



SAFETY DATA SHEET

PLA TOUGH

1. PRODUCT IDENTIFICATION

TRADE NAME	Extrudr PLA Tough
MANUFACTURER	Extrudr FD3D GmbH Glaserweg 24 6890 Lustenau Austria info@extrudr.com
USE OF PRODUCT	Biodegradable polymer compound, 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	None
SPECIAL ADVICE ON HAZARDS	Danger of burns in contact with hot polymer. Hazardous vapours in case of burning.

3. COMPOSITION

CHEMICAL CHARACTERISTICS	Polyactide polymer
ADDITIONAL INFORMATION	No harmful ingredients

4. FIRST-AID MEASURES

ON SKIN CONTACT	Adverse effects are not expected from accidental skin contact following occupational exposure. After contact with skin, wash immediately with plenty of water.
AFTER INHALATION	Move to fresh air. Keep comfortable for breathing. Call a physician immediately.
ON INGESTION	Drink water as a precaution. Call a poison center or a doctor if you feel unwell.
ON EYE CONTACT	Rinse immediately with plenty of water as a precaution.



5. FIRE-FIGHT MEASURES

FIRE EXTINGUISHING MEDIA	Use: Water spray, foam, dry powder. Do not use: a solid water stream as it may scatter and spread fire.
SPECIAL EXPOSURE HAZARDS	No fire hazard should arise from the polymer. Dust may form explosive mixture in air. Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide, Acetaldehyde.
SPECIAL PROTECTIVE EQUIPMENT	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/ NIOSH (approved or equivalent) and full protective gear. Under fire conditions: Use water spray or fog for cooling exposed containers. Move containers from fire area if it can be done without personal risk. Prevent fire fighting water from entering the environment. Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges.

6. ACCIDENTIAL RELEASE MEASURES

PERSONAL PRECAUTIONS	Use suitable protective clothing. Avoid eye and skin contact. Avoid formation and inhalation of dust. Keep ignition sources away. Do not touch or walk on the spilled product.
METHODS FOR CLEANING	Sweep up material and place in a container, risk of slipping. Avoid ingress of material into sewers or public waters. Ventilate spillage area.

7. HANDLING AND STORAGE

HANDLING	Avoid contact with molten polymer. Avoid generation of dust and electrostatic charge. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
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, drinking or smoking 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	130-230 °C
OXIDISING PROPERTIES	Not self igniting / flammable
DENSITY	1.2–1.3 g/cm ³

10. STABILITY AND REACTIVITY

STABILITY	The product is stable at recommended storage conditions.
CONDITIONS TO BE AVOIDED	Avoid temperatures above 230 °C. Protect from moisture. Avoid raising into airborne dust, creating explosion hazard.
SUBSTANCES TO BE AVOIDED	Water, humidity.
HAZARDOUS DECOMPOSITION PRODUCTS	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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. INFORMATION ON OTHER DANGERS

ENDOCRINE DISRUPTING PROPERTIES:	No effects known
OTHER INFORMATION:	None

13. 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.
TOXICITY	No data available
BIOLOGICAL DEGRADATION	Product is biodegradable, in accordance with EN 13432.
BIOACCUMULATION	Hydrolyses in hot water. Therefore, biological accumulation is not expected. Decomposes in contact with (hot) water. The product is readily biologically degradable.



14. 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.

15. TRANSPORT INFORMATION

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

16. REGULATORY INFORMATION

CHEMICAL SAFETY ASSESSMENT Not applicable

INTERNATIONAL INVENTORIES Toxic Substances Control Act (SCA) inventory: Listed
Canada Domestic Substances List (DSL) : Listed
REACH/EU EINECS List : Components are in compliance with and/or are listed.
Japanese Existing & New Chemical Substances (ENCS): Listed
Australian Industrial Chemicals Introduction Scheme (AICS Inventory): Listed
New Zealand Inventory of Chemicals (NZIoC): Listed
Korean Existing Chemical Inventory (KECL/KECI): Listed
Taiwan Chemical Substance Inventory (TCSI): Listed
Vietnam - National Chemical Inventory (NCI): Listed
China inventory of existing chemical substances (IECSC) : Listed

17. 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.