

# MATERIAL SAFETY DATA SHEET

## Section 1:

### IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: **Filaticum TPU 90A**

Product Use: Filament used for 3D printing

Supplier: Filaticum Ltd. 2310 Szigetszentmiklós, Fenyőfa utca 23/a, Hungary

Emergency telephone numbers: +36 30 9 313 973

## Section 2:

### HAZARDS IDENTIFICATION

Classification: Product is not classified as hazardous for human life and health and for the environment.

Hazard Statement: Hazard pictograms and signal words: None; Names of substances mentioned on label: None, Hazard statements: None; Precautionary statements: None

Other Hazards: The substances contained in the product do not meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation. The product does not contain substances included in the list established in accordance with Article 59 (1) for having endocrine disrupting properties, or substances identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 (3) or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 % by weight.

## Section 3:

### COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

Not Applicable.

#### Mixtures

Product based on thermoplastic polyurethane (TPU) with the addition of colouring agents. Product does not contain components which are classified as hazardous. Product does not contain components with European Union level exposure limit in the workplace.

## Section 4:

### FIRST AID MEASURES

Skin contact: Filament: in case of exposure rinse contaminated skin using water with soap. During printing process: possible thermal burns. Rinse damaged skin with water. Put on sterile dressing. Contact doctor.

Eye contact: Filament: protect non-irritated eye, remove contact lenses. Rinse contaminated eyes with water for 10-15 minutes. Avoid strong stream of water – risk of damage of the cornea. Contact an ophthalmologist. During printing process: splashes of liquid filament may cause burns. Put on sterile dressing. Contact an ophthalmologist immediately.

Ingestion:	Exposure by this route does not typically occur. If swallowed, rinse mouth with water. Do not induce vomiting. Contact a doctor, show container or label.
Inhalation:	Filament: exposure by this route does not occur. During printing process: remove the victim to fresh air. Keep warm and calm. Consult a doctor, if disturbing immediately.
Inhalation:	Move to fresh air. Call a physician immediately.
Ingestion:	Drink water as a precaution. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician immediately symptoms occur.

Most important symptoms and effects, both acute and delayed

There are no significant effects or critical hazards reported under normal conditions of use. Prolonged inhalation of fumes evolved during the printing process may cause headaches, poor concentration, exhaustion.

Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured. Symptomatic treatment.

### **Section 5: FIRE-FIGHTING MEASURES**

Extinguishing media      Suitable extinguishing media: carbon dioxide, extinguishing powder, extinguishing foam, water spray. Unsuitable extinguishing media: water jet – risk of fire propagation.

Special hazards arising from the substance or mixture

During combustion harmful fumes consisting of carbon oxides, nitrogen oxides, styrene derivatives, hydrocarbons, aldehydes, ketones, acrolein, hydrogen cyanide and other harmful products of thermal decomposition may be produced. Do not inhale combustion products, it may cause health risk.

Advice for fire fighters:      Personal protection typical in case of fire. Do not stay in the fire zone without self-contained breathing apparatus and protective clothing resistant to chemicals. Do not let extinguishing water to reach drainage system, surface water and groundwater. Collect used extinguishing media.

### **Section 6: ACCIDENTAL RELEASE MEASURES**

Personal precautions:      Handle in accordance with good occupational hygiene and safety practices. Ensure that effects of the breakdown are removed only by qualified personnel. Ensure adequate ventilation. Avoid inhalation of fumes evolved during the printing process.

Environmental precautions:      In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment.

Methods for cleaning up:      Collect mechanically. Collected material should be reused or treated as a waste.

### **Section 7: HANDLING AND STORAGE**

Safe handling advice:      Handle in accordance with good occupational hygiene and safety practices. Use only as intended. In case of rubbing or friction, accumulation of electrostatic charges on the filament surface may occur. Accumulated electric charge can be transferred to the user and may be a

	source of ignition - use extreme caution when working with flammable materials.
Storage:	Store filament only in a cool, dry place protecting against weather (direct sunlight, frost, precipitation). Protect from sources of fire and naked flames. Do not store with incompatible materials (see subsection 10.5).
Specific end use:	No information about uses other than mentioned in subsection 1.

## Section 8: EXPOSURE CONTROLS/PERSONAL

Control parameters	Product does not contain any components with occupational exposure limit values at working place. Please check any national occupational exposure limit values in your country. Legal Basis: Commission Directive 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU.
Exposure controls	
Appropriate engineering controls	Observe good occupational hygiene and safety practices. Do not eat, drink or smoke when using the product. Wash hands thoroughly before breaks and after work.
Individual protection measures, such as personal protective equipment	The necessity to use and selection of appropriate personal protective equipment should take into account the type of risk created by the product, conditions at the workplace and the manner of handling the product. The personal protective equipment used must meet the requirements of Regulation (EU) 2016/425 and the relevant standards.
Hand and body protection	Use protective gloves and protective clothing if a risk assessment indicates this is necessary (EN 374).
Eye protection:	Use tightly fitting protective glasses or face protection if risk assessment indicates that it is necessary (EN 166)..
Respiratory protection:	Under normal conditions of use is not required. In emergency situation, when exposed to high concentrations of fumes evolved in printing process appropriate respiratory protective equipment should be worn.
Thermal hazards	If contact with the hot product is expected, use heat-resistant gloves in accordance with EN 407 standard.
Environmental exposure controls	Avoid release of large amounts of the product to groundwater, drainage system or soil.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	solid/filament
Colour:	according to assortment
Odour:	odourless
Melting point/freezing point:	165 °C (for polyurethane)
Boiling point or initial boiling point and boiling range :	not determined
Flammability:	non-flammable mixture
Lower and upper explosion limit:	not applicable
Flash point:	> 400 °C (for polyurethane)
Auto-ignition temperature:	> 400 °C (for polyurethane)
Decomposition temperature:	> 300 °C (for polyurethane)
pH:	not determined
Kinematic viscosity:	not applicable
Solubility:	insoluble in water
Partition coefficient (log value):	n-octanol/water
Vapour pressure:	not determined

Density and/or relative density: 1.0 – 1.3 g/cm<sup>3</sup> (for polyurethane)  
 Relative vapour density: not determined  
 Particle characteristics: not determined

**Section 10:  
 STABILITY AND REACTIVITY**

Reactivity: Product is resistant to chemicals. See also subsections 10.3-10.5.  
 Chemical stability: The product is stable under normal conditions of handling and storage.  
 Conditions to avoid: Protect from direct sunlight, sources of fire and heat, except from processes connected directly with using of the product  
 Materials to avoid: Strong oxidizers and basis  
 Hazardous decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxides, styrene derivatives, ketones, acids, acrolein, hydrogen cyanide.

**Section 11:  
 TOXICOLOGICAL INFORMATION**

Acute toxicity: Based on available data, the classification criteria are not met.  
 Skin corrosion/irritation: Based on available data, the classification criteria are not met.  
 Serious eye damage/irritation: Based on available data, the classification criteria are not met.  
 Respiratory or skin sensitization: Based on available data, the classification criteria are not met.  
 Germ cell mutagenicity: Based on available data, the classification criteria are not met.  
 Carcinogenicity: Based on available data, the classification criteria are not met.  
 Reproductive toxicity: Based on available data, the classification criteria are not met.  
 STOT-single exposure: Based on available data, the classification criteria are not met.  
 STOT-repeated exposure: Based on available data, the classification criteria are not met.  
 Aspiration hazard: Based on available data, the classification criteria are not met.  
 Information on likely routes of exposure: Routes of exposure: skin contact, eye contact, inhalation. See section 4 for more information on the effects from each possible route of exposure.  
 Symptoms related to the physical, chemical and toxicological characteristics: No data.  
 Delayed and immediate effects as well as chronic effects from short and long-term exposure: No data.  
 Endocrine disrupting properties: The product does not contain substances included in the list established in accordance with Article 59 (1) for having endocrine disrupting properties, or substances identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 (3) or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 % by weight.  
 Other information: No

**Section 12:  
 ECOLOGICAL INFORMATION**

Toxicity: Product is not classified as hazardous for the environment.  
 Persistence and degradability: No data for the mixture.  
 Bioaccumulative potential: No bioaccumulative potential.  
 Mobility in soil: Product is not mobile in soil.  
 Results of PBT and vPvB assessment: Product does not contain ingredients, which meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.  
 Endocrine disrupting properties:

Other adverse effects:

The product does not contain substances included in the list established in accordance with Article 59 (1) for having endocrine disrupting properties, or substances identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 (3) or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 % by weight. Product has no influence on global warming and destruction of the ozone layer. Consider other harmful effects of individual components of the mixture on the environment (eg., global warming potential).

### Section 13:

#### DISPOSAL CONSIDERATIONS

Waste treatment methods:

Waste material should be stored in designated place for recycling or utilization. Waste product should be recovered or disposed of in authorized incineration plants or waste facility in accordance with local regulations. Legal basis: Directive 2008/98/EC as amended, 94/62/EC as amended.

### Section 14:

#### TRANSPORT INFORMATION

UN NUMBER: Not regulated - material is classified as non-hazardous.

UN SHIPPING NAME: Not applicable

UN LAND TRANSPORT CLASSIFICATION (ADR/RID): 14.1-14.: Not Regulated for Land Transport

UN INLAND WATERWAYS CLASSIFICATION (ADNR/ADN): 14.1-14.6 Not Regulated for Inland Waterways Transport

UN SEA CLASSIFICATION (IMDG): 14.1-14.6 Not Regulated for Sea Transport according to IMDG-Code

UN AIR CLASSIFICATION (IATA): 14.1-14.6 Not Regulated for Air Transport

UN PACKING GROUP: Not regulated -material is classified as non-hazardous.

UN ENVIRONMENTAL HAZARD CODE (IMDG): Not regulated -material is classified as non-hazardous.

MARPOL ANNEX II 73/78 (MARINE POLLUTION REGULATIONS): Not regulated - material is classified as nonhazardous

### Section 15:

#### REGULATORY INFORMATION

- Safety, health and environmental regulations/legislation specific for the substance or mixture Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending
- Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended.
- Commission Regulation (EU) No 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing
- Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.
- European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste as amended.
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives as amended.

- Regulation (EU) No 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing
- Council Directive 89/686/EEC.
- Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
- Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.
- Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.
- Commission Directive 2017/164/EU of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.
- Commission Directive 2019/1831/EU of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.

#### **Section 16: OTHER INFORMATION**

##### Abbreviations and acronyms

PBT Persistent, Bioaccumulative and Toxic substance

vPvB very Persistent, very Bioaccumulative substance

**Trainings:** Before commencing working with the product, the user should learn to Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training. Key literature references and data sources This sheet was prepared on the basis of on manufacturer's data, literature data, online databases, our knowledge and experience, taking into account the current legislation. Procedures used to classify the mixture Classification was based on data on hazardous substances calculation method under the guidance of Regulation 1272/2008/EC (CLP) as amended.

##### Other informations

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