

Safety Data Sheet PHACT PHA resin

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

1.1 Identification

Product name : PHACT PHA resin
Trade name : PHACT A1000P
CAS No. : 125495-90-1

1.2 Product use

Product use : Biopolymer (for industrial processing)

1.3 Supplier

Supplier : CJ CHEILJEDANG CORPORATION
330, Dongho-ro, Jung-Gu, Seoul, Korea
Manufacturer : PT. CHEILJEDANG INDONESIA
Jl. Raya Arjosari Km. 9, Keeamatan Rejos, Kabupaten Pasuruan, 67181 Jawa Timur, Indonesia

1.4 Emergency telephone number

: (HQ) +82-2-6740-3491
: (US Office) +1-617-909-2511

Section 2. Hazards identification

2.1 Classification of the substance or mixture

GHS classification : Not considered hazardous according to OSHA.
: Not considered hazardous according to EC Directives 67/548/ECC or 1999/45/EC and their valid adaptations and derived national regulations.

2.2 GHS label elements

GHS labeling : Not relevant as material is not a hazardous substance or mixture.

2.3 Other hazards

Other hazards : No information available.

2.4 Potential health effects

: No information available.

Section 3. Composition/Information on ingredients

3.1 Substances

Substance type	Chemical name	CAS No.	Weight %
Polymers	Polyhydroxyalkanoate(P3HB4HB)	125495-90-1	≥ 98
Pellet may contain 0.5 to 2.0% mixture of fatty acid, protein and ash			

Section 4. Human Health and Environmental Hazard Statements

4.1 Hazard and precautionary statements

Eye contact	: Immediately flush eyes with plenty of water for at least 15 minutes, lifting the upper and lower eyelids. Get medical aid.
Skin contact	: Wash off with soap and water.
Ingestion	: Get medical aid immediately. Do not induce vomiting without medical advice.
Inhalation	: Heating the resin above 200 ° C (392 ° F) during the process may result in strong characteristic odor of PHA. But it does not make any toxic fumes. Remove the victim from exposure area to fresh air immediately. Give oxygen if breathing is difficult. Get medical aid. Give artificial respiration if not breathing.

4.2 Notes to physician : Treat symptomatically.

Section 5. Firefighting measure

5.1 Flammability

Flash point	: 265 °C (509 °F)
Auto-ignition temp	: Not determined

5.2 Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use water spray, dry chemical, carbon dioxide, or chemical foam.
Unsuitable extinguishing media	: None known

5.3. Specific hazards arising from the chemical

Reactivity in case of fire	: Under fire conditions, hazardous fumes will be present: Carbon monoxide, Carbon dioxide.
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5.4. Special protective equipment and precautions for fire-fighters

Protective equipment for firefighters	: Wear a self-contained breathing apparatus in pressure-demand mode, MSHA/NIOSH (approved or equivalent), and full protective gear.
Firefighting instructions	: Evacuate personnel to a safe area. Use water spray for cooling exposed containers.

Section 6. Accidental release measures

6.1 Personal precautions

For non-emergency personnel	: Wear recommended personal protective equipment. Evacuate unnecessary personnel. Ventilate spillage area. Avoid dust formation. Avoid contact with skin and eyes. Remove all sources of ignition.
For emergency responders	: Do not attempt to take action without suitable protective equipment.

6.2 Environmental precautions

: Do not flush into surface water or sanitary sewer system.

6.3 Methods for cleaning up

: Sweep up and shovel into suitable containers for disposal.

Section 7. Handling and storage

7.1 Handling

: Follow a good industrial practices in housekeeping and personal hygiene. Wear personal protective equipment. Maintain operating temperature within the recommended processing range. Avoid contact with molten material and provide adequate ventilation during processing. Keep only in original container. Protect from moisture. When mechanical energy is used to process or transfer, dust can be generated. Systems and procedures should be designed to minimize the generation and accumulation of dust from the handling and processing of PHA resin.

7.2 Storage

: Avoid extremes of temperature and humidity to prevent property deterioration. Resin should be stored in original shipping package. Keep the resin dry and sealed to exclude moisture. Store below

30 °C (86 °F) to maximize product shelf life.

Section 8. Exposure controls /Personal protection

8.1 Control parameters

Exposure limits	: Not established
Engineering controls	: Provide appropriate exhaust ventilation at places where the hot polymer may reside for long periods (leak areas, above the nozzle or die, in screen changers, in vent ports, etc.). Heating resin above recommended processing conditions will produce toxic fumes.

8.2 Personal protective equipment

Eye protection	: Wear appropriate protective eyeglasses with side shields.
Skin and body protection	: Personal protective equipment ("PPE") must be selected. Wear impervious clothing and insulated gloves which provides a barrier of Liquids and Gases to prevent dermal exposure. Gloves must be replaced at the end of each work shift during which they are exposed to the New Chemical Substance.
Respiratory protection	: Wear respiratory protection if there is potential for exposure to dust or toxic fumes.

8.3 Other information	: Avoid contact with skin, eyes and clothing. Wash hands after handling the product. Use good housekeeping practices during storage, transfer, handling to avoid excessive dust accumulation.
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Section 9. Physical and chemical properties

9.1 Information of physical and chemical properties

Physical state	: Solid
Appearance	: pale yellow opaque pellets
Odor	: Mild
pH	: Not applicable
Freezing Point	: Not applicable
Boiling Point	: Not applicable
Flash Point	: 265 °C (509 °F)
Evaporation rate	: Not determined
Vapor Pressure	: Not determined
Vapor Density	: Not determined

Viscosity	: Not available
Flammability	: Not available
Density	: 1.1–1.3 g/cm ³
Solubility	: Soluble in chloroform, methylene chloride.
Partition coefficient	: Not determined
Auto-ignition Temperature	: Not determined
Decomposition Temperature	: > 275 °C (527 °F)
Molecular Weight	: Approximately >100,000 (by GPC)

Section 10. Stability and reactivity

10.1 Reactivity	: Non-reactive under normal conditions
10.2 Chemical Stability	: Stable under recommended storage conditions
10.3 Possibility of Hazardous Reaction	: Hazardous polymerization will not occur.
10.4 Conditions to Avoid	: High humidity environment
10.5 Incompatible materials	: Strong oxidizing agents
10.6 Hazardous Decomposition	: None under normal use conditions

Section 11. Toxicological information

11.1 Information on toxicological effects	
Acute toxicity (oral)	: Category 5 (LD50 ≥ 5000mg/kg) or Not classified
Acute toxicity (dermal)	: Category 5 (LD50 ≥ 2000mg/kg)
Acute toxicity (inhalation)	: No information available
Skin sensitization	: Classified as mild sensitizers for skin sensitization
Serious eye damage/irritation	: Not classified
Respiratory sensitization	: No information available
Mutagenicity	: <i>In vitro</i> Bacterial reverse mutation: Negative <i>In vitro</i> mammalian gene mutation: Negative <i>In vivo</i> chromosome aberration: Negative
Carcinogenicity	: No information available
Repeated dose toxicity (Rat-male, female)	: NOAEL(No observed adverse effect level): Oral (28day) 600mg · kg/day
STOT-single exposure	: No information available
STOT-repeated exposure	: No information available

Reproductive toxicity : No information available

Section 12. Ecological information

12.1 Ecological Toxicity

: Not considered toxic in marine, fresh water, soil environment.

Inhibiting the growth of algae	: <i>Pseudokirchneriella subcapitata</i> (72hr) NOEL=100mg/L
Reproductive toxicity	: <i>Daphnia magna Straus</i> (72hr) NOEL=10mg/L
Acute toxicity	: <i>Eisenia fetida</i> LC ₅₀ (14day)>1000mg/kg <i>Gobiocypris rarus</i> LL ₅₀ (96hr)>100mg/L
Cronic toxicity	: NOEL(28day)=100mg/L

12.2 Persistence, degradability and bio-based products

: The product has the following certifications for biodegradability and bio-based products.

TUV AUSTRIA	: OK compost Industrial : OK biodegradable Soil : OK compost Home : OK biodegradable Marine : OK biobased (Class4)
DIN CERTCO	: Industrial compostable products : DIN-Gepruft biobased
BPI	: Commercially Compostable product
USDA	: BioPreferred Program
JBPA	: BiodegradablePla, Marine BiodegradablePla : BiomassPla

12.3 Bioaccumulation : Not expected to bioaccumulate

12.4 Mobility in soil : Inherently biodegradable in soil

Section 13. Disposable considerations

13.1 Disposal methods

Waste treatment methods : There are no special requirements. In accordance with local and national regulations. Non-hazardous, biobased and biodegradable PHACT biopolymer resin is not designed to biodegrade in conventional landfills and is not part of the conventional plastics recycling stream.

Section 14. Transport information

14.1 Department of Transportation	: Not regulated
14.2 Transportation of Dangerous Goods	: Not regulated
14.3 IMDG	: Not regulated
14.4 ICAO/IATA	: Not regulated

Section 15. Regulatory information

15.1 US regulations

TSCA List	: Listed (active, confidential)
Food contact Substance	: FCN 2281
SARA 313	: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals required to be reported under this Act or Title 40, Code of Federal Regulations, Part 372

SARA 311/312 Hazard/Risk Category

Acute Health Hazards	: None
Chronic Health Hazards	: None
Fire Hazards	: None
Sudden Pressure Release Hazard	: None
Reactive Hazards/Risks	: None

15.2 EU regulations

EU REACH	: Exemption
REACH Annex XVII	: Not Listed
REACH Candidate list	: Not Listed
REACH Annex XIV (Authorization list)	: Not Listed
REACH Annex PIC list (EU 649/2012)	: Not Listed
REACH Annex POP list (EU 2019/1021)	: Not Listed
Other information, restriction and prohibition regulations	: No registration number is given for this substance because it is a polymer exempted from registration according to the provision of Article 2(9) of REACH
FCM Union list Annex I (EU 10/2011)	: Not Listed

15.3 China regulations

IECSC	: Listed
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GB4806.7-2023	: Listed
15.4 Japan regulations	
ENCS	: Listed
Food contact Positive list	: Not Listed
15.5 Korea regulations	
Korea REACH	: Exemption
Food Sanitation Act	: Listed
15.6 Other regulations	
DSL (Canada)	: Listed
Food contact (Health Canada, Division 23)	: Approved
NZioC (New Zealand)	: Not Listed (Compliant-certified exempt)
AICIS (Australia)	: Not Listed (Compliant-certified exempt)
Australia Food Contact	: Registration not required; Compliant, certified exempt under AICIS for food contact use.
TCSCA (Taiwan)	: PLC approval, Small quantity registration

Section 16. Other Information

16.1 Revision date	: 12/11/2025
16.2 Recommended restrictions	: None

NOTICE: Customer assumes all risk with respect to its use and handling of this resin and its marketing, sale and use of products made with CJ CHEILJEDANG biopolymers. CJ CHEILJEDANG liability for breach of warranty, negligence, or other claims is limited to the purchase price of materials purchased. CJ CHEILJEDANG will not be responsible for any indirect, consequential, special, or incidental damages. The information contained herein is believed to be reliable, but CJ CHEILJEDANG makes NO REPRESENTATIONS, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.