



Material Safety Data Sheet

TPU (Thermoplastic polyurethane)/Carbon nanotubes (CNT)

Date: March 2024

Version 1.0

1. IDENTIFICATION

Product name: TPU (Thermoplastic polyurethane)/Carbon nanotubes (CNT)

Identified use: Thermal processing for 3D printing in Layer Plastic Deposition (LPD) technology.

Supplier:

Advanced BioCarbon 3D

Victoria BC

Canada

Phone +1 250 544 5377

2. HAZARD IDENTIFICATION

Material type: Thermoplastic

The product is not classified as dangerous according to Regulation (EC) No 1272/2008.

3. COMPOSITION/INFORMATION ON INGREDIENTS

TPU (Thermoplastic polyurethane): ~75% CAS: 75701-44-9

Other additives and colourants (Including CNT): 0 ~ 25%

4. FIRST AID MEASURES.

Eye contact: Immediately rinse the eyes with water. In case of irritation, contact a physician.

Skin contact: Wash with soap and water. If molten material comes into contact with the skin, cool immediately with cold water. Removal of solidified molten material from the skin and treating burns require medical assistance.

Ingestion: Remove material residues from the mouth and rinse the mouth with water. Drink plenty of water. Do NOT induce vomiting. In case of discomfort, contact a physician.

Inhalation: Provide fresh air. In case of noticing worrying symptoms, consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Fine spray or water mist, dry powder, foam, carbon dioxide (CO₂).

Special hazards arising from the substance or mixture: Burning produces irritating and noxious fumes/gases, smoke, carbon monoxide and carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment. Ensure proper ventilation. Avoid contact with molten material. Do not eat, drink or smoke when using the product. Do not ingest.

Environmental protection: Prevent or limit further leakage if possible. Avoid discharge of the product into drain, ground and surface water.

7. HANDLING AND STORAGE

Precautions for safe handling: Handle in accordance with general safety regulations. Use personal protective equipment. Ensure proper ventilation. Avoid contact with molten material. Do not eat, drink or smoke when using the product. Do not ingest.

Conditions for safe storage: Store in tightly closed packaging in a dry and cool room away from hot surfaces and sources of ignition. Protect from moisture and direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: The product does not contain any hazardous substances with occupational exposure limits.

Personal protective equipment: Wear safety glasses with side shields. Wear heat-resistant gloves when handling molten material. When working in spaces with high temperatures and with poor ventilation, use breathing equipment with a particle filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Filament,

Physical state: Solid,

Colors: As displayed in the label

Freezing Point: N/A

Solubility: Insoluble

These properties have been listed based on the tests in a laboratory environment and may vary under different conditions.

10. STABILITY AND REACTIVITY

Reactivity: No reactivity under normal storage conditions.

Chemical stability: Stable under normal storage conditions.

Conditions to avoid: Sources of heat, ignition and moisture. Working in spaces with poor ventilation.

Incompatible materials: Strong oxidants

11. TOXICOLOGICAL INFORMATION

Skin corrosion/irritation: Contact with skin may cause irritation.

12. ECOLOGICAL INFORMATION

Toxicity: No data available

Persistence and degradability: The product is non-biodegradable.

Bioaccumulative potential: Bioaccumulation is not expected.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Do not discard into drains, water courses or onto the ground. Waste and empty containers should be disposed of in accordance with local regulations.

14. TRANSPORT INFORMATION

The product is not classified as dangerous for transport.

15. REGULATORY INFORMATION

For regulatory information, please refer to the appropriate governmental website or regulatory agencies.

16. OTHER INFORMATION

This Safety Data Sheet has been prepared on the basis of the currently available data on the product as well as of the Manufacturer's experience and knowledge. It should be treated as a guide for safe transportation, storage and handling. The given information is not to be considered as a warranty or quality specification. Additionally, it is the user's responsibility to handle the product in accordance with local regulations and standards. Users should ensure that they have the latest version of this MSDS and consult with appropriate professionals to ensure safe handling and use of the product.