

Safety Data Sheet

SECTION 1: Product and Manufacturer Identification

1.1. Product Identification

Trade name: Filament SILK 1.75mm
Filament SILK 2.85mm
Filament SILK 3.00mm

1.2. Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant identified uses of the substance or mixture

Use: Thermal processing in 3D printing.

1.3. Details of the Supplier of the Safety Data Sheet

Manufacturer: Devil Design Ryszka Mateja Sp. J.
ul. Żwirki i Wigury 65
43-190 Mikołów, Poland
tax identification number: NIP 6351837318
e-mail: office@devildesign.com

SECTION 2: Hazards Identification

2.1. Classification of the Substance or Mixture

Not classified as a hazardous substance or mixture.

The data are based on the known properties of (an) ingredient(s) of the mixture.

2.2. Label Elements

No product labelling is required.

The data are based on the known properties of (an) ingredient(s) of the mixture.

2.3. Other Hazards

Other hazards related to product processing. Dusts of the mixture cause the risk of fire or explosion. When hot, the product causes the risk of burns.

SECTION 3: Composition and Information on Ingredients

3.2. Mixtures

Chemical description

Composition:	Polylactide resin, copolymer of neopentyl glycol and ethylene glycol terephthalate, dye
Chemical name:	Polymer
Common name:	SILK
Type of plastic:	Thermoplastic

Name	CAS Number	Classification According to	
		67/548/EEC	EC No 1272/2008
Polylactide resin	9051-89-2	No data	Not classified
Copolymer of neopentyl glycol and ethylene glycol terephthalate	026780-49-4	Not classified	Not classified
Polymer with dye	9051-89-2	No data	Not classified

The data are based on the properties of (an) ingredient(s) of the mixture. Depending on the dye used, they can vary slightly.

SECTION 4: First Aid Measures

4.1. Description of First Aid Measures

General:	No special precautions are needed.
Skin contact:	In case of contact with molten product, wash the place of contact immediately with plenty of cold water for at least 15 minutes. Consult a doctor. Do not scrape the molten plastic off the skin.
Eye contact:	Rinse the eyes thoroughly with plenty of water for at least 20 minutes. Consult a doctor.
Aspiration:	Seek fresh air. Consult a doctor immediately.
Ingestion:	If swallowed, do not induce vomiting, unless recommended by a doctor. Consult a doctor immediately.

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4.2. Most Important Symptoms and Effects, Both Acute and Delayed

None are known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed.

Treat symptomatically. In case of intense exposure of the respiratory or gastrointestinal tract to the product, consult a toxicologist.

SECTION 5: Firefighting Measures

5.1. Extinguishing Media

Suitable extinguishing media:

Water spray
Foam
Carbon dioxide (CO₂)
Dry extinguishing powder

For safety reasons unsuitable extinguishing agents:

Strong concentrated water jet

5.2. Special Hazards Arising From the Substance or Mixture

Hazardous combustion products:

Styrene
Hydrogen cyanide (hydrocyanic acid)
Acrylonitrile
Aldehydes
Acetaldehyde
Carbon oxide (CO)
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x)
Sulphur dioxide
Hydrocarbons
Organic substances
Nitrogen

Dust clouds formed during processing have explosive potential if sources of fire or sparks occur due to electrostatic discharges.

The data are based on the properties of (an) ingredient(s) of the mixture. Depending on the dye used, they can vary slightly.

5.3. Advice for Firefighters

Personal protective equipment for firefighters:

Self-contained breathing apparatus
Protective overalls

Unusual dangers:

Material processed into air-borne dust can show explosive properties. Electrostatic discharges should be avoided if a dust cloud is formed. In case of fire, cool down nearby products likely to catch fire. Remove products near the fire provided that this will not compromise safety.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

6.1.1. For Persons Other Than Emergency Personnel

Protective equipment:

When exposed to gases and vapours, use personal breathing protection.
Use personal protective equipment (See: SECTION 8).

Emergency procedures:

Remove the source of ignition. Avoid contact with the skin and eyes. Do not inhale gases and vapours. If dusts/gases/vapours are formed, prevent any nearby electrostatic discharges. Pick up the product off the floor mechanically while taking care of not slipping. Be very careful and use protective measures to remove hot product off the floor. Due to its low thermal conductivity, the product, when heated, can remain hot for a long time.

6.1.2. For Emergency Personnel

When exposed to gases and vapours, use personal breathing protection.
Use personal protective equipment (see: SECTION 8).

6.2. Environmental Precautions

Do not allow the product to reach any sewage system or surface and ground waters. Prevent release to the environment. If the product spoils the environment, inform the competent authorities/services.

6.3. Methods and Material for Containment and Cleaning Up

Pick up mechanically and put into a sealable container labelled for the storage of such substances/mixtures.

6.4. Reference to Other Sections

Personal protective equipment – see SECTION 8.

Waste handling – see SECTION 13.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling

Handling of the substance or preparation:

The product should be processed in a well ventilated environment. Where required, an air extractor should additionally be used.

General work hygiene rules:

Do not eat or drink when handling the product, do not smoke in the working area. Avoid contact with the skin and eyes, do not inhale any resultant vapours/dusts. Use personal protective equipment (see SECTION 8). After handling the product, wash the hands and face.

Instructions for protection against fire and explosion

Conditions and measures should be ensured to prevent accumulation of electrostatic charge. An accumulation of dusts/vapours in combination with air can create an explosive mixture. Avoid accumulation of dusts/vapours. Keep away from ignition sources.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical measures and storage conditions:

Store the product in a dry, shady place, at room temperature. Keep away from naked fire and ignition sources. Due to quality reasons, protect against moisture, dust and dirt.

Storage together with other substances/preparations:

See: SECTION 10.4.

7.3. Specific End Use(s)

No specific recommendations have been made.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control Parameters

Does not contain substances with limits of exposure.

The specified values are based on the data of (an) ingredient(s) of the mixture.

8.2. Exposure Controls

General protection rules:	The product should be processed in a well ventilated room; where required, an air extractor should additionally be used.
Eye and face protection:	Use goggles with temple protection (EN 166 standard).
Skin protection:	Wear protective clothing with long sleeves.
Hand protection:	Use 05mm thick protective gloves from leather or butyl rubber (EN 374 standard). Use gloves suitable for what is done so that maximum protection levels could be ensured.
Respiratory protection:	When exposed to dusts/vapours, use a self-contained breathing apparatus.

SECTION 9: Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

State:	Solid
Appearance:	Fibre
Colour:	White and, depending on the dye used, pale yellow, pale orange, pale pink, red, blue, violet, pale green, golden, brown.
Odour:	Odourless and pungent during processing
Odour threshold:	No data
pH value:	No data
Melting point:	>105°C
Bolting point:	No data
Evaporation date:	No data
Flammability:	No data
Upper/lower flammability limits:	No data
Vapour pressure:	Not determined
Vapour density:	Not determined
Density:	>1.2 g/cm ³
Solubility in water:	Insoluble
Solubility in other liquids:	No data
n-octanol/water partition coefficient:	No data

Spontaneous ignition temperature:	No data
Thermal decomposition:	See: SECTION 10.4.
Viscosity:	No data
Explosive properties:	No data
Oxidising properties:	No data
Combustion properties:	No data

Depending on the colour of the product, its physical and chemical properties can vary slightly.

9.2. Other Information

Surface tension:	No data
Thermal conductivity:	Not determined
Electrical conductivity:	Not determined

SECTION 10: Stability and Reactivity

10.1. Reactivity

No data are available.

10.2. Chemical Stability

Stable under recommended conditions of storage. See SECTION 7.2.

10.3. Possibility of Hazardous Reactions

No hazardous reactions under recommended storage conditions are known. During processing: see SECTIONS 5.2 and 10.6.

10.4. Conditions to Avoid

Temperatures exceeding 230°C, electrostatic discharges, product processing in poorly ventilated rooms and concentration of dusts and vapours in the air.

10.5. Incompatible Materials

Water, acetic anhydride, acetone, aniline, benzene, chloroform, chromic acid, cyclohexanone, dimethylformamide, dioxane, ethyl acetate, phenol, tetrahydrofuran. When reacting with strong oxidisers, strong acids and caustic substances, it decomposes polyester.

10.6. Hazardous Decomposition Products

Carbon oxide (CO), CH₃CHO, CO₂, H₂O, CH₂O, cyclic oligomers, terephthalic acid, ethylene glycol, acetaldehyde.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute toxicity: Indigestion: LD50 >2.000mg/kg (rat)
The product has not been tested. The specified value is based on the known properties of (an) ingredient(s) of the mixture.

Skin irritation: No data.

Eye irritation: No data.

Sensitisation: No data.

Mutagenicity: No data.

SECTION 12: Ecological Information

12.1. Toxicity

Effects on living organisms: No data.

12.2. Persistence and Degradability

No data.

12.3. Bioaccumulative Potential

No data.

12.4. Mobility in Soil

No data.

12.5. Results of PBT and vPvB Assessment

Analysis of the individual ingredients has shown that the product is neither a PBT nor a vPvB, the mixture does not contain any substances classified as a PBT or a vPvB or no chemical safety report (CSR) is required.

12.6. Other Adverse Effects

See: SECTION 6.2.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Product: Where practicable, waste should be recovered and recycled. Do not release waste into sewage systems. Neutralise waste in accordance with applicable local laws.

Packaging: Neutralise in accordance with applicable local laws.

SECTION 14: Transport Information

SECTION 14.1. to 14.5.

IMDG:	Not applicable/Unrestricted
ICAO/IATA:	Not applicable/Unrestricted
ADR/RID:	Not applicable/Unrestricted

14.6. Special Precautions for Users

See: SECTIONS 6, 7 and 8.

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

Devil Design Ryszka Mateja Sp. J. has used its best efforts to ensure that the information contained in this document is accurate and reflects, according to its best knowledge, the actual status. At the same time, Devil Design Ryszka Mateja Sp. J. disclaims any responsibility for the use thereof. The product has not been tested, and all the information contained in this document is based on the data of (an) ingredient(s) of the mixture. Depending on the specific features of the product, in particular its colour, its physical and chemical properties can vary; the data sheet indicates known extremes. Each and every user is obliged to use the product in accordance with applicable local laws. The individual product ingredients do not require any separate regulations to be applied (REACH).

15.2. Chemical Safety Assessment

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For the substances or ingredients described above, no chemical safety assessment (CSA) was available prior to the last revision date.

SECTION 16: Other Information

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