

Material Safety Data Sheet

SECTION 1: Product and Company Identification

1.1. Product identification

Commercial Reference: HIPS Filament 1.75mm
HIPS Filament 2.85mm
HIPS Filament 3.00mm

1.2. Identified applications of the substance

Application: Thermal processing in the process of 3D printing.

1.3. Details of the producer

Producer: Devil Design Ryszka Mateja Sp. J.
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43-190 Mikołów, Polska
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SECTION 2: Hazard Identification

2.1. Classification of the product

Classification according to the directive: the product has not been classified as dangerous pursuant to EU 67/548/EEC or 1999/45/EC Directives.

2.2. Labelling elements

Labelling: the product has not been classified as dangerous in accordance with EC criteria.

The data have been cited based on mixture/components properties.

2.3. Other risk

There is a risk of ingestion. Inhalation of fumes and vapours released during substance processing causes the irritation of respiratory system. Fumes and vapours generated during processing cause the irritation of skin and eyes.

SECTION 3: Composition and Information on Components

3.2. Mixtures

Composition:	High impact polystyrene
Chemical name:	Polystyrene
Common name:	HIPS
Kind of material:	Thermoplastic material

SECTION 4: First Aid Measures

4.1. Description of first aid measures

General information: Use appropriate personal protective equipment while handling or working with the product. See: SECTION 8. of this Material Safety Data Sheet.

Skin contact: In case of contact with molten product – immediately rinse the skin with plenty of water for at least 15 minutes. Obtain medical support. Do not use ice. Do not remove the molten material from the skin on your own. Immediately obtain medical support.

Eye contact: Rinse eyes with plenty of water for at least 15 minutes. If the injured person uses contact lenses – first rinse the eyes for two minutes, then remove contact lenses and rinse the eyes for additional fifteen minutes. Obtain medical support.

Respiratory duct exposure:
Provide fresh air supply. Immediately obtain medical support.

Digestive tract exposure:
Immediately seek medical advice. In case of ingestion do not induce vomiting unless recommended by medical staff.

4.2. Most important acute and delayed symptoms and effects of exposure.

In addition to the information referred to in point 4.1. (above) and 4.3. (below) of this Material Safety Data Sheet, no acute and delayed symptoms and exposure effects are known.

4.3. Indications related to any immediate medical attention and specific treatment.

In case of any disturbing symptoms or in case of accident, immediately seek medical advice.

SECTION 5: Fire Fighting Measures

5.1. Extinguishing media and fire fighting equipment

Appropriate extinguishing media:

Sprayed water flow
Foam
Carbon dioxide (CO₂)
Dry powder

Extinguishing media that are forbidden for security reasons:

Strong concentrated water flow

5.2. Specific hazards related to the substance or mixture

Dangerous combustion residues:

Carbon monoxide (CO)
Carbon dioxide (CO₂)
Smoke

5.3. Information for fire-fighters

Personal protective equipment for fire-fighters:

Self-contained breathing apparatus (SCBA), fireproof overall

If appropriate protective equipment is not available, fight the fire from a safe distance.

SECTION 6: Accidental Release Measures – Relevant Procedure.

6.1. Individual and personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment:

In case of exposure to gases and vapour, apply personal respiratory protection equipment. Use personal protective equipment. (see: SECTION 8).

Emergency procedures:

Remove the source of ignition. Avoid contact with skin and eyes. Avoid inhalation of gases and vapour.

6.1.2. For emergency personnel

In case of exposure to gases and vapour, apply personal respiratory protection equipment. Use personal protective equipment. (see: SECTION 8).

6.2. Environmental precautions

Do not allow product to reach sewage system, surface and ground water. See: SECTION 12 of this Material Safety Data Sheet.

6.3. Methods and materials for containment and cleaning up

Remove mechanically.

6.4. Reference to other sections

Personal Protection Equipment – see: SECTION 8.

Waste treatment – see: SECTION 13.

Environmental information – see: SECTION 12.

SECTION 7: Handling the substance and its 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.

7.2. Conditions for safe storage, including the information on any mutual incompatibilities

Technical means and conditions for storage:

Store the product in a dry and dark place, keep it in ambient temperature. For quality reasons, protect product from moisture, dust and soiling.

Storage with other substances/preparations:

See: SECTION 10.4.

7.3. Specific end applications

No recommendations were specified. Any additional information is contained In his Material Safety Data Sheet.

SECTION 8: Exposure controls/personal protective equipment

8.1. Control parameters

HIPS filament - substances					
CAS Reference	EC Reference	Quantity	Component	EC 1272/2008 Classification	67/548/EEC Classification
9003-55-8	Polymer	≥ 94% ≤ 100%	Styrene 1,3-Butadiene Copolymer	Non-classified	Non-classified
8042-47-5	232-455-8	≤ 6%	White mineral oil	Non-classified	Non-classified

8.2. Exposure controls

General rules of protection: Product must be processed in well ventilated rooms. If required, additionally apply an air extractor. Directive 89/686/CEE with the relevant amendments must be respected and applied. While working with or handling the product general hygiene measures should be applied. Do not eat and drink in the area of exposure to product impact. Wash hands after handling the product.

Eyes and face protection: Use safety (protective) goggles in accordance with EN 166 or its equivalent.

Hands protection: Use safety gloves. For thermal protection use protective gloves In accordance with EN 407.

Respiratory tract protection: In case of dust/vapours exposure, respiratory protection equipment with particle filter must be used. Use the equipment in accordance with EU 8. Depending on the needs, in order to ensure appropriate safety level, use P2 or AP2 masks.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	Solid
Appearance:	Wire
Colour:	Natural (milky).
Odour:	Odourless
Smell threshold:	No data available
pH value:	Not applicable
Melting point:	90°C - 130°C
Boiling point:	Not applicable
Evaporation rate:	Not applicable
Combustibility:	No data available
Upper/lower flammability limit:	No data available
Vapour pressure:	Not determined
Vapour density:	Not determined
Density:	1,05 g/cm ³
Water solubility:	Insoluble
Solubility in other liquids:	No data available
Octanol/water partitioning coefficient:	Not applicable
Self-ignition temperature:	No data available
Thermal degradation:	See: SECTION 10.4.
Viscosity:	No data available
Explosive properties:	No data available
Oxidising properties:	No data available

Depending on product colour, its physical and chemical parameters may slightly differ.

9.2. Other information

Surface tension:	No data available
Thermal conductivity:	No data available
Electrical conductivity:	No data available

SECTION 10: Stability and Reactivity

10.1. Reactivity

Under normal conditions of storage hazardous reactions will not occur. See: SECTION 10.3.

10.2. Chemical stability

The product is stable in recommended storage conditions. See: SECTION 7.

10.3. Possibility of hazardous reactions

Polymerisation does not occur.

10.4. Conditions to avoid

Temperatures over 300°C.

10.5. Incompatible materials

They are not known.

10.6. Hazardous decomposition products

Combustion causes generation of irritating gases and vapours. Moreover, the gases and vapours may contain polymers.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity: LD50 >5.000 mg/kg (rat)

Mouth: LD50 >5.000mg/kg (rat)

The product has not been tested. The values have been indicated based on the common and well known properties of component/mixture.

Skin irritation: It may irritate skin.

Eye irritation: It may irritate eyes.

Skin sensitization: No data available.

Mutagenicity effect: No data available

SECTION 12: Ecological Information

12.1. Toxicity

Effect on living organisms: In its primary form the product does not demonstrate adverse effect on living organisms.

12.2. Persistence and degradability

Under the action of sunrays the product is subject to photo degradation. The product is not biodegradable.

12.3. Bioaccumulation ability

The product is not bioaccumulative.

12.4. Mobility in soil

The product remains in the soil. In case of aquatic environment, the product is deposited on the bottom.

12.5. Results of property assessments: PBT i vPvB

The product was not classified as PBT.

12.6. Other harmful or adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not dispose waste to sewage system. Waste should be reprocessed according to the local legal regulations, in accordance with EU 2008/98/EC Regulations with the relevant amendments. The cross-border waste transport regulated by EC No 1013/2006 with the relevant amendments. Outside the countries of EU, cross-border transport is subject to the relevant provisions of the Basel Convention.

SECTION 14: Transport Information

Sections from 14.1. to 14.5.

IMDG: Not determined

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Product: HIPS Filament 1.75mm; 2.85mm; 3.00mm

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ICAO\IATA: Not determined

ADNR\ADN: Not determined

ADR\RID: Not determined

14.6. Special precautions for users

See: SECTION 6, SECTION 7 and SECTION 8.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available.

SECTION 15: Information on Legal Regulations

15.1. Safety, health and environmental regulation/legislation specific for the substance or mixture

Devil Design Ryszka Mateja Company have made every effort to assure that the information contained herein is to the best of their knowledge, in accordance with the facts, true and fair. Devil Design Ryszka Mateja Company cannot be responsible for any use that may be made of this information. The product has not been tested and any information contained in this document have been cited based on the data on the mixture components. Depending on the product specificity, especially its colour, physical and chemical properties of the product may change; all the values listed in this document are well known and they are extreme values. Each user is obliged to apply the product in accordance with the locally obliging legal regulations.

Pursuant to the definition of 92/32/EEC Directive, the product was determined as polymer. Any substrates and additives were specified in EINECS or they are consistent with other European Union requirements.

15.2. Chemical safety assessment

Not determined.

SECTION 16: Other Information

The document has been drawn up by: Devil Design Ryszka Mateja Sp. J.

The date of last revision: --/--/----
