

# PETG Filament

## 1. Chemical product and company information

a	Chemical product	Polyethylene terephthalate
b	Usage	For industrial conversion as a raw material for manufacture of articles or goods.
c	Chemical type	Thermoplastic
d	Company information	3D4Makers BV, Waarderweg 56, 2031 BP Haarlem, The Netherlands
e	Telephone number	+ 31 (0) 238200584

## 2. Hazards identification

a	Classification of the mixture	The substance is not classified as dangerous according to Regulation (EC) No 1272/2008 (CLP/GHS) and Directive 67/548/EEC.
b	Other hazards	The hazards of this product are associated mainly with its processing. Molten polymer will produce thermal burns. Polymer dust may represent a fire hazard at sufficient concentrations in presence of ignition sources.

## 3. Composition/information on ingredients

### a Mixture

Substance Name	Concentration (%)	Directive 67/548/EEC	Regulation EC No 1272/2008
Neopentylglycol ethyleneglycol terephthalate copolymer	100 %	Not classified	Not classified

## 4. First aid measures

### a Description of first aid measures

Skin Contact	Cool skin rapidly with cold water after contact with molten polymer. Do not peel polymer from the skin. Obtain medical attention.
Eye Contact	Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur and show the TDS.

Inhalation	Move exposed person to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. Consult a physician after significant exposure.
<b>b</b> Indication of any immediate medical attention and special treatment needed	
Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.

## 5. Firefighting measures

### a Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable to local circumstances and the surrounding environment. Example: Water Spray, Dry Chemical Powder and Carbon Dioxide.
Unsuitable extinguishing media	Do not use water, if fire is caused by an electrical short circuit.

### b Special hazards arising from the substance or mixture

Hazardous combustion Products	Carbon monoxide, carbon dioxide, acetaldehyde.
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### c Advice for firefighters

Unusual fire and explosion hazards	Powdered material may form explosive dust-air mixtures. High voltage static electricity build-up and discharge must be avoided when significant quantities of powdered material are present.
Special protective equipment for fire-fighters	Wear self-contained breathing apparatus, protective clothing and headgear to prevent contact with skin and eyes.

## 6. Accidental release measures

### a Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Put on appropriate personal protective equipment. Spillages may be slippery. Clear up spillages. The molten polymer may remain hot for some time due to low thermal conductivity. Use care when disposing of molten mass. Do not breathe vapours or fumes that may be evolved during processing.
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in „For non-emergency personnel“.

### b Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**c Methods and materials for containment and cleaning up**

**Spill** Vacuum or sweep up material and place in a container for recuperate or disposal.  
Avoid dust generation.

**d Reference to other sections**

See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## 7. Handling and storage

**a Precautions for safe handling**

**Protective measures** Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** Adequate ventilation and cleanliness must be employed in the processing area. Area should be controlled using good occupational hygiene practices. Accumulation of the dust may represent a fire and explosion hazard at sufficient concentrations. Remove ignition sources. Beware of electrostatic charges.

**b Conditions for safe storage, including any incompatibilities**

Keep containers closed when not in use. Store in original container in a dry, cool and well-ventilated area, away from flame, ignition sources, direct sunlight or incompatible materials (see section 10). Maintain good housekeeping to control dust accumulations.

**c Specific end use(s)**

**Recommendations** Not available

**Industrial sector specific Solutions** Not available

## 8. Exposure controls/personal protection

**a Control parameters**

**Occupational exposure limits** No exposure limit value known

**b Exposure controls**

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Provide for appropriate exhaust ventilation and dust collection at machinery. Provide exhaust ventilation at places where dust is formed.

**Hygiene measures** Wash hands before eating and at the end of the working period.

**Eye/face protection** Not required under normal conditions of uses. Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields when working with molten material.

## Skin protection

## Hand protection

Protective gloves are required when handling hot polymer.

## Other skin protection

Appropriate footwear and additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. A safety shower and washing facilities should be available.

## Respiratory protection

Not required under normal conditions of use. In the case of respirable dust and/or fumes, use self-contained breathing apparatus. If respirators are used, a program should be instituted to assure compliance with OSHA standard (OSHA Respiratory Protection Program Guidelines)

## 9. Physical and chemical properties

### a Information on basic physical and chemical properties

Appearance	Filament
Colour	Colourless
Odor	Slight
pH	Not applicable
Boiling Point	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Non-flammable
Vapour pressure	Not available
Vapour density	Not available
Relative density	> 1.27 g.cm <sup>3</sup>
Solubility(ies)	Insoluble in water

## 10. Stability and reactivity

a	Reactivity	No specific test data related to reactivity available for this product or its ingredients.
b	Chemical stability	The product is stable.
c	Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
d	Conditions to avoid	No specific data

<b>e</b>	<b>Incompatible materials</b>	<b>Acetic Anhydride, acetone, aniline, benzene, chloroform, chromic acid, cyclohexanone, dimethylformamide, dioxane, ethyl acetate, phenol, tetrahydrofuran. Reactive with strong oxidizing agents, as well as strong acids and caustic will decompose polyester</b>
<b>f</b>	<b>Hazardous decomposition products</b>	<b>Carbon monoxide, carbon dioxide, acetaldehyde.</b>

## 11. Toxicological information

<b>a</b>	<b>Information on toxicological effects</b>	
	<b>Information on the likely routes of exposure</b>	<b>Not available</b>
	<b>Potential acute health effects</b>	
	<b>Inhalation/Ingestion/Skin contact/Eye contact</b>	<b>No known significant effects or critical hazards</b>
	<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	
	<b>Inhalation/Ingestion/Skin contact/ Eye contact</b>	<b>No specific data</b>
	<b>Delayed and immediate effects and also chronic effects from short and long term exposure</b>	
	<b>Short term exposure</b>	
	<b>Potential immediate effects</b>	<b>Not available</b>
	<b>Potential delayed effects</b>	<b>Not available</b>
	<b>Long term exposure</b>	
	<b>Potential immediate effects</b>	<b>Not available</b>
	<b>Potential delayed effects</b>	<b>Not available</b>
	<b>General</b>	<b>No known significant effects or critical hazards</b>
	<b>Carcinogenicity</b>	<b>No known significant effects or critical hazards</b>
	<b>Mutagenicity</b>	<b>No known significant effects or critical hazards</b>
	<b>Teratogenicity</b>	<b>No known significant effects or critical hazards</b>
	<b>Fertility effects</b>	<b>No known significant effects or critical hazards</b>

## 12. Ecological information

<b>a</b>	<b>Toxicity</b>	<b>Not available</b>
<b>b</b>	<b>Persistence and Degradability</b>	<b>Not available</b>
<b>c</b>	<b>Bioaccumulative potential</b>	<b>Not available</b>
<b>d</b>	<b>Mobility in soil</b>	

	Soil/water partition coefficient (KOC)	Insoluble in water
	Mobility	Not available
e	Results of PBT and vPvB assessment	
	PBT	Not available
	vPvB	Not available
f	Other adverse effects	No known significant effects or critical hazards.

## 13. Disposal considerations

a	Waste from residues	
	Product	
	Methods of disposal	Like most thermoplastics, the product can be recycled. Can be landfilled or incinerated, when in compliance with local regulations.
	Hazardous waste	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	Packaging	
	Methods of disposal	The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible
	Special precautions	This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

The substance is not subject to transport regulations on hazardous goods included in ADR (road transport), RID (rail transport), IMDG (marine transport) and ICAO/IATA (air transport).

a	UN number	Not applicable
b	UN proper shipping name	Not applicable
c	Transport Hazards Classes	None
d	Packing Group	Not applicable
e	Environmental hazards	Not applicable

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|---|--|----------------|
| f | Special precautions for user   | None           |
| g | Transport in bulk according to annex II of Marpol 73/78 and the IBC code | Not applicable |

## 15. Regulatory information

- a Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

### Annex XIV

List of Substances of Very High Concern for Authorization	None of the components are listed
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### Annex XVII

Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	None of the components are listed
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- b Chemical Safety Assessment Not available

## 16. Other Information

### Recommended restrictions:

Do not use in medical applications involving permanent implantation in the human body.

### Further information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist