



# MATERIAL SAFETY DATA SHEET

## BioFusion

### 1. PRODUCT IDENTIFICATION

TRADE NAME	Extrudr BioFusion
MANUFACTURER	FD3D GmbH Klosterstrasse 13 6923 Lauterach AUSTRIA  info@extrudr.com
USE OF PRODUCT	Biobased copolymer, suitable for 3D printing filament

### 2. HAZARD IDENTIFICATION

CLASSIFICATION	No need for classification according to GHS criteria for this product (according to Regulation (EC) No. 1272/2008 [CPL]).
LABEL ELEMENTS	According to Regulation (EC) No. 1272/2008 (CLP) this product does not require a hazard warning label in accordance with GHS criteria.
SPECIAL ADVICE ON HAZARDS	Danger of burns in contact with hot polymer. Hazardous vapours in case of burning.

### 3. COMPOSITION

CHEMICAL CHARACTERISTICS	Biobased batch based on PLA, contains copolyester and additives.
ADDITIONAL INFORMATION	No harmful ingredients

### 4. FIRST-AID MEASURES

ON SKIN CONTACT	In case of contact with molten polymer immediately cool the skin with cold water. Medical aid may be required to remove adhering material and for treatment of burns.
AFTER INHALATION	After inhalation of decomposition gases or dust remove patient to fresh air. Contact a doctor in case of discomfort.
ON INGESTION	No effects known. Rinse mouth with water and drink more water. Contact a doctor in case of discomfort.
ON EYES CONTACT	Rinse open eyes thoroughly with water.

## 5. FIRE-FIGHT MEASURES

FIRE EXTINGUISHING MEDIA	Water, dry chemical extinguisher, foam, carbon dioxide.
SPECIAL EXPOSURE HAZARDS	During incomplete combustion release of carbon monoxide, tetrahydrofuran, acetic acid and decomposition products possible.
SPECIAL PROTECTIVE EQUIPMENT	Self-contained breathing apparatus.
REMARK	Accumulations of dust can be inflammable.

## 6. ACCIDENTIAL RELEASE MEASURES

PERSONAL PRECAUTIONS	Use suitable protective clothing. Avoid eye contact and inhalation of dusts. Keep ignition sources away.
METHODS FOR CLEANING	Sweep up material and place in a container, risk of slipping. Avoid ingress of material into drainage systems.

## 7. HANDLING AND STORAGE

HANDLING	Avoid contact with molten polymer. Avoid generation of dust and electrostatic charge.
STORAGE	Protect against moisture and UV radiation. Store cool and keep packaging closed when not in use. Avoid sources of ignition.

## 8. PERSONAL PROTECTION

TECHNICAL SAFETY MEASURES	With suitable ventilation the threshold limits assumably will not be reached. Avoid electrostatic charge by use of grounding cables.
PERSONAL SAFETY EQUIPMENT	Use adequate safety equipment, e.g. protective clothing, eye protection glasses, heat protection gloves. In case of dust formation wear mask with particle filter.
WORK HYGIENE	No eating or drinking during working. Avoid contact of hot material with the skin. Avoid breathing dust and vapours.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

FORM	Filament
COLOR	colored
MELTING RANGE	190-230°C
OXIDISING PROPERTIES	not self igniting / flammable
DENSITY	1.25g/cm <sup>3</sup>

## 10. STABILITY AND REACTIVITY

STABILITY	The product is stable at recommended storage conditions.
SUBSTANCES TO BE AVOIDED	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon monoxide, carbon dioxide, aldehydes, acetic acid, tetrahydrofurane, low molecular weight oligomers.

## 11. TOXICOLOGICAL INFORMATION

LOCAL IRRITATION	Dust can cause irritation of eyes, respiratory organs and skin. After ingestion stomach pain or nausea are possible.
OTHER REMARKS	Based on our state of knowledge and experience no injurious health effects are expected if product is properly handled for the designated use.

## 12. ECOLOGICAL INFORMATION

ECOTOXICAL EFFECTS	No negative ecological effects known at the present state of knowledge, test results are not available. Due to insolubility in water most probably not hazardous to aquatic organisms.
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## 13. DISPOSAL CONSIDERATIONS

PRODUCT	Generation of waste should be minimised, check possibility for recycling. Waste product can be incinerated or dumped together with domestic waste in compliance with local authority requirements.
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## 14. TRANSPORT INFORMATION

TRANSPORT REGULATIONS Not classified as hazardous under transport regulations ADR, ADNR, RID, ICAO/IATA, IMDG/GGVSee.

## 15. REGULATORY INFORMATION

EU REGULATIONS This product does not require a hazard warning label in accordance with EC Directives.

WATER EXPOSURE CLASS (GERMANY) nwg, no risk of water pollution (classification acc. Att. 1 of VwVwS)

## 15. OTHER INFORMATION

This data is based on the current state of our information and experience. This safety data sheet describes our product in terms of safety requirements. Preceding data is not applicable as a warranty of product properties. It is the responsibility of the recipient to observe the existing legal regulations for the use of this product.