)

no data available

Specific target organ toxicity (repeated exposure)

no data available

aspiration hazard

no data available

potential health effects

Inhalation May be harmful if inhaled. May cause respiratory irritation.

Ingestion Harmful if swallowed.

Skin May be harmful if absorbed through the skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and symptoms of exposure

To the best of our knowledge, the chemical, physical and toxicological properties have not been fully studied.

Additional information

Registration of Toxic Effects of Chemical Substances: No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulation potential

no data available

12.4 Mobility in soil

no data available

12.5 Evaluation of results of PBT and vPvB

no data available

12.6 Other Adverse Effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

product

Hand over remaining and unrecovered solution to a disposal company.

contaminated packaging

Dispose of as unused product.



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14. SHIPPING INFORMATION

14.1 UN number

Dangerous Regulations for European Land Transport: - International Shipping Dangerous Regulations: - International Air Transport Dangerous Regulations: -

14.2 Names prescribed by the United Nations (UN)

European Road Dangerous Regulations: No Dangerous Goods

International Maritime Dangerous Regulations: No Dangerous Goods

Dangerous Regulations for International Air Freight: No Dangerous Goods

14.3 Transport hazard classes

Dangerous Regulations for European Land Transport: - International Shipping Dangerous Regulations: - International Air Transport Dangerous Regulations: -

Dangerous Regulations: - International Air Transport Dangerous Regulations: -

14.4 Package groups

Dangerous Regulations for European Land Transport: - International Shipping Dangerous Regulations: - International Air Transport Dangerous Regulations: -

Dangerous Regulations: - International Air Transport Dangerous Regulations: -

14.5 Environmental hazards

European Road Transport Hazardous Regulations: No International Maritime Transport Hazardous Regulations Marine Pollutants: No International Air Transport Hazardous Regulations: No

Transport Hazardous Regulations: No

Transport Hazardous Regulations: No

14.6 Special precautions for users

no data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/regulations specific to the substance or mixture

Regulatory Information

Please note that waste disposal should also comply with local regulations.

If applicable, the chemical meets the requirements of the "Regulations on the Safety Management of Hazardous Chemicals" (passed by the State Council on January 9, 2002).

16. OTHER INFORMATION

Further information

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