



# 3D Printing Filament NYLON CARBON FIBER MATERIAL SAFETY DATA SHEET

Machines-3D encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## Section 1. Identification of the substance/preparation and of the company/undertaking

### 1.1 Product Identifiers

Product Name: NYLON CARBON FIBER

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

#### Identified uses

3D printing filament. Material for 3D printing FDM applications.

### 1.3 Details of the supplier of the Safety Data Sheet

#### Company identification

Machines-3D

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59300 Valenciennes

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## Section 2. Hazards Identification

### 2.1 Classification of the substance or mixture

#### Classification according to EU Directives 67/584/EEC

This product is not classified as dangerous according to EC criteria

### 2.2 Label elements

#### Labelling according to EC Directives

This product is not classified as dangerous according to EC criteria

### 2.3 Other Hazards

No information available.

## Section 3. Composition/information on ingredients

**Description:** Polyamide 12 – carbon fiber – additives/modifiers – This Product is a Mixture

**Dangerous components:** Void

**Additional information:** for the wording of the listed risk phrases refer to section 16

## Section 4. First-aid measures

### 4.1 Description of first aid measures

**General advice:** First Aid responders should pay attention to self-protection and use the recommended protective clothing.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Skin Contact:** Wash skin with plenty of water. With prolonged skin irritation, seek first aid or medical attention.  
After contact with the molten product, cool rapidly with cool water, do not pull solidified product from the skin and seek medical treatment.

**Eye Contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician.

**Ingestion:** If swallowed, seek medical attention.

### 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available

### 4.3 indication of medical attention and special treatment needed

No further relevant information available

## Section 5. Fire fighting measures

### 5.1 Extinguishing media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

### 5.2 Special hazards arising from the substance or mixture

#### **Can be released in case of fire:**

Carbon Monoxide (CO)  
Carbon Dioxide (CO<sub>2</sub>)  
Nitrogen Oxides (NO<sub>x</sub>)  
Hydrogen Cyanide (HCN)

### 5.3 Advice for firefighters

**Protective equipment:** Use self-contained breathing apparatus and protective fire fighting clothes

**Additional information:** dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Spilled material may cause a slipping hazard. Use appropriate safety equipment.

### 6.2 Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

### 6.3 Methods and materials for containment and cleaning up

Sweep up. Collect in suitable and properly labeled containers.

## Section 7. Handling and Storage

### 7.2 Precautions for safe handling

#### **General Handling:**

No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Protect against electrostatic charges

### 7.3 Conditions for safe storage, including any incompatibilities storage

Store in accordance with good manufacturing practices, in cool place and far from direct sunlight.  
Protect from humidity and keep away from water.

## Section 8. Exposure Controls / Personal Protection

### 8.1 Control parameters

None established.

### 8.2 Exposure Controls

#### **Personal protection**

**Eye/Face Protection:** Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.

**Skin Protection:** No precautions other than clean body-covering clothing should be needed.

**Hand protection:** Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves with insulation for thermal protection (EN 407), when needed. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task.

**Respiratory Protection:** Not necessary if room is well ventilated.

**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

## Engineering Controls

**Ventilation:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

## Section 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

|                       |                             |
|-----------------------|-----------------------------|
| Physical state:       | solid                       |
| Colour:               | black                       |
| Odor:                 | Nearly odorless             |
| Odor threshold:       | N/A                         |
| pH:                   | N/A                         |
| Melting point:        | 170-190°C                   |
| Freezing point:       | N/A                         |
| Boiling point:        | N/A                         |
| Flash point:          | N/A                         |
| Flammability:         | N/A                         |
| Specific Gravity:     | 0.98 g/cc                   |
| Solubility in water:  | Insoluble                   |
| Autoignition Temp     | product is not selfigniting |
| Decomposition Temp.:  | >350°C                      |
| Oxidizing properties: | N/A                         |
| Explosive properties  | Product is not explosive    |
| Molecular Weight      | N/A                         |

## Section 10. Stability and Reactivity

### 10.1 Reactivity

Reacts with strong acids and oxidizing agents

### 10.2 Chemical stability

Stable

### 10.3 Possibility of hazardous reactions

This product is not capable of dust explosion in the form supplied. Enrichment with fine dust causes risk of dust explosion.

## **10.4 Conditions to Avoid**

No further relevant information available.

## **10.5 Incompatible Materials**

Strong acids, strong oxidizing agents

## **10.6 Hazardous decomposition products**

None known.

# **Section 11. Toxicological Information**

## **11.1 Information on toxicological effects**

### **Ingestion**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed.

### **Aspiration hazard**

Based on physical properties, not likely to be an aspiration hazard.

### **Dermal**

No adverse effects anticipated by skin absorption.

### **Inhalation**

No adverse effects are anticipated from single exposure to dust.

### **Eye damage/eye irritation**

Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation.

### **Skin corrosion/irritation**

Prolonged contact is essentially nonirritating to skin. Mechanical injury only. Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.

# **Section 12. Ecological Information**

## **12.1 Toxicity**

Not expected to be acutely toxic.

## **12.2 Persistence and degradability**

This water-insoluble polymeric solid is expected to be inert in the environment.

Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

## **12.3 Bioaccumulative potential**

No bioconcentration is expected because of the relatively high molecular weight.

## **12.4 Mobility in soil**

In the terrestrial environment, material is expected to remain in the soil.

In the aquatic environment, material will sink and remain in the sediment.

## **Section 13. Disposal Considerations**

### **13.1 Waste treatment methods**

For uncontaminated material the disposal options include mechanical and chemical recycling or energy recovery. In some countries landfill is also allowed. For contaminated material the options remain the same, although additional evaluation is required. For all countries the disposal methods must be in compliance with national and provincial laws and any municipal or local by-laws. All disposal methods must be in compliance with the EU framework Directives 2008/98/EC and their subsequent adaptations, as implemented in National Laws and Regulations, as well as EU Directives dealing with priority waste streams.

## **Section 14. Transport Information**

**Not Classified – not regulated as hazardous material.**

## **Section 15. Regulatory Information**

### **15.1 Safety, health and environmental regulations specific for the substance or mixture**

#### **European Inventory of Existing Commercial Chemical Substances (EINECS)**

The components of this product are on the EINECS inventory or are exempt from inventory requirements

## **Section 16. Other Information**

**The information herein is given in good faith, but no warranty, express or implied, is made.**

**Consult the Company for further information.**