

THE LARGE-SCALE FFF 3D-PRINTER FOR PROFESSIONAL AND INDUSTRIAL USE.

MATERIAL SAFETY DATA SHEET BigRep PLX

1. Identification of the substance/preparation and of the company

1.1 Trade name: BigRep Filament PLX

1.2 Chemical name: Polylactic Acid compound

1.3 Typical use of the material: Monofilament for FFF/FDM 3D printing technology

1.4 Identification of the company: BigRep GmbH

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2. Hazards identification

2.1 Risk advise to man and the environment: Not likely to be a risk in the solid form.

2.2 Classification of the substance or mixture: This substance does not meet the criteria for classification

according to Directive 67/548/EEC or Regulation (EC)

1272/2008 as amended.

2.3 Special advice on hazards: Danger of burns when heated or molten material is handled

3. Composition / information on ingredients

3.1 Chemical nature: Polylactic acid mixture

CAS No.: 9051-89-2

3.2 Additional information: Not harmful

4. First-aid measures

4.1 If inhaled: After inhalation of decomposition products, gases or dust,

bring the affected person to a source of fresh air and keep

calm. Contact a physician in case of discomfort.

4.2 On skin contact: In case of contact with melted material, immediately cool

the skin with plenty of cold running water. Removal of adhering to skin polymer, or burns caused by molten

material require hospital treatment.

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4.3 On contact with eyes: In case of contact with molten material, immediately cool

the skin with plenty of cold running water. Removal of adhering to skin polymer, or burns caused by molten

material require hospital treatment.

4.4 On ingestion: Rinse mouth with water and then drink plenty of water.

Seek medical attention if difficulties or discomfort occur.

4.5. Important symptoms and effects Burns resulted from contacting or handling heated or

molten materials

4.6. Additional information Provide general supportive measures and treat

symptomatically

Firefighting measures

5.1 Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding

materials, such as foam, CO2, dry chemical. Do not use a solid water stream as it may scatter and spread fire.

5.2 Specific hazards: Gases hazardous to health may be formed in case of fire,

such as Aldehydes, Carbon Monoxide (CO), Carbon Dioxide (CO2), smoke. The emergence of decomposition and

oxidation products depends upon the fire conditions.

5.3 Further information: Follow the general fire precautions indicated in the

workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards

of other involved materials.

6. Accidental Release Measures

6.1 Personal precautions: Wear gloves when handling hot melt of material. Avoid eye

and skin contact. All ignition sources shall be removed. Inhale from dust shall be avoided. If necessary, use dust mask and Goggles. Make sure there is proper ventilation.

6.2 Environmental precautions: Prevent entry into drainage systems, or surface water. Do

not allow material to contaminate ground water system.

6.3 Methods for cleaning up: Sweep/shovel into suitable container for disposal. Avoid

raising dust and ensure adequate ventilation.

7. Handling and storage

7.1 Handling: Handle in a well-ventilated area. Install local exhaust at 3D

printers area is recommended when many printers are operated at once. Avoid contact with heated or molten product. Use personal protective equipment Avoid dust formation and electrostatic charge. Keep away from fire

ignition sources.

7.2 Storage: Protect from water, moisture and direct sunlight. Stored

material in dry rooms and keep material in sealed

packaging/container with desiccant when not in use. Store

at ambient temperatures. Avoid all sources of ignition. Store at temperatures not exceeding 50° C/122° F. Keep cool. No special restrictions on storage with other products.

7.3 Precautions: No special precautions required.

7.4 Specific end use(s): Primarily used for 3D printing.

8. Exposure controls / personal protection

8.1 Control parameters None.

Provide appropriate exhaust ventilation at places where dust is formed. Avoid electrostatic charge by use of

grounding cables.

8.2 Occupational exposure limits: Given suitable ventilation it can be that the threshold limits

will not be reached.

8.3 Personal protective equipment

8.3.1 Hand protection: Wear heat protection gloves, preferably cotton or leather,

when handling hot molten product.

8.3.2 Eye protection: Wear protective glasses, preferable with side-shields.

8.3.3 Skin and body protection: Wear (protective) clothing to avoid direct exposure of skin

to hot molten product when handling.

8.3.4 Safety and hygiene measures: Avoid contact of hot molten material to skin. Avoid

inhalation of dust, mists and vapors. Eye wash fountains and safety showers must be easily accessible. Handle in accordance with good industrial hygiene and safety practice. No eating or drinking during working.

8.4 Environmental exposure controls: Prevent entry into drainage systems, or surface water.

9. Physical and chemical properties

9.1 Form: Filament, Solid

9.2 Colour: Natural white, Black, Silver

9.3 Odour: Sweet

9.4 Melting point/range: 170 -180 °C

9.5 Auto-ignition temperature: > 250 °C

9.6 Relative density: 1.25 g/cm³

9.7 Solubility: None known

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10. Stability and reactivity

10.1 Stability: Product is stable at recommended storage conditions.

10.2 Conditions to avoid: Avoid extreme heat and all sources of ignition. Thermal

decomposition.

10.3 Substances to avoid: Oxidizing agents. Strong base.

10.4 Hazardous reactions: The product is chemically stable.

10.4.1 Hazardous decomposition products: Burning produces obnoxious and toxic fumes, Aldehydes,

Carbon monoxide (CO), Carbon Dioxide (CO2).

11. Toxicological information

11.1 Likely routes of exposure Inhalation: Dust irritates the respiratory system, and may

cause coughing and difficulties in breathing.

Skin contact: Dust may irritate skin. Eye contact: Dust may irritate the eyes.

Ingestion: May cause discomfort if swallowed.

11.2 Symptoms: Dust may irritate throat and respiratory system and cause

coughing. Direct contact with eyes may cause temporary

irritation.

11.3 Information on toxicological effects Acute toxicity: Dusts may irritate the respiratory tract, skin

and eyes.

Skin corrosion/irritation: Dust may irritate skin.

Serious eye damage/eye irritation: Dust may irritate the eyes. Exposed may experience eye tearing, redness, and discomfort.

Respiratory sensitization: Not classified. Skin sensitization: Not a skin sensitiser.

Germ cell mutagenicity: Not expected to be mutagenic.

Carcinogenicity: Not classified. Reproductive toxicity: Not classified.

Specific target organ toxicity - single exposure: No data

available

Specific target organ toxicity - repeated exposure: No data

available

Aspiration hazard: Due to the physical form of the product

it is not an aspiration hazard.

Mixture versus substance information: Not applicable. Other information: Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung

disease might be aggravated by exposure.

12. Ecological information

12.1 Toxicity:

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

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12.2 Persistence and degradability: No data available.

12.3 Bioaccumulative potential: Not likely to bioaccumulate. Inherently biodegradable.

12.4 Mobility in soil: Not available.

12.5 Other adverse effects: The product is not classified as environmentally hazardous.

However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on

the environment.

13. Disposal considerations

13.1 Product: Generation of waste should be minimized, check possibility

for recycling. Waste product can be incinerated or dumped together with domestic waste in compliance with local authority requirements. Do not contaminate ponds, waterways or ditches with chemical or used container.

Contact manufacturer if needed.

13.2 Packaging: Packaging material has to be emptied completely and

disposed in accordance with the regulations. Packaging can be recycled if not contaminated. WARNING - Plastic bags and

desiccant bag can be dangerous. To avoid danger of

suffocation, keep these bags away from babies, children and

animals.

14. Transport information

14. Transport hazard class ADR: Not regulated as dangerous goods.

RID: Not regulated as dangerous goods. AND: Not regulated as dangerous goods. IATA: Not regulated as dangerous goods. IMDG: Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78

and the IBC Code

This substance/mixture is not intended to be transported in

bulk.

15. Regulatory information

15.1 EU / National regulations: Listed, compliant and certified.

15.2 Chemical safety assessment: No Chemical Safety Assessment has been carried out.

16. Other information

Company name: BigRep GmbH

Additional data: In addition to the information given in this Material Safety

Data Sheet (MSDS) we refer to the products specific

Technical Data Sheet (TDS).

Disclaimer: The information given in the Material Safety Data Sheet

only applies to the described product in connection with its

appropriate use.

All information is based on the latest state of our knowledge. In particular, it describes our product under the aspect of possible hazards and pertaining safety measures. The information does not constitute any guarantee of specific product and/or quality properties.

The information given in this Material Safety Data Sheet is not required according to article 31 and Annex II of Regulation (EC) No.1907/2006. It merely serves the purpose of providing sufficient information on a voluntary basis to ensure safe use of the compound/product. There is no obligation on the part of BigRep GmbH to revise this document. BigRep does not take responsibility for the data provided in this document.

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