

Material Safety Data Sheet

Issued on May 01 2015

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: PLA Filament for 3D Printer

55250 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG BLACK
55251 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG WHITE
55252 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG BLUE
55253 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG RED
55254 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG GREEN
55255 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG ORANGE
55256 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG YELLOW
55257 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG NATURAL TRANSPARENT
55258 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG SILVER/METAL GREY
55259 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG BLACK
55260 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG WHITE
55261 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG BLUE
55262 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG RED
55263 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG GREEN
55264 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG YELLOW
55265 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG NATURAL TRANSPARENT
55266 - 812	VERBATIM 3D PRINTER FILAMENT PLA 3MM 1KG SILVER/METAL GREY
55267 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG BLACK (n)
55268 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG WHITE (n)
55269 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG BLUE (n)
55270 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG RED (n)
55271 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG GREEN (n)
55272 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG ORANGE (n)
55273 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG YELLOW (n)
55274 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG NATURAL TRANSPARENT (n)
55275 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 1KG SILVER/METAL GREY (n)
55276 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG BLACK (n)
55277 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG WHITE (n)
55278 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG BLUE (n)
55279 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG RED (n)
55280 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG GREEN (n)
55281 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG YELLOW (n)
55282 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG NATURAL TRANSPARENT (n)
55283 - 812	VERBATIM 3D PRINTER FILAMENT PLA 2.85MM 1KG SILVER/METAL GREY (n)
55284 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 750G BLACK
55285 - 812	VERBATIM 3D PRINTER FILAMENT PLA 1.75MM 750G WHITE

Brand: Verbatim
 Company name: Mitsubishi Kagaku Media Co., LTD.
 Address: Daini Ryumeikan Bldg. 8F 3-20, Kandaogawmachi,
 Chiyoda-ku, Tokyo 101-0052, Japan
 Department: Archive Business Development Department
 Telephone: +81-3-5577-3095
 Fax: +81-3-3295-0680
 Reference number: 3DF-150422-01E
 Recommended use and restriction on use: 3D Printer Filament for Material Extrusion
 type

2. HAZARDS IDENTIFICATION GHS Classification:

Physical hazards: Classification not applicable
 Health hazards: Classification not applicable
 Environmental hazards: Classification not applicable

GHS Label elements:

Pictogram or symbol: Not applicable.
 Signal word: Not applicable.
 Hazard statement: No relevant information.

Precautionary statement:

Safety measures: Do not breathe dust/fume/gas/mist.
 Response: Get medical attention/advice if you feel unwell.

Storage: Keep away from fire.

Store indoors at ambient temperature.

Disposal: Do not dump into sewers, on the ground or into any body of water.
 Burn in an adequate incinerator or bury in landfill in accordance with applicable local, state, and federal regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical substance/mixture: A mixture
 Chemical name or generic name: Polylactide resin
 Chemical properties (chemical formula, etc): No relevant information.

Contents:

No.	Content	CAS number	Chemical formula	Content (%)
1	Polylactide Resin (PLA)	9051-89-2	$\text{H}[-\text{OCH}(\text{CH}_3)\text{CO}-]_n\text{OH}$	More than 91%
2	Ethylene-propylene copolymer	9010-79-1	$-(\text{C}_2\text{H}_4)_m-(\text{C}_3\text{H}_6)_n-$	5 %
3	Additive & Pigment	Not disclosed	Not disclosed	Less than 4%

No.	ENCS; Japanese Existing and New Chemical Substances	ISHL; Industrial Safety and Health Law Number
1	(7)-2537	-
2	(6)-10	-

Health hazards elements: White filament contains titanium oxide (CAS# 13463-67-7) less than 1%, which may be carcinogenic. (IARC: Group2B)

Poisonous and Deleterious substances Control Law: Not applicable

4. FIRST AID MEASURES

- If inhaled: If you feel unwell by inhalation of vapor or gas, move to fresh air and keep at rest in a position comfortable for breathing. Call a doctor if you feel unwell.
- If on skin: In case of contact with melted material, fully cool down by pouring plenty of water over the clothing. Then take off clothing, cover with clean gauze and get medical attention immediately.
Get medical attention if appearance changes, irritating pain occurs or feeling unwell.
- If in eyes: Immediately rinse the eye with plenty of clean running water for at least 15 minutes. Remove contact lenses, if present and easy to do. Rinse thoroughly the inner side of the eye lid.
Get medical attention as soon as possible.
- If swallowed: If swallowed by accident, keep at rest and get medical attention immediately.
Avoid vomit entering into respiratory tract.
Do not induce vomiting unless instructed by a doctor.
- Protection of the person who gives the first aid:
Wear appropriate protective equipment (protective glasses, protective mask, gloves, etc.).
Provide ventilation.

5. FIRE-FIGHTING MEASURES

- Suitable extinguisher media: All types of fire extinguisher include water.
- Specific fire fighting method, protection for fire-fighter:
Fight fire responding to the fire in vicinity.
Wear appropriate protective equipment (heat-proof clothing, etc.).
Remove flammable substances from surroundings immediately.
Fight fire from windward.
Restrict the area around fire to unauthorized personnel and prevent secondary disaster.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures:
Wear appropriate protective equipment (gloves, protective mask, apron, goggles, etc.).
Collect the residual filament from the floor to prevent falls.
- Environmental precautions: Care should be taken to avoid environmental impacts caused by release to rivers, etc.
- Methods, materials for containment and cleaning up:
Treat the contaminated materials and waste in accordance with the relevant laws and regulations.
If released, sweep and collect in an empty container.

7. HANDLING AND STORAGE

Handle in a well-ventilated area.

It is recommended to install exhaust systems where many printers are used simultaneously.

Keep away from fire (ignition source) and store at ambient temperature.

Storage:

Protect from water, moisture and direct sunlight and store indoors at ambient temperature and well-ventilated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective equipment:

Respiratory protection:

Wear appropriate protective equipment to avoid inhalation or contact of gas generated from high temperature molten resin.

Hand protection:

Wear protective gloves.

It is preferable to wear cotton work gloves or leather gloves when handling the melted resin.

Eye protection:

Wear protective glasses when handling.

Skin and body protection: Wear clothing to avoid direct exposure of skin to molten resin.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Physical state:

Solid (Filament Shape)

Melting point/freezing point:

150 to 180 °C (start melting)

Auto ignition point (ignition point):

388 °C

Combustibility:

Product is not self-igniting.

Specific gravity (relative density):

1.15 to 1.35 g/cm³

Solubility in water:

Insoluble

10. STABILITY AND REACTIVITY

Stability (possibility of hazardous reactions):

Largely stable under normal storing/handling conditions.

As the product is biodegradable, when subjected to heat, light and humidity it will gradually change colour and then decompose. Hydrolysis will occur.

During decomposition, carbon hydride, aldehyde, other hazardous gases can be generated.

Self-reactivity:

None

11. TOXICOLOGICAL INFORMATION

Acute toxicity (oral):

Rat LD50 > 5,000 mg/kg

Germ cell mutagenicity:

AMES Test Negative

12. ECOLOGICAL INFORMATION

Acute aquatic environmental hazards:

Fish (*Oryzias latipes*) LC50 > 100 mg/L

Persistence and Decomposition:

Due to the biodegradable nature of the filament under environmental conditions hydrolysis and decomposition will occur.

13. DISPOSAL CONSIDERATIONS

Do not dump into sewers, on the ground or into any body of water. Burn in an adequate incinerator or bury in landfill in accordance with applicable local, state, and federal regulations.

14. TRANSPORT INFORMATION

Follow the instructions in "HANDLING AND STORAGE".

International regulation:

UN classification: Not applicable to the dangerous goods under UN classification.

Land transport: Follow all local regulations in your country.

15. REGULATORY INFORMATION

Follow all regulations in your country.

16. OTHER INFORMATION

The descriptions herein are based on the currently available sources and information but no guarantee is given for the integrity or accuracy regarding the given data and evaluation.

The precautions herein are for normal handling. If you use this product under special conditions, take new safety measures appropriate for the use and usage.