

Safety Data Sheet INNOVATEFIL® HYDROSOLUBLE

1. Identification of the substance or mixture and company responsible for product identification manufacturing / marketing:

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1.1 Identification

INNOVATEFIL® HYDROSOLUBLE

1.2 Forms of use

Uses: Filament for 3D printing FDM supports any printer type

1.3 Company



SMART MATERIALS 3D

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INNOVATEFIL® by Smart Materials 3D

1.4 Emergency phone: 112

2. Hazards identification.

2.1 Classification

- Classification according to Regulation (EC) No 1272/2008: The product is not classified according to the CLP regulation.

3. Composition.

- Thermoplastic polymer

3.1 Chemical characterization: Mixes

Description: Polymer

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Hazardous components

Chemical Name	CAS-No	Classification (1272/2008/EC)	Concentration [%]
	EC-No		
Methanol	67-56-1	Flam. Liq. 2; H225	<1
	200-659-6	Acute Tox. 3; H301	
		Acute Tox. 3; H331	
		Acute Tox. 3; H311	
		STOT SE 1; H370	

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Additional information

The product is exempt from REACH registration (polymer).

4. First aids:

4.1 Description of First Aids

- In case of inhalation: First aid measures not required, but get fresh air for personal comfort.
- In case of skin contact: First aid measures not required, but wash exposed skin with soap and water for hygienic reasons.
- Ingestion: If a large quantity has been ingested or if you feel unwell, get medical advice/attention.
- After contact with molten product, cool rapidly with cold water. No skin separating the solidified product. Call a doctor immediately.

5. Firefighting measures:

5.1 Suitable extinguishing media

Water spray (fog), Dry Chemical.

5.2. Unsuitable extinguishing media for safety reasons

High volume water jet.

5.3 Special hazards arising from the substance or mixture

Do not use a solid water stream as it may scatter and spread fire. Exposure to decomposition products may be a hazard to health.

5.4 Advice for firefighters

Protective equipment: Wear protective breathing apparatus independent of the ambient air.

6. Measures in case of accidental release.

6.1 Personal precautions

Ensure adequate ventilation, especially in confined areas.

6.2 Environmental cautions:

No data available.

6.3 Methods and materials for containment and cleaning up:

Allow to solidify, pick up mechanically

Dispose of the material collected according to regulations.

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7. Handling and Storage:

Ensure adequate ventilation, especially in confined areas. Protect from direct sunlight. Keep away from heat.

General Hygiene Considerations:

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before re-use. Regular cleaning of equipment, work area and clothing is recommended.

7.1. Conditions for safe storage, including any incompatibilities

- Requirements to be met by storerooms and receptacles:
 Innovatefil® COPOLYESTER is delivered in a vacuum bag with a great barrier against moisture so that the filament cannot absorb humidity. Before bagging, the filament follows the strictest quality controls by dehumidifying the raw material until the moisture content is lower than 0.02%. During the process the filament is cooled down by dry air and next it is bagged to make sure the product is the highest quality. Once the product is unpacked we recommend to keep it in a dry and dark environment. For an optimal use it is advisable to use a preheating and dehumidification system on the machine. If not maintained in a suitable environment the material can absorb up to 0.5% of atmospheric humidity, this could create water vapour in the extrusion that will bring a poor surface finish.

8. Exposure controls / personal protection.

8.1 Control parameters

Components	CAS-No	Control parameters	Basis
Methanol	67-56-1	TWA: 266 mg/m ³ , 200 ppm STEL: 333 mg/m ³ , 250 ppm	GB EH40
Methanol	67-56-1	TWA: 260 mg/m ³ , 200 ppm	2006/15/EC

8.2 Personal protection equipment.

General safety and hygiene:

- Keep away from foodstuffs, beverages, and food.
- Do not eat, drink, smoke, or sniff snuff during work.

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- Do not breathe dust / smoke / mist.
- Avoid contact with eyes and skin.
- Wash hands before breaks and after work.

Breathing equipment:

- Surely concentrations below the value of the CMA does not require special measures.

Eye protection:

- No special technical protective measures are necessary.

Hand protection:

- Protective gloves not really required. However, we recommend using protective gloves made of rubber. PVC gloves, Butyl rubber, Chloroprene rubber, CR.

Body protection:

- For handling, hot / molten heat resistant protective clothing product.

9. Fisical and chemical properties:

- A. Appearance: white, light yellow
- B. Odor: slight vinegar-like
- C. Odour Threshold: NA
- D. pH: 5.0-7.0
- E. Boiling Point (° C): NA
- F. Melting point (° C): 150-130 °C
- G. Softening point (° C): NA
- H. Evaporation Rate: NA
- I. Properties Flammable / Explosive: NA
- J. Vapor pressure / vapor density: NA
- K. Relative density: 1.19-1.31 g/cm³
- L. Solubility: soluble in water.
- M. Octanol / water partition: NA
- N. Ignition temperature: 520 °C
- O. Decomposition temperature: >=200°C
- P. Viscosity: NA
- Q. Other properties: NA

10. Stability and reactivity.**10.1 Reactivity**

Non-applicable

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of dangerous reactions.

None under normal processing.

10.4 Conditions to be avoided

No information available.

10.5 Strong decomposition products

- Build-up of dangerous/toxic fumes possible in case of fire/high temperature.

11. Toxicological Information.

11.1 Information on toxicological effects.

Acute toxicity

<u>Acute oral toxicity</u>	: LD50 Oral: > 2,000 mg/kg
<u>Acute inhalation toxicity</u>	: Acute toxicity estimate: > 20 mg/L Test atmosphere: vapour Exposure time: 4 h Method: Calculation method

Acute toxicity (other routes of administration):

No data available.

Skin corrosion/irritation

Methanol	: Species: rabbit
	No skin irritation

Serious eye damage/eye irritation

Methanol	: Species: rabbit
	No eye irritation

Respiratory or skin sensitization

Methanol	: Test Method: Maximisation Test
	Species: guinea pig
	Result: Does not cause skin sensitization.
	Method: OECD Test Guideline 406

Germ cell mutagenicity

No information available.

Carcinogenicity

Remarks	: Mutagenicity:
	Tests on bacteria or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity

No information available.

STOT - single exposure:

Methanol	: Causes damage to organs.
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STOT - repeated exposure: No information available

Aspiration hazard

No information available.

12. Ecological information.

12.1 Toxicity

<u>Toxicity to fish</u>	: (Oncorhynchus mykiss (rainbow trout)): > 100 mg/L Exposure time: 96 h
<u>Toxicity to daphnia and other aquatic invertebrates</u>	: (Daphnia magna (Water flea)): > 100 mg/L Exposure time: 48 h
<u>Toxicity to algae</u>	: (algae): > 100 mg/L
<u>Toxicity to bacteria</u> <u>Methanol</u>	: IC50: > 1,000 mg/L Exposure time: 3 h Test Method: Respiration inhibition of activated sludge Method: OECD Test Guideline 209
<u>Toxicity to fish (Chronic toxicity)</u>	: NOEC: 7,900 mg/L Exposure time: 200 h Species: Oryzias latipes (Orange-red killifish)

12.2 Mobility

No information available.

12.3 Persistence and degradability

Methanol : Result: Readily biodegradable

12.4 Bioaccumulative potential

Bioaccumulation

Methanol : Species: Cyprinus carpio (Carp)
Concentration: 5 mg/L
Bioconcentration factor (BCF): 1-4.5

12.5 Results of PBT y mPmB

PBT: Non-applicable.

mPmB: Non-applicable.

12.6 Other adverse effects

Additional ecological information : The product should not be allowed to enter drains, water courses or the soil.

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13 Disposal considerations.

13.1 Methods for treating waste

Recommendation: Disposal according to official regulations.

European waste catalog:

Allocation of waste codes according to the European waste list depends on the source generating the waste.

Contaminated packaging:

Recommendation: Disposal according to official regulations.

14 Transport information.

Not regulated.

15 Regulatory information.

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

VOC	: 0.5 % VOC content less water: 6.55 g/L
Directive 96/82/EC	: Update: 2003 Directive 96/82/EC does not apply
Further information	: Reserved for industrial and professional use.

15.2 Chemical Safety Assessment

Not applicable.

16 Other information.

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.

Other information

Sk	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.
Skin	Identifies the possibility of significant uptake through the skin

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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 considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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The statements made here should describe the product with regard to the necessary safety precautions – they are not meant to guarantee definite characteristics – but they are based on our present up-to-date knowledge.