HBOT 3D

Safety Data Sheet

According to EU Directive 1907/2006

Product name: HIPS

Date of issue: 31-05-2018 Version: 1.3

1. Identification of the substance/preparation and of the company

1.1 Trade name:

HIPS

1.2 Use of the product:

HBOT3D Filament

1.3 Supplier:

3D Printers sp. z o.o.
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2. Hazards indentification

2.1 Classification of the substance or mixture

This product is not classified according to Regulation (EC) 1272/2008 and Directive 67/548/EEC.

2.2 Label elements

Not applicable.

2.3 Other hazards

Dust:	Can cause skin, eye and respiratory tract irritation
In case of dust (Fine dust):	Danger of dust explosion The melted product can cause severe burns

3. Composition/information on ingredients

3.1 Substances

Chemical characterization:	Polymer mixture, enchanced for 3D printing
CAS No. 9003-55-8:	Styrene-butadiene copolymer, HIPS
EC-number:	-
RTECS-number:	WL6478000

Additional information: Preparation does not contain dangerous substances above limits that need to be mentioned in this section according to applicable legislation.

4. First aid measures

4.1 Description of first aid measures

In case of inhalation:

Provide fresh air. Put victim at rest and keep warm. Seek medial attention.

In case of skin contact:

The melted product can cause severe burns. Do not attempt to remove molten product, or molten product that has cooled, from skin without medical assistance. After contact with molten product, cool skin area rapidly with cold water. Consult physician.

After eye contact:

Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Consult an eye specialist in the event of irritation. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing:

Do not induce vomiting. Rinse mouth with water. Drink one or two glasses of water. never give an unconscious person anything through the mouth.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Water fog, foam. In small fires: extinguishing powder, carbon dioxide, sand, earth.

Unsuitable extinguishing media:

Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated:

Smoke, styrene-monomer, butadiene, aldehydes and acids (organic), carbon monoxide and carbon dioxide (CO2).

5.3 Advice for fire fighters

Fire fighting measures:

Wear a self-contained breathing apparatus and chemical protective clothing.

Unusual Fire Hazards:

Cool endangered containers with water jetspray.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Dust may form explosive mixtures with air. Remove all sources of ignition. Provide adequate ventilation. Do not breathe dust. Wear personal protection equipment.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

6.3 Methods and materials for containment and cleaning up

Avoid generation of dust. Take up mechanically. Can be reused without regeneration.

Additional information: Take precautionary measures against static discharges.
Particular danger of slipping when spread on the ground.

7. Handling and storage

7.1 Handling

Advices on safe handling:

Provide adequate ventilation, and local exhaust as needed. Do not breathe dust. Avoid dust formation.
In case of formation of dust – withdraw by suction.
Molten material – avoid contact with the substance.

Precautions against fire and explosion:

Dust may form explosive mixtures with air. Take precautionary measures against static discharges. Keep away from sources of ignition. Use grounding equipment.
Use explosion-proof equipment and non-sparking tools/utensils.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:
Store in a well-ventilated place. Keep container tightly closed. Protect against heat/sun rays.
Special danger of slipping by leaking/spilling product.
Storage class: 11 = Combustible solids.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

Great Britain:	WEL-TWA 10 mg/m^3
Great Britain:	WEL-TWA 4 mg/m^3
Ireland:	8 hours 10 mg/m^3
Ireland:	8 hours 4 mg/m^3

The product contains very low levels of residual monomers (styrene and butadiene) and process chemicals that may be evolved during thermal processing. As the identity and levels of these components evolved will depend upon the processing conditions (temperature etc.) it is the responsibility of the user determine the adequacy of any protection or safety measures.

8.2 Exposure controls

Occupational exposure controls

Respiratory protection:
In case of dust: Use filter type A-P1 according to EN 14387.

Hand protection:
Protective gloves according to EN 374.
Glove material: Nitrile rubber – layer thickness 0,11 mm.
Breakthrough time: >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
In case of meling: Protective gloves against heat according to EN 407.

Eye protection:
Tightly sealed goggles according to EN 166.

Body protection:
Wear suitable protective clothing.

General protection and hygiene measures:
Do not breathe dust.
Take off immediately all contaminated clothing.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.
Eye wash facility must be provided.
In case of dust: Particular danger of slipping when spread on the ground.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Solid filament
Odour:	Weak
Colour:	Depending on product grade
Odour threshold:	No information available
pH:	Not applicable
Melting/freezing point:	105-135°C

Initial boiling point and boiling range:	Not applicable
Flash point:	>280°C
Evaporation rate:	Not applicable
Flammability (solid, gas):	Not highly flammable
Upper flammability or explosive limit:	No data available
Lower flammability or explosive limit:	No data available
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	At 20°C: 1030 g/cm^3 (ISO 1183)
Solubility(ies):	Insoluble
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	Not self-igniting
Decomposition temperature:	Approx. 300°C
Viscosity:	Not applicable
Explosive properties:	Dust explosion risk at fine dust
Oxidizing properties:	Not oxidising

9.2 Other information

Ignition temperature: Approx. >400°C
Drop point/drop range: 79-127°C

10. Stability

10.1 Reactivity:
This product is stable and non reactive under normal conditions of use, storage and transport.

10.2 Chemical stability:
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions:
In case of dust (Fine dust): danger of dust explosion.

10.4 Conditions to avoid:
Avoid dust formation. Dust may form explosive mixtures with air.
Keep away from sources of ignition. No smoking.

10.5 Incompatible materials:
Strong oxidizing agents.

10.6 Hazardous decomposition products
In case of fire may be liberated: smoke, styrene-monomer, butadiene, aldehydes and acids (organic), carbon monoxide and carbon dioxide (CO2).

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity:	LD50 oral: >2000 mg/kg LD50 dermal: >2000 mg/kg
Acute toxicity (oral):	Based on available data, the classification criteria are not met. Mild acute toxicity.
Acute toxicity (dermal):	Based on available data, the classification criteria are not met. Mild acute toxicity.
Acute toxicity (inhalative):	Based on available data, the classification criteria are not met. Mild acute toxicity. May irritate.

Skin corrosion/irritation:	Lack of data.
Sensitisation to the respiratory tract:	Lack of data. The chemical structure does not suggest a specific alert for such an effect.
Skin sensitisation:	Based on available data, the classification criteria are not met. Not sensitising.
Dust:	Can cause skin, eye and respiratory tract irritation
Processing, thermal hazards:	Vapours can couse skin, eye and respiratory tract irritation
Germ cell mutagenicity/Genotoxicity:	Lack of data. The chemical structure does not suggest a specific alert for such an effect.
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Lack of data. The chemical structure does not suggest a specific alert for such an effect.
Effects on or via lactation:	Lack of data
Specific target organ toxicity (single):	Lack of data
Dusts:	Irritating to eyes, respiratory system and skin
Specific target organ toxicity (repeated):	Lack of data
Aspiration hazard:	Lack of data

When handled appropriately, even after long years of experience with this product, no adverse health effects are known.

11.2 Symptoms

Dust:	Skin irritation, eye irritations and redness The melted product can cause severe burns
Processing, thermal hazards:	Irritating to eyes, respiratory system and skin.

12. Ecological information

12.1 Toxicity

Aquatic toxicity: No evidence of aquatic toxicity.

12.2 Persistence and degradability

Biodegradation: not readily biodegradable.
Degradation at UV-radiation/sunlight.
Environmental half-life period: ≥100 days (estimated).
Not toxic to sewage organisms. In sewage treatment plants it may be separated mechanically.

12.3 Bioaccumulative potential

To avoid bioaccumulation, plastics should not be disposed in the sea or other waterbodies.

12.4 Mobility in soil

Product is not soluble in water. Substance is heavier than water and sinks.
Mobility in soil: low.

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects

Do not allow to penetrate into soil, waterbodies or drains.

13. Disposal considerations

13.1 Waste treatment methods

Waste key number:
07 02 13 = waste plastic.

Recommendation:
With due observance of the regulations laid down by the local authorities, this must be brought to a suitable incineration plant/waste disposal site.

Contaminated packaging recommendation:
Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

14. Transport information

14.1 UN number

Not regulated as a hazardous material.

14.2 UN proper shipping name

Not applicable.

14.3 Transport hazard class(es)

Not applicable.

14.4 Packing Group

Not applicable.

14.5 Environmental hazards

Marine pollutant: No.

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

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

Not evaluated.

15. Regulatory information

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

National regulations – Great Britain
Hazchem-Code: -

National regulations – USA
TSCA Inventory: listed; EPA flags XU
TSCA HPVC: not listed
Carcinogen Status:
IARC Rating: Group 3
OSHA Carcinogen: not listed
NTP Rating: not listed

Hazard rating systems:
NFPA Hazard Rating:
Health: 1 (slight)
Fire: 1 (slight)
Reactivity: 0 (minimal)

HMIS Version III Rating:
Health: 1 (slight)
Flammability: 1 (slight)
Physical Hazard: 0 (minimal)
Personal Protection: X = Consult your supervisor

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0
	X

National regulations – Canada
DSL: listed

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

16. Other information

Information is referenced from other manufactureres.

For abbreviations and acronyms, see: ECHA Guidance on information requirements anc chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

This safety data sheet complies with the requirements of Regulation (EC) No. 1997/2006 and Regulation (EC) No. 2015/830. Label element according to Regulation (EC) No. 1272/2008.

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 a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be cosidered a warranty or quality specification. The information relates only to specific material designated and may not be valid for such material used in a combination with any other materials or in any process, unless specified in the text.