

**Product Name:**

FILAMEON TPU Filament

**Product code:**

TPU

**Revision Number**

1

**Revision Date:**

30.05.2020

**Print Date:**

30.05.2020

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING****Product name:** FILAMEON TPU Filament**Product Code:** TPU**Product Use:** A mono filament which can be used for 3D printing which uses Fused Deposition Modeling (FDM) method**Supplier:** Riiz Makine Arge Proje Danışmanlık ve İnşaat Sanayi ve Ticaret Limited Şirketi  
Erciyes Teknopark, Yıldırım Beyazıt Mah. Aşık Veysel Bulvarı No:63D  
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[info@filameon.com](mailto:info@filameon.com)**Emergency Number** +90 536 064 82 99 (24 hours a day)**2. HAZARDS IDENTIFICATION****2.1 CLASSIFICATION OF SUBSTANCE OR MIXTURE**

The product has not been classified as a harmful substance. The data have been cited based on mixture component(s) properties

**2.2 LABEL ELEMENTS**

Globally Harmonized System, EU (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

The product does not require a hazard warning label in accordance with EC Directives, the dangerous ingredients are fixed in a polymer matrix.

**2.3 OTHER HAZARDS**

There is ingestion risk. The inhalation of fumes and gases released during substance processing causes pulmonary oedema. Gas and fumes generated during processing may cause irritation of skin and eyes

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Ingredient Name	CAS Number	EC Number	Content
Thermoplastic			
Polyurethane(TPU)	26221-73-8	-	> 99,0 %

**4. FIRST AID MEASURES**

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**4.1 DESCRIPTION OF FIRST AID MEASURES**

We are not expected hazards under normal conditions and correct usage.

General advice:	In all cases of doubt, or when symptoms persist, seek medical advice.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact:	Wash with plenty of soap and water. After contact with the molten product, cool rapidly with cold water. Do not pull solidified product away from the skin.
Inhalation:	Provide fresh air. After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm.
Ingestion:	Rinse mouth. Do not induce vomiting. Get medical advice/attention if you feel unwell.

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**4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:**

These information are not available

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**5. FIRE-FIGHTING MEASURES****5.1 EXTINGUISHING MEDIA**

**Suitable extinguishing media:** water, foam, alcohol resistant foam, fire extinguishing powder, co-ordinate firefighting measures to the fire surroundings

**Unsuitable extinguishing media:** water jet

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**5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE**

Hazardous decomposition products: Section 10. Deposited combustible dust has considerable explosion potential.

**Hazardous combustion products:** nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), hydrogen cyanide (HCN, prussic acid), hydrocarbons

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**5.3 ADVICE FOR FIREFIGHTERS**

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

**Special protective equipment for firefighters**

self-contained protective suits against fire, self-contained breathing apparatus (SCBA)

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**6. ACCIDENTAL RELEASE MEASURES****6.1 PERSONAL PRECAUTIONS**

No special precautions necessary

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**6.2 ENVIRONMENTAL PRECAUTIONS**

No special precautions necessary

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**6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**

Sweep up and contain spilled material if possible. High risk of slipping

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**6.4 REFERENCE TO OTHER SECTIONS**

References to other sections, if applicable, have been provided in the previous sub-sections.

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**7. HANDLING AND STORAGE****7.1 PRECAUTIONS FOR SAFE HANDLING**

**Handling the substance or preparation:** The product must be processed in well ventilated ambience. Do not breathe the fumes and vapour. If required, additionally apply an air extractor.

**General rules for work safety:** Do not eat or drink while working with the product and in working areas. Do not smoke at workplace. After handling the product, wash your hands

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**7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**

**Technical means and conditions for storage:** Store the product in a dry and dark place. Protect the product from direct action of sunrays. For quality reasons, protect product from moisture, dust and soiling.

**Storage with other substances/preparations:** Specific rules for storing with other substances or preparations were not determined.

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**7.3 SPECIFIC END USE(S):**

See the technical data sheet on this product for further information.

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**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION****8.1 CONTROL PARAMETERS**

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

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**8.2 EXPOSURE CONTROLS**

**Engineering controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

**Individual protection measures**

**Eye/face protection:** Safety glasses

**Skin protection:** Lab coat

**Hand protection:** Use safety gloves.

**Respiratory protection:** In case of dust/vapours exposure, use respiratory protection equipment with particle filter

**Environmental exposure controls:** Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES APPEARANCE**

Appearance: Flexible solid filament

Odour: Odourless

Colour: Depending on product grade

Odour threshold: Not determined

pH: Not applicable

Softening temperature: >120°C

Initial boiling point and boiling range: The product is a non-volatile solid

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Flash point: Not applicable

Evaporation rate: Not applicable

Flammability (solid, gas) : Flammable

Upper flammability or explosive limit: For solids not relevant for classification

Lower flammability or explosive limit: and labelling

Vapour pressure: Not applicable

Vapour density: Not applicable

Relative density: Ca. 1.1-1.2 g/cm<sup>3</sup> (20°C)Bulk density: Ca. 600 kg/cm<sup>3</sup> as granules

Solubility(ies): Practically nsoluble

Partition coefficient (n-octanol/water): Not available

Auto-ignition temperature: &gt; 400°C

Decomposition temperature: &gt; 230°C

Viscosity: Not applicable

Explosive properties: Not explosive

Oxidizing properties: Not oxidizing

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**9.2 OTHER INFORMATION MOLECULAR WEIGHT**

No data available

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**10. STABILITY AND REACTIVITY**

Reactivity:	Stable under normal handling and storage conditions. No corrosive effect on metal.
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No hazardous reactions observed under normal handling and storage conditions.
Conditions to avoid:	While printing, keep away from sparks and open flame. Exposure to elevated temperatures can cause product to decompose.
Incompatible materials:	No known
Hazardous decomposition products:	Possible decomposition products on thermal decomposition carbon monoxide, carbon dioxide, hydrogen cyanide; hydrocyanic acid isocyanates, nitrogen oxides.

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**11. TOXICOLOGICAL INFORMATION****11.1 INFORMATION ON TOXICOLOGICAL EFFECT**

No adverse effects for human health are expected under conditions of correct usage. Material have no toxicological effect in solid state, but vapours of styrene released from melt are toxic.

Acute toxicity:	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed. Assessment of acute toxicity: Virtually nontoxic after single skin contact. Virtually nontoxic by inhalation. Virtually nontoxic after single ingestion. Experimental/calculated data: LD50 rat (oral): > 5.000 mg/kg. The product has not been tested. The statement has been derived from substances/products of similar structure or composition.
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Irritation:	Assessment of irritating effects: Not irritating to eyes. Not irritating to skin. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.
Sensitization:	Assesment of sensitization: The chemical structure does not suggest a sensitizing effect.
Repeated dose toxicity:	No relevant data found.
Carcinogenic effect:	Assessment of carcinogenicity: The chemical structure does not suggest a specific alert for such an effect.
Mutagenicity:	Assesment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect.
Reproductive toxicity:	Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect.

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**12. ECOLOGICAL INFORMATION**

Eco toxicity:	Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.
Persistence and degradability:	Assessment biodegradation and elimination (H <sub>2</sub> O): Poorly biodegradable. Elimination information: Poorly biodegradable
Bio accumulative potential:	To avoid bioaccumulation plastics should not be disposed in the sea or in other waterbodies.
Mobility in soil:	No information available
Results of PBT and vPvB assessment:	This mixture has not been assessed for persistence, bioaccumulation and toxicity (PBT).
Other adverse effect:	No known effects or critical hazards

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**13. DISPOSAL CONSIDERATIONS****13.1 WASTE TREATMENT METHODS**

Can be used without re-conditioning. May be disposed of or combusted with domestic refuse according to local regulations.

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**14. TRANSPORT INFORMATION**

Product has been classified as being non-dangerous substance according to transport regulations ADR, RID, IMDG, IATA/ICAO.

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**15. REGULATORY INFORMATION****15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

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**16. OTHER INFORMATION**

This information is based on our current experience. This safety data sheet describes the security requirements of our products. It cannot be applied as a guarantee of the given product features. It is the user's responsibility to comply with the current legal regulations in the use of the product.