Tough PLA

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)
A safety data sheet is not required for this product. This document was created on a voluntary basis.
SDS ID: UM00009_AU
Issue date: 11/10/2023 Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form	:	Mixture
Trade name	:	Tough PLA (Green, Black, White, Blue, Red, Yellow, Grey)

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Restrictions on use	:	This product must not be used in applications other than those identified above, without first seeking advice of the supplier

1.4. Supplier's details

Supplier
UltiMaker
Watermolenweg 2
Geldermalsen, 4191 PN
The Netherlands
T +31 (0) 88 383 4000 (9 AM - 5 PM CET)
Product-Compliance@Ultimaker.com

1.5. Emergency phone number

Emergency number	:	+31 (0) 88 383 4000 (during office hours: 9 AM - 5 PM CET)

SECTION 2: Hazard identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)
Not classified

2.2. GHS Label elements, including precautionary statements

GHS AU labelling
No labelling applicable

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification	:	Risk of thermal burns on contact with molten product.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Polylactic acid
Acrylic polymer

Name	Chemical name / Synonyms	Product identifier	Conc. (% w/w)	Classification (GHS CA)
Polylactic acid	-	CAS-No.: 9051-89-2	> 70	Not classified
Carbon black (Additive)	-	CAS-No.: 1333-86-4	0.01 – 2	Not classified
Titanium dioxide (Additive)	-	CAS-No.: 13463-67-7	0.01 – 1	Not classified

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. In molten state: Hazardous vapours may be released.

First-aid measures after skin contact : Take off contaminated clothing. Wash skin with plenty of water and soap. In case of contact with molten product, cool rapidly with water and seek immediate medical attention. Do not attempt to remove molten product from skin because skin will tear easily. Burns caused by molten material must be treated clinically.

First-aid measures after eye contact : Rinse eyes with water as a precaution. In the event of contact with molten product: Immediately flush eyes thoroughly with water for at least 15 minutes. Get immediate medical advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).

4.2. Symptoms caused by exposure

Symptoms/effects : No acute and delayed symptoms and effects are observed.

Symptoms/effects after skin contact : Risk of thermal burns on contact with molten product.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire: Water spray, Dry powder, Foam, Carbon dioxide.

Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

Explosion hazard	:	Material can accumulate some static charge during transfer. Prevent build-up of electrostatic charges (e.g, by grounding).
Hazardous decomposition products in case of fire	:	Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide, Aldehydes.

5.3. Special protective actions for fire-fighters

Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Precautionary measures fire	:	Do not allow run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.2. Environmental precautions

Methods for cleaning up	:	Sweep up and put in a closed container for disposal. If melted: allow liquid to solidify before taking it up.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.3. Methods and materials for containment and cleaning up

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage, including how the chemical may be safely used

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. In molten state: Do not breathe vapours. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	To guarantee the quality and properties of the product: Store in a well-ventilated place. Store in original container. Keep container tightly closed to avoid moisture absorption and contamination.
Incompatible materials	:	Oxidising agents. Strong bases.
Heat and ignition sources	:	Keep away from heat, sparks and flames. Keep out of direct sunlight.
Storage temperature	:	-20 – 30 °C (Relative air humidity: <50%)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters - exposure standards

Titanium dioxide (13463-67-7)	
Australia - Occupational Exposure Limits	
Local name	Titanium dioxide
TWA (mg/m³)	10 mg/m³
Remark (AU)	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
Regulatory reference	Workplace exposure standards for airborne contaminants (2019)

Carbon black (1333-86-4)	
Australia - Occupational Exposure Limits	
Local name	Carbon black
TWA (mg/m³)	3 mg/m³
Regulatory reference	Workplace exposure standards for airborne contaminants (2022)

8.2. Appropriate engineering controls

Appropriate engineering controls : Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below specified exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne particles below the exposure limit. Ventilation conditions (1 printer): Provide a good standard of general ventilation, not less than 2 air changes per hour (assumes a room volume of: 30 m³).

Environmental exposure controls : Avoid release to the environment.

8.3. Appropriate engineering controls

Hand protection:
None under normal conditions. Use insulated gloves when handling this material hot

Eye protection:
None under normal use. In molten state: Wear eye protection

Skin and body protection:
None under normal use. In molten state: Wear suitable protective clothing
Type
Long sleeved protective clothing

Respiratory protection:
None under normal use. In molten state: In case of insufficient ventilation, wear suitable respiratory equipment

Thermal hazard protection:

Risk of thermal burns on contact with molten product. Hazardous vapours may be released. In molten state: Wear respiratory protection/heat resistant gloves.

Other information:
Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Wash hands immediately after handling the product. Take off contaminated clothing and wash before reuse.

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Filament
Colour	:	Various colours
Odour	:	Slight
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	> 140 °C
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	> 350 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1.22 g/cm³
Solubility	:	Water: Negligible
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive limits	:	Not applicable
Particle size distribution	:	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and reactivity

Reactivity	:	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reactions known under normal conditions of use.
Conditions to avoid	:	None under recommended storage and handling conditions (see section 7). Do not expose to temperatures above 230 °C.
Incompatible materials	:	Oxidising agents. Strong bases.

Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide, Aldehydes.
Hardening time:	:	

SECTION 11: Toxicological information

11.1. Effects on humans

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified

Tough PLA (Green, Black, White, Blue, Red, Yellow, Grey)	
Viscosity, kinematic	Not applicable

Symptoms/effects	:	No acute and delayed symptoms and effects are observed.
Symptoms/effects after skin contact	:	Risk of thermal burns on contact with molten product.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	:	Not classified
Hazardous to the aquatic environment, long-term (chronic)	:	Not classified

Titanium dioxide(13463-67-7)	
LC50 fish 1	> 1000 mg/l

12.2. Persistence and degradability

Tough PLA (Green, Black, White, Blue, Red, Yellow, Grey)	
Persistence and degradability	Biodegradable.

Polylactic acid(9051-89-2)	
Biodegradation	Not biodegradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Dispose of in accordance with relevant local regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

ADG	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

ADG

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations : All the chemicals contained in this product are listed introductions.
This chemical is not covered by the Standard for the Uniform Scheduling of Medicines and Poisons.
This chemical is not covered by the Agricultural and Veterinary Chemicals Act 1988.

International regulations : Not subject to the Basel Convention (Hazardous Waste).
Not subject to the International Convention for the Prevention of Pollution from Ships (MARPOL).
Not subject to the Montreal Protocol (Ozone depleting substances).
Not subject to the Rotterdam Convention (Prior Informed Consent).
Not subject to the Stockholm Convention (Persistent Organic Pollutants).

SECTION 16: Any other relevant information

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Indication of changes: : Not applicable.

Training advice : Ensure staff are informed of and trained on the nature of exposure and basic actions to minimise exposure.

Abbreviations and acronyms:	
ADG	Transport of Australian Dangerous Goods
ATE	Acute Toxicity Estimate
CAS	Chemical Abstract Service number
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Median lethal dose
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
SDS	Safety Data Sheet
STEL	Short-term exposure limit
TWA	Time Weighted Average

SDS AU (GHS Australia) - UM

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.