

TPU 98 · Safety Data Sheet

In accordance with paragraph (d) of 29 CFR 1910.1200:2012 Regulation (EU) No. 1907/2006

Section 1. Chemical Product and Company identification

Product Name
Smart3D TPU 98

Importer
Industry Supplies, Inc.
2035 Sunset Lake Road Newark, Delaware 19702 USA.
Email: support@smart3d.tech
USA Emergency Poison Control Hot Line (24/7): 1 (800) 222-1222 or call your LOCAL POISON CONTROL CENTER

Section 2. Hazards Identification

GHS Classification
Not applicable

Precautionary statements

GHS label elements Hazard symbols
None needed

Prevention
None needed

Signal word
None needed

Response
None needed

Hazard statement
None needed

Storage
None needed

EU Classification

Classification of substance or mixture
REGULATION (EC) No 1272/2008 - This product is not classified as dangerous according to EC criteria.

OSHA Regulatory Status
This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulation.

Other hazards
NFPA rating: (0-4 steps) Health=1, Flammability=0, Reactivity=0

Section 3. Composition

Chemical name
Thermoplastic Polyurethane (TPU) - Aromatic Polyether-based Thermoplastic

Chemical family
Polymer, thermoplastic copolymer

CAS n./ ECL n./ EINECS n.
75701-44-9

Product use
Monofilament for FFF 3D Printing

Contents (%)
>98

Section 4. First-Aid Measures

Eye/Skin contact

There were no target organ effects noted following dermal exposure in animal studies Did not cause skin allergic reactions in skin sensitization studies using guinea pigs. Molten material may cause burns. Epsilon-caprolactam solid: LD50/ dermal/ rabbit > 2000 mg/kg.

Inhalation

No data available. Not expected to be harmful. Dust may cause irritation of the upper respiratory tract. Epsilon-caprolactam solid: LD50/ inhalative/ rat > 8.16 mg/kg.

Genotoxicity

Not mutagenic in AMES Test (rat).

Ingestion

There were no target organ effects noted following ingestion in animal studies. Polyamide 6: LD50/ oral/ rat > 3200 mg/kg. Epsilon-caprolactam solid: LD50/ oral/ rat > 1475-1876 mg/kg.

Notice to physician

It is unlikely that first aid shall be needed if the product is used under ordinary conditions. Treat symptomatically according to victim's conditions and specifics of incident

Antidote

None known. Treat symptomatically and supportively.

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Section 5. Fire-fighting measures

Flammability

Autoignition temperature: Not available.

Suitable extinguishing media

Water, foam, regular dry chemical, carbon dioxide

Unsuitable extinguishing media

None known

Specific hazards arising from the chemical

Avoid generating dust. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous combustion products

Carbon monoxide, Carbon dioxide, Nitrogen oxides (NOx), Sulphur oxides (SOx) Levels of fire hazard: Not available

Fire fighting procedures and equipments

Wear appropriate personal protective equipment (see section 9. EXPOSURE CONTROLS/PERSONAL PROTECTION). Avoid inhalation of smoke or gas when fire fighting. Use self contained breathing apparatus (SCBA) for protection against possible exposure. Isolate hazard area and deny entry. Stay upwind and keep out of low areas. Move container from fire area if it can be done without risk. Cool containers with water until well after fire is out.

Special protective equipment and precautions for firefighters

Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency procedures

Perform in accordance with section 9. EXPOSURE CONTROLS/PERSONAL PROTECTION. Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Methods and Materials for Containment and Cleaning Up

Where possible allow leak of molten material to solidify before disposal in an appropriate container. Dispose in accordance with all applicable regulations.

Environmental Precautions

Avoid dispersal of spilt material and runoff and contact with waterways, drains, sewers and basements or confined areas. If large spills, advise emergency services. Comply with all applicable regulations on spill and release reporting.

Section 7. Handling and Storage

Handling

Keep away from the molten plastic while printing in case of being burned.

Storage

Store at temperatures not exceeding 50°C/122°F. Keep cool. Avoid heat, flames, sparks and other sources of ignition. Keep away from incompatible materials.

Incompatible materials

Oxidizing agents

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Section 8. Exposure Controls / Personal Protection

Exposure limit under ISHL

Not applicable

ACGIH

Not applicable

Biological exposure limits

Not applicable

EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health

Surveillance Measures

There are no biological limit values for any of this product's components

Engineering Controls

A system of local and/or general exhaust ventilation system is recommended to keep exposure below the Exposure Limits. Local exhaust ventilation is considered sufficient to effectively remove emissions (dusts and fumes) of the contaminant at its source, preventing dispersion during handling or thermal processing.

Personal Protective Equipment

Respiratory Protection

No respirator is required under normal conditions of use. Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.

Eye/face/skin Protection

None during normal use. Protect against molten solid by wearing protective gloves.

Section 9. Physical & Chemical Properties

Appearance

Monofilament, spool

Vapour pressure

Not available

Physical State

Solid

Solubility

Insoluble

Odor

Odorless, plastic

Vapour density (Air=1)

Not available

pH

Not available

Relative density

1-1.1

Melting point

Not available

Partition coefficient of n-octanol/water

Not available

Initial Boiling Point/Boiling Ranges

Not available

Autoignition Temperature

Not available

Flash point

Not available

Decomposition Temperature

Not available

Evapourating Rate

Not available

Viscosity

Not available

Flammability (solid, gas)

Not available

Molecular weight

Not available

Upper/Lower Flammability or explosive limits

Not available

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Section 10. Stability & Reactivity

Reactivity / Stability

This product is chemical stable under recommended storage, handling, use and temperature conditions.

Possibility of hazardous reaction

Will not polymerize.

Conditions to avoid

Avoid contact with heat, sparks, flame or other ignition sources

Materials to avoid

Strong oxidizing agents such as liquid chlorine and concentrated oxygen.

Hazardous decomposition products

Gas/steam, oxides of carbon, oxides of nitrogen, HCN, acrylonitrile, styrene monomer.

Section 11. Toxicological information

Information on the likely routes of exposure

Inhalation

No data available. Not expected to be harmful. Dust may cause irritation of the upper respiratory tract.

Ingestion

No data available. Not expected to be harmful.

Eye/Skin

No data available. Not expected to be harmful. Molten material may cause burns.

Genotoxicity

No data available. Not expected to be harmful.

Medical conditions aggravated by exposure

No data available.

Section 12. Ecological Information

Ecotoxicity

No data available

Persistence and Degradability

No data available

Bioaccumulative Potential

No data available

Mobility

No data available

Section 13. Disposal Considerations

Disposal methods

Dispose of contents/container in accordance with applicable local, regional, national, and/or international laws and regulations. Avoid release to the environment. Incineration should be done in accordance with prevailing municipal, state, and federal laws and standards from local environmental agencies.

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Section 14. Transport Information

US DOT Information UN/NA number Not regulated for transport of dangerous goods	ICAO/IATA UN-No. Not regulated for transport of dangerous goods	IMDG: UN-No. Not regulated for transport of dangerous goods
Proper shipping name None	Proper shipping name None	Proper shipping name None
Hazard class Not applicable	Hazard class Not applicable	Hazard class Not applicable
Packing group None	Packing group None	Packing group None

Section 15. Regulatory Information

U.S. Federal Regulations SARA 313 Not listed
OSHA (29CFR 1910.1200): Not Listed
EC Classification: Not Listed
Issue date 2017. 10. 28

Disclaimer:

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