



MSDS No.: MSDS#2030411E
Product Name: PHA

Initial Date: February 02, 2021
Revision Date: December 27, 2024 Version: 1.0

Shenzhen Dakewe Bio-engineering Co., Ltd.
According to UN GHS (the 10th revised edition)

Material Safety Data Sheet

(MSDS)

Product Name	PHA
Component	PHA

ISSUED BY: Shenzhen Dakewe Bio-engineering Co., Ltd.

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Section 1- Product And Company Identification

1.1. Product identification

Product name: PHA

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

Identified uses: Refer to the instruction booklet for proper and tended use. Otherwise, contact supplier for specific applications. For research use only.

Use advised against: Not available

1.3. Details of the applicant, supplier

Company name: Shenzhen Dakewe Bio- engineering Co., Ltd.

Address: Room 702-703, Building No.1, Shenzhen Biomedicine Innovations Industrial Park, No.14 Jinhui Road, Kengzi Street, Pingshan District, Shenzhen, China

Telephone: (86-755) 86235300

Zip Code: 518122

mail: RD@dakewe.com

Website: www.dakewe.com

1.4. Emergency phone

Emergency call: (86-755) 86235300

Section 2- Hazard Description

Hazard class and label elements of the product according to GHS (the 10th revised edition):

2.1. GHS Classification of substance or mixture:

Non-hazardous substance or mixture.

2.2. Label elements:

Hazard pictograms: Not applicable.

Signal word: Not applicable.

Hazard statements: Not applicable.

2.3. Other Hazards: None.

Section 3 - Composition/ Ingredient Data

3.1. Material: Not applicable

3.2. Mixture: Applicable



The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

Section 4- First Aid Measures

4.1. General advice:

Show this material safety data sheet to the doctor in attendance. After receiving the first-aid measure required, consult a physician if necessary.

Skin contact:

Remove contaminated clothing and shoes. Wash off with mild soap and plenty of water. If skin irritation occurs or persists, consult a physician immediately.

Eyes contact:

Check for and remove any contact lenses, do not rubbing eyes with hand. Provide a readily-accessible eyewash facility and quick-drench safety shower. Occasionally lifting the upper and lower eyelids. Immediately flush eyes with running water, disappear until the chemical residues so far. Get medical attention if irritation occurs.

Inhalation:

Move exposed person to fresh air. Keep person warm and at rest. If not breathing or if breathing is irregular, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Ingestion:

Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.



4.2. Most important acute and delayed symptoms/ effects:

The most important known symptoms and effects are described in section 2 and/or in section 11.

4.3. Immediate/ special treatment:

Continue with first aid measures. Treat symptomatically and supportively. Symptoms may be delayed.

Section 5 - Firefighting Measures

5.1. Extinguishing method and extinguishing agent:

Product is hard to burn, if this product is involved in a fire:

Suitable extinguishing agent: Use dry sand, dry chemical or CO₂ foam extinguishing. Water spray can be used to cool fire exposed containers/materials. Use extinguishing media most appropriate for the surrounding fire.

Unsuitable extinguishing agent: Unknown.

5.2. Special hazards arising from the substance or mixture:

If this product is involved in a fire, the following can be released: Carbon oxides etc.

5.3. Fire precautions and measures:

Firefighters must wear self-contained breathing apparatus, wear full body fire suit, fire extinguishing in the upwind. As far as possible will be transferred to empty containers from the scene. Keeps the fire water spray container cooling, until the end of fire. If the containers in the fire ground have been color, must be evacuated immediately. Isolated accident scene, prohibit access. Receiving and processing of fire, to prevent environmental pollution.

Section 6 - Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material, avoid slipping. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent leakage from entering water body,



basement and confined space. Prevent entry into the sewage system.

6.3. Collecting, clearing method and disposal material:

Small spill: Wash the leakage with plenty of water.

Large spill: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Disposal: Contaminated material must be disposed of in accordance with all State and/or Local regulations.

Section 7 - Handling and Storage

7.1. Handling precautions:

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Avoid contact eyes and skin. Do not ingest. Avoid breathing dust, vapor or mist. Normal measures for preventive fire protection. Observe good housekeeping procedures and hygiene practices. Wash thoroughly after handling. Handle with care to prevent damage to packaging and containers. Firefighting equipment of corresponding variety and quantity and oil spill emergency treatment equipment shall be provided. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.

7.2. Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in original container protected from direct sunlight in dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep away from heat/sparks/open flames/ hot surfaces. Keep container tightly closed and sealed until ready for use. Firefighting equipment of corresponding variety and quantity and oil spill emergency treatment equipment shall be provided. Keep out of reach children, avoid eating. Electrical installations/working materials must comply with the



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technological safety standards. Recommended storage temperature: 2~8°C, humidity: 25~95%.

7.3. Packaging materials:

Recommended-Use original container.

Section 8- Exposure Controls/ Personal Protection

8.1. Exposure limit:

There is no known exposure limits prescribed by the state.

8.2. Engineering control:

None required. However, use of adequate ventilation is good industrial practice.

8.3. Personal protection:

Respiratory protection:

If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

Eye protection:

Wear safety glasses when there is a potential for eye contact.

Skin and body protection:

Suitable protective clothing.

Hands protection:

Protective gloves.

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Other protection:

Smoking, eating and drinking water is forbidden in the workplace. After work, shower and change clothes.

Section 9 - Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance:	Liquid:PHA
Odor:	No data available/Not applicable



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Melting point 1 freezing point(°C):	No data available/Not applicable
Boiling point(°C):	No data available/Not applicable
Flash point(Closed cup, °C);	No data available/Not applicable
Steam pressure(20°C, Pa):	No data available/Not applicable
Relative density (water=1, 25°C):	No data available/Not applicable
Partition coefficient: n-octanol/water.	No data available/Not applicable
Decomposition temperature(°C):	No data available/Not applicable
pH value:	No data available/Not applicable
Explosion limit:	Non explosive
Vapor density:	No data available/Not applicable
Water soluble:	No data available/Not applicable
Ignition point(°C):	No data available/Not applicable
Flammability (sold, gas):	No data available/Not applicable
Oxidizing properties:	The substance or mixture is not classified as oxidizing

9.2. Other safety information

No data available/Not applicable

Section 10 - Stability and Reactivity

10.1. Stability:

The product is chemically stable.

10.2. Reactivity.

Stable under recommended storage and handling conditions.

10.3. Incompatible materials:

Strong oxidizing agents, strong acids, strong bases.

10.4. Conditions to avoid:

Incompatible materials, direct sunlight, high temperatures and open fire.

10.5. Hazardous polymerization:

Will not occurs.



10.6. Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11 - Toxicological Information

11.1. Acute toxicity:

No data.

11.2. Skin corrosion/irritation:

Prolonged and repeated exposure may cause skin irritation.

11.3. Eye corrosion/irritation:

Irritating effect possible.

11.4. Respiratory or skin sensitization

These products are not known to cause human skin or respiratory sensitization.

11.5. Gem cell mutagenicity:

According to the existing data, the product is not classified.

11.6. Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

11.7. Reproductive toxicity:

According to the existing data, the product is not classified.

11.8. Specific target organ toxicity - single exposure:

According to the existing data, the product is not classified.

11.9. Specific target organ toxicity - repeated exposure:

According to the existing data, the product is not classified.

11.10. Aspiration hazard:

According to the existing data, the product is not classified.

Section 12 - Ecological Information

12.1. Ecotoxicity values:

This product contains no hazardous or toxic substances, and presents a negligible impact on the



environment based on its reported use pattern.

12.2. Persistence and degradability:

The products are usually with natural biodegradable.

12.3. Bioaccumulative potential:

The potential for bioaccumulation of this material in aquatic organisms is low.

12. 4. Mobility in soil:

Will penetrate into the soil, will be dissolved in the soil material.

12.5. Other adverse effects:

Under environmental conditions, is not expected to have a detrimental effect on plants, animals or microorganisms, but do not allow material to be released to the environment without proper government permits.

Section 13-Disposal Considerations

13.1. Residual waste:

The generation of waste should be avoided or minimized wherever possible. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system.

13.2. Contaminated packaging:

Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible or sell to recycling companies. It is recommended to send it to the garbage dump for incineration or landfill when it is not recyclable.

13.3. Disposal considerations:

Processing, use or contamination of this product may change the waste management options.

Dispose of container and unused contents in accordance with national and local relevant regulations laws.

Section 14 -Transport Information

According to IATA DGR 65th Edition for transportation, IMO International Maritime Dangerous Goods Code (Amendment 39-18), European Agreement Concerning the International Carriage of Dangerous Goods by Road. The products are not subject to ADR, RID, AND, IMDG and IATA



DGR.

14.1. UN number

ADR, RID, IMDG, IATA: Not regulated

14.2. UN proper shipping name

ADR, RID, IMDG, IATA: Not regulated

14.3. Transport hazard class(es)

ADR, RID, IMDG, IATA: Not regulated

14.4. Packing group

ADR, RID, IMDG, IATA: Not regulated

14.5. Environmental hazards

IMDG Marine pollutant: No

14.6. Special precautions for user:

Should check whether the container is full, sealed before shipping. Ensure that the product does not collapse, fall, and not damaged in transport process. Transportation should prevent insolation and high temperature and water. Avoid rain, polluted, damaged, long-term exposure. Stopover should be far away from fire, heat source and high temperature and water.

Section 15-Regulatory Information

TSCA: United States Toxic Substances Control Act Inventory

EINECS: European Inventory of Existing Commercial Chemical Substances

DSL: Canadian Domestic Substances List

IECSC: China Inventory of Existing Chemical Substances

PICCS: Philippines Inventory of Chemicals and Chemical Substances

NZIoC: New Zealand Inventory of Chemicals

KECI: Existing and Evaluated Chemical Substances

AICS: List of existing chemical substances in Australia



Section 16-Other Information

Abbreviations or phrases:

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
EINECS: European Inventory of Existing commercial Chemical Substances
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods Code
RID: Regulation for rail International transportation of Dangerous goods
OSHA: Occupational Safety and Health Administration

The above information is believed to be correct but we can not guarantee the absolute universality and accuracy and shall be used only as a guide . The information in this document is based on the presentstate of our knowledge and is applicable to the product with regard to appropriate safety precautions .It does not represent any guarantee of the properties of the product.

END OF MSDS