



T-MAT PCPBT

SAFETY DATA SHEET

1. IDENTIFICATION

Trademark : T-MAT PCPBT

Product name : T-MAT PCPBT

Product description : Poly (butylene terephthalate) / Polycarbonate Blend

Appearance : Filament

Recommended use : print in FFF additive manufacturing

Restrictions on use : For industrial use only.

Supplier : SA2P sas / Treedfilaments
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2. HAZARDS IDENTIFICATION

GHS Remark

The additives in this product (if any) are bound in a thermoplastic resin matrix. In accordance with GHS for the classification of the product, the hazard potential may be assessed with respect to the physico-chemical form and/or bioavailability of the individual components in the thermoplastic resin. UN GHS says, that even if adverse effects are seen in animal studies or in-vitro tests, no classification is needed if the mechanism or mode of action is not relevant to humans. The European CLP Regulation also mentions, that no classification is indicated if the mechanism is not relevant to humans. Where GHS classifications are shown below, these are based on the individual components in the thermoplastic resin matrix. Under the typical use conditions for the resin, these hazardous components are unlikely to contribute to workplace exposure. Please read the entire safety data sheet and/or consult an EHS professional for a complete understanding.

2.1 Classification of the substance or mixture

Chemical characterization Mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Classification (67/548/EEC, 1999/45/EC)

Not a hazardous substance or mixture.



Other hazards which do not result in classification

Treed Emergency Overview

Pellets with slight or no odor

Spilled material may create slipping hazard.

Can burn in a fire creating dense, toxic smoke

Molten plastic can cause severe thermal burns

Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever.

Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Other information

OSHA, IARC and/or NTP have listed carbon, titanium dioxide, crystalline silica (quartz), respirable glass and certain heavy metals, present in some colorants and fillers, as carcinogens. If these materials are present in this product at significant quantities, they are shown in Section 2/3. These materials are essentially bound to the plastic matrix and are unlikely to contribute to workplace exposure under recommended processing conditions.

Processing Issues

Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds, and other surfaces can cause irritation and injury to skin.

Aggravated Medical Condition

MEDICAL RESTRICTIONS: There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.3 Other hazards

PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature : Mixture

Hazardous components

Ingredient	Identifiers	Concentration	Classification (REGULATION (EC) No 1272/2008)	Type
Furan, Tetrahydro-	109-99-9Index: 603-025-00-0	>= 0.1 - < 0.3 %	Flam. Liq.2; H225 Acute Tox.4; H302 Eye Irrit.2; H319 Carc.2; H351	IMPURITY



		STOT SE3; H335	
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See Section 16 for the full text of the H statements declared above.

Components which are considered potential hazards to health or the environment, if present above minimum concentrations, are listed above. Any concentration shown as a range is to protect confidentiality and/or is due to batch variation. Any non-hazardous components are being withheld as a trade secret. This product consists primarily of high molecular weight polymers which are not expected to be hazardous. Furthermore, any additives in this product are present within the polymer matrix and are not expected to be hazardous under recommended use conditions. Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

4.1 Description of first aid measures

- | | |
|-------------------------|--|
| General advice | : Thermal decomposition can lead to release of irritating gases and vapours. Move the victim to fresh air. Obtain medical attention. |
| If inhaled | : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician. |
| In case of skin contact | : After contact with skin, wash immediately with plenty of cold water. Wash off immediately with soap and plenty of water. Consult a physician. If skin irritation persists, call a physician. |
| In case of eye contact | : Immediately flush eye(s) with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a specialist. |
| If swallowed | : Negligible or unlikely exposure pathways If accidentally swallowed obtain immediate medical attention. |

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

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|--------------|--|
| Eye contact | : Immediately flush eye(s) with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a specialist. |
| Inhalation | : Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician. |
| Skin contact | : After contact with skin, wash immediately with plenty of cold water. Wash off immediately with soap and plenty of water. Consult a physician. If skin irritation persists, call a physician. |
| Ingestion | : Negligible or unlikely exposure pathways If accidentally swallowed obtain immediate medical attention. |

Over-exposure signs/Symptoms

None known.

4.3 Indication of any immediate medical attention and special treatment needed

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|--------------------|-----------------------------|
| Notes to Physician | : No information available. |
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5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.).

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : 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. Material is not sensitive to mechanical impact.

Hazardous combustion products : Fire will produce dense black smoke containing hazardous combustion products, carbon oxides, hydrocarbon fragments. If present, certain hazardous additives can also liberate halogenated hydrocarbons.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Stay upwind/ keep distance from source.

Further information : Take precautionary measures against static discharges. During processing, dust may form explosive mixture in air. Thermal decomposition can lead to release of irritating gases and vapours.

Explosive properties : Not applicable

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Take precautionary measures against static discharges.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Should not be released into the environment.



in order to protect the aquatic environment from potential (long term) negative effects of plastic materials.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.

6.4 Reference to other sections

For disposal considerations see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed. Open containers only in well-ventilated area.

Hygiene measures : Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep tightly closed in a dry and cool place. Keep away from heat and sources of ignition. Residual monomer vapors can accumulate in the headspace of closed containers.

Storage class (TRGS 510) : 11, Combustible Solids

7.3 Specific end use(s)

Specific use(s) : May be used to produce molded or extruded articles or as a component of other industrial products. Manufacture of plastics products, including compounding and conversion

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Reference
Furan, Tetrahydro-	109-99-9	TWA	50 ppm 150 mg/m ³	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
Furan, Tetrahydro-	109-99-9	STEL	100 ppm 300 mg/m ³	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
Furan, Tetrahydro-	109-99-9	TWA	50 ppm 150 mg/m ³	IT OEL
Further information	The notation 'Skin' attributes to the exposure limit values and indicates the possibility of absorption through the skin.			



Furan, Tetrahydro-	109-99-9	STEL	100 ppm 300 mg/m ³	IT OEL
Further information	The notation 'Skin' attributes to the exposure limit values and indicates the possibility of absorption through the skin.			

8.2 Exposure controls

Engineering measures

Handle in accordance with good industrial hygiene and safety practice.

Provide appropriate exhaust ventilation at machinery.

Processing fume condensate may be a fire hazard and toxic; remove periodically from exhaust hoods, ductwork, and other surfaces using appropriate personal protection.

Personal protective equipment

Eye protection : Safety glasses with side-shields
Chemical resistant goggles must be worn.

Hand protection :
Material : Wear protective gloves.

Skin and body protection : Long sleeved clothing

Respiratory protection : Use adequate ventilation and/or engineering controls in high temperature processing to prevent exposure to vapours.
If dust or powder are produced from secondary operations such as sawing or grinding, use a respirator approved for protection from dust.

Protective measures : Wear suitable protective equipment.

Environmental exposure controls

General advice : Not applicable

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: filament
Physical state	: solid
Colour	: black
Odour	: none or slight
Odour Threshold	: No information available.
pH	: No data available
Melting point/range	: This product does not exhibit a sharp melting point but softens gradually over a wide range of temperatures.
Boiling point/boiling range	: not determined
Flash point	: Not applicable
Upper explosion limit	: not determined
Lower explosion limit	: not determined
Vapour pressure	: negligible
Relative vapour density	: not determined
Relative density	: >1 (water = 1)
Density	: not determined
Bulk density	: 500 kg/m ³
Water solubility	: insoluble
Solubility in other solvents	: not determined
Partition coefficient: n-octanol/water	: No information available.



Auto-ignition temperature	: 360 °C estimated
Decomposition temperature	: not determined
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

Stable at normal ambient temperature and pressure.

Hazardous polymerisation does not occur.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : To avoid thermal decomposition, do not overheat.
Heating can release hazardous gases.
Do not exceed melt temperature recommendations in product literature. Purgings of hot material should be collected in small, flat, thin shapes and quenched with water to allow for rapid cooling. Do not allow product to remain in barrel at elevated temperatures for extended periods of time.

10.5 Incompatible materials

Materials to avoid : No special restrictions on storage with other products.

10.6 Hazardous decomposition products

Hazardous decomposition products : Process vapors under recommended processing conditions may include trace levels of
,hydrocarbons, tetrahydrofuran (THF), aliphatic aldehydes,hydrocarbons, phenols, alkylphenols, diarylcarbonates

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity
Remarks: >5000 mg/kg (estimated)

Acute dermal toxicity
Remarks: >2000 mg/kg (estimated)

Components:

109-99-9:



Acute oral toxicity

Components	Value type	Species	Value
Furan, Tetrahydro-	LD50	Rat, male and female	1.65 mg/kg

Serious eye damage/eye irritation

Components:

109-99-9:

Components	Species	Result	Exposure time
Furan, Tetrahydro-	Rabbit	Corrosive	1 - 4 d

Respiratory or skin sensitisation

STOT - single exposure

Components:

109-99-9:

Components	Exposure routes	Target Organs	Assessment
Furan, Tetrahydro-			May cause respiratory irritation.

STOT - repeated exposure

Components:

109-99-9:

Components	Exposure routes	Target Organs	Assessment
Furan, Tetrahydro-		Central nervous system, Eyes, Kidney, Liver, Mucous membranes, Nervous system, Respiratory Tract, Skin	

Repeated dose toxicity

Components:

109-99-9:

Components	Application Route	Species	Value	Exposure time
Furan, Tetrahydro-	inhalation (vapour)	Mouse, male	NOAEL: 200 ppm	98 d
Furan, Tetrahydro-	Oral	Rat, male and female	NOAEL: 1,000 mg/l	28 d

Neurological effects

Components:

109-99-9:

Assessment: neurotoxicity



Experience with human exposure

Product:

- Inhalation : Remarks: Inhalation unlikely due to physical form. Processing fumes evolved at recommended conditions may contain trace amounts of hazardous chemicals. Extreme processing conditions or temperatures may result in higher levels. Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation duct work, molds, and other surfaces can cause irritation and injury to skin.
- Skin contact : Remarks: Not a hazard during normal industrial use. If present, some additives (like glass fiber or flame retardants) may cause skin irritation in susceptible persons.
- Eye contact : Remarks: Resin particles, like other inert materials, are mechanically irritating to eyes.
- Ingestion : Remarks: Ingestion unlikely due to physical form.

Further information

Product:

Special Studies: The toxicological data has been taken from products of similar composition.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

- Results of PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
- Additional ecological information : Do not flush into surface water or sanitary sewer system. Ecological injuries are not known or expected under normal use.



13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product : Where possible recycling is preferred to disposal or incineration.

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Contaminated packaging : Where possible recycling is preferred to disposal or incineration.
Can be landfilled or incinerated, when in compliance with local regulations.

14. TRANSPORT INFORMATION

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:

REACH (European Union) : For further information, please contact: Manufacturer, importer, supplier
CH INV (Switzerland) : The formulation contains substances listed on the Swiss Inventory
Not in compliance with the inventory



TSCA (USA)	: On TSCA Inventory
DSL (Canada)	: All components of this product are on the Canadian DSL
AICS (Australia)	: On the inventory, or in compliance with the inventory
NZIoC (New Zealand)	: On the inventory, or in compliance with the inventory
ENCS (Japan)	: On the inventory, or in compliance with the inventory
ISHL (Japan)	: For further information, please contact: Manufacturer, importer, supplier
KECI (Korea)	: On the inventory, or in compliance with the inventory
PICCS (Philippines)	: Not in compliance with the inventory
IECSC (China)	: On the inventory, or in compliance with the inventory
TCSI (Taiwan)	: For further information, please contact: Manufacturer, importer, supplier
EHSNR (Malaysia)	: For further information, please contact: Manufacturer, importer, supplier
CICR (Turkey)	: For further information, please contact: Manufacturer, importer, supplier

15.1 Other applicable national regulatory information

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances
Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

16. OTHER INFORMATION

Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H302	: Harmful if swallowed.
H319	: Causes serious eye irritation.
H335	: May cause respiratory irritation.
H351	: Suspected of causing cancer.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Carc.	: Carcinogenicity
Eye Irrit.	: Eye irritation



Flam. Liq.	: Flammable liquids
STOT SE	: Specific target organ toxicity - single exposure

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.

End of Safety Data Sheet