



Safety Data Sheet
According to EU Directive 1907/2006

BCN3D FILAMENTS PVA Safety Data Sheet

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

1.1. Trade name:

BCN3D FILAMENTS PVA

1.2. Use of the product:

Filament for FFF/FDM technology based 3D printing

1.3. Company:

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2. Hazards identification:

2.1. Classification of the substance or mixture classification (REGULATION (EC) No 1272/2008):

- Not a hazardous substance or mixture.

2.2. Label elements:

Labelling (REGULATION (EC) No 1272/2008)

- Not a hazardous substance or mixture.

2.3. Other hazards:

- Skin sensitization material (Category 1) is contained less than 0.1%.

3. Composition/information on ingredients:

3.1. Mixtures:

- Hazardous components:

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

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. First aid measures:

4.1. Description of first aid measures:

General advice:

- If you feel unwell, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person. Take off contaminated clothing and shoes immediately.

If inhaled:

- If breathed in, move person into fresh air.

In case of skin contact:

- If on skin, rinse well with water. If skin irritation persists, call a physician.

In case of eye contact:

- If easy to do, remove contact lens, if worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

- If swallowed:

Rinse mouth with water. Induce vomiting immediately and call a physician. If a person vomits when lying on his back, place him in the recovery position.

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:

- no data available

5. Firefighting measures:

5.1. Extinguishing media:

- Suitable extinguishing media: Water spray jet, Dry chemical.
- Unsuitable extinguishing media: High volume water jet.

5.2. Special hazards arising from the substance or mixture:

Specific hazards during firefighting:

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

5.3. Advice for fire fighters:

Special protective equipment for firefighters:

- Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Further information:

- Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes.

6. Accidental release measures:

6.1. Personal precautions, protective equipment and emergency procedures:

- Refer to protective measures listed in sections 7 and 8. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation, especially in confined areas.

6.2. Environmental precautions:

- No data available

6.3. Methods and material for containment and cleaning up:

- Use mechanical handling equipment. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly.

6.3. Reference to other sections:

- See chapter: 7, 8, 11, 12 and 13

7. Handling and storage:

7.1. Precautions for safe handling:

Advice on safe handling:

- For personal protection see section 8. Avoid creating dust. Do not breathe dust. Avoid contact with skin and eyes.

Advice on protection against fire and explosion:

- Normal measures for preventive fire protection.

Dust explosion class:

- No data available.

7.2. Conditions for safe storage, including any incompatibilities:



Keep in a dry place



Protect from direct sunlight



Store between 10-40 degrees

- Requirements to be met by storerooms and receptacles: Keep containers tightly closed in a dry, cool and ventilated place.
- Further information on storage conditions: Protect from moisture.
- Advice on common storage: Keep away from oxidising agents and strongly acid or alkaline materials. Keep away from food, drink and animal feedingstuffs.
- Storage temperature: ≤ 40 °C
- Other data: No decomposition if stored and applied as directed.

7.3. Specific end use(s):

- No data available.

8. Exposure controls/personal protection:

8.1. Control parameters:

Chemical Name	CAS-No.	Control parameters	Basis	Update
methanol	67-56-1	TWA: 266 mg/m ³ , 200 ppm Sk, STEL: 333 mg/m ³ , 250 ppm Sk.	GB EH40	2005-04-06
Chemical Name	CAS-No.	Control parameters	Basis	Update
methanol	67-56-1	TWA: 260 mg/m ³ , 200 ppm skin.	2006/15/EC	2006-02-09

Other information on limit values: see chapter 16

8.2. Exposure controls:

Engineering measures

- Provide adequate ventilation.

Personal protective equipment

- Respiratory protection: In the case of dust or aerosol formation use respirator with an approved filter. Half mask with a particle filter P2 (EN 143).
- Hand protection: Rubber gloves
- Eye protection: Goggles
- Skin and body protection: Apron
- Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. General industrial hygiene practice. Do not breathe dust. Avoid contact with skin, eyes and clothing. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Wash contaminated clothing before re-use.

Environmental exposure controls

- No data available.

9. Physical and chemical properties:

9.1. Information on basic physical and chemical properties:

- Appearance: Filament
- Colour: white, light yellow
- Odour: slight vinegar-like
- Odour Threshold: no data available
- Flash point: > 200 °C, Method: Seta closed cup
- Ignition temperature: 520 °C
- Thermal decomposition: >= 200 °C
- Lower explosion limit: 35 g/m³
- Upper explosion limit: no data available
- Explosive properties: no data available
- Flammability: no data available
- Oxidizing properties: no data available
- Auto-ignition temperature: no data available
- Burning number: no data available
- Molecular Weight: no data available
- pH: 5.0 – 7.0
- Concentration: 100.00 g/L
- Melting point/range: 150 - 230 °C
- Vapour pressure: no data available
- Density : 1.19 – 1.31 g/cm³
- Bulk density: no data available
- Water solubility: soluble
- Partition coefficient: n- octanol/water: no data available

- Solubility in other solvents:
 - insoluble
 - Medium: Acetone
 - Insoluble
 - Medium: Alcohol
 - insoluble
 - Medium: n-hexane
 - Insoluble
 - Medium: toluene
 - soluble
 - Medium: Dimethylformamide
 - soluble
 - Medium: Dimethyl sulfoxide
- Viscosity, dynamic: no data available
- Viscosity, kinematic: no data available
- Flow time: no data available
- Impact Sensitivity: no data available
- Relative vapour density: no data available
- Surface tension: no data available
- Evaporation rate: no data available
- Minimum ignition energy: no data available
- Acid number: no data available
- Refraction index: no data available
- Miscibility in water: no data available
- Solvent separation test: no data available

9.2. Other information:

- None known

10. Stability and reactivity:

10.1. Reactivity:

- No data available.

10.2. Chemical stability:

- The product is chemically stable.

10.3. Possibility of hazardous reactions:

Stability:

- No decomposition if stored and applied as directed. Dust can form an explosive mixture in air.

10.4. Conditions to avoid:

- No data available

10.5. Incompatible materials:

Materials to avoid:

- Oxidizing agents, Acids, Bases

10.6. Hazardous decomposition products:

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

11. Toxicological information:

11.1. Information on toxicological effects:

Acute toxicity

Acute oral toxicity:

LD50 Oral: > 2,000 mg/kg

Acute inhalation toxicity:

Acute toxicity estimate: > 20 mg/L

Test atmosphere: vapour

Exposure time: 4 h

Method: Calculation method

Acute dermal toxicity:

Acute toxicity estimate: > 2,000 mg/kg

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

Sensitisation: -

methanol:

Test Method: Maximisation

Test Species: guinea pig:

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

Germ cell mutagenicity

Genotoxicity in vitro: no data available

Genotoxicity in vivo: no data available

Carcinogenicity

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

Reproductive toxicity

no data available

Teratogenicity

no data available

STOT - single exposure

methanol: Causes damage to organs.

STOT - repeated exposure

no data available

Aspiration hazard

Aspiration toxicity: No data available

Neurological effects

No data available

Toxicology Assessment

Toxicology, Metabolism, Distribution: No data available.

Acute effects: no data available.

12. Ecological information:

12.1. Toxicity:

Toxicity to fish:

(Oncorhynchus mykiss (rainbow trout)): > 100 mg/L

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

(Daphnia magna (Water flea)): > 100 mg/L

Exposure time: 48 h

Toxicity to algae:

(algae): > 100 mg/L

Toxicity to bacteria methanol:

IC50 : > 1,000 mg/L Exposure time: 3 h

Test Method: Respiration inhibition of activated sludge

Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity): methanol:

NOEC: 7,900 mg/L

Exposure time: 200 h

Species: Oryzias latipes (Orange-red killifish).

12.2. Persistence and degradability:

Biodegradability

methanol:

Result: Readily biodegradable.

12.3. Bio accumulative potential:

Bioaccumulation

methanol:

Species: Cyprinus carpio (Carp)

Concentration: 5 mg/L Bioconcentration factor (BCF): 1 – 4.5

12.4. Mobility in soil:

- No information available.

12.5. Results of PBT and vPvB assessment:

- No data available.

12.6. Other adverse effects:

Additional ecological information:

- When used as support material for 3D printing the polymer can be disposed of through the drain.

13. Disposal considerations:

13.1. Waste treatment methods:

Advice on disposal and packaging:

Disposal:

- In accordance with local and national regulations. Waste codes should be assigned by the user based on the application for which the product was used.

14. Transport information:

ADR:

- Not dangerous goods

RID:

- Not dangerous goods

IATA:

- Not dangerous goods

IMDG:

- Not dangerous goods

Special precautions for user:

- see chapter: 6, 7 and 8

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:

No information available.

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.

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.