

TPU

SAFETY DATA SHEET

1. Hazards identification

1.1 *Classification of the substance or mixture classification (REGULATION (EC) No 1272/2008)*

According to Regulation (EC) No 1272/2008 [CLP]

No need for classification according to GHS criteria for this product

1.2 *Label elements*

Globally Harmonized System, EU (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

The product does not require a hazard warning label in accordance with EC Directives, the dangerous ingredients are fixed in a polymer matrix.

1.3 *Other hazards*

According to Regulation (EC) No 1272/2008 [CLP]

No specific dangers known, if the regulations/notes for storage and handling are considered.

2. Composition/information on ingredients

2.1 *Substances*

Not applicable

2.2 *Mixtures*

Polymer based on: polyurethane, stabilizing agents, additives

Does not contain any hazardous ingredients according to Regulation (EC) No. 1272/2008

3. First aid measures

3.1 *Description of first aid measures*

On skin contact:

Burns caused by molten material require hospital treatment.

3.2 *Most important symptoms and effects, both acute and delayed*

Symptoms: No significant reaction of the human body to the product known.

Hazards: No hazards anticipated.

3.3 *Indication of any immediate medical attention and special treatment needed*

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

4. Fire fighting measures

4.1 *Extinguishing media*

Suitable extinguishing media:

Water, foam, dry chemical powder, Carbon dioxide fire extinguishers

4.2 *Special hazards arising from the substance or mixture*

Carbon dioxide, carbon monoxide, hydrogen cyanide; hydrocyanic acid, nitrogen oxides, isocyanate

The substances/groups of substances mentioned can be released in case of fire.

4.3 *Advice for fire fighters*

Protective equipment:

Self contained breathing apparatus (SCBA).

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

5. Accidental release measures

5.1 *Personal precautions, protective equipment and emergency procedures*

No special precautions necessary.

5.2 *Environmental precautions*

No special precautions necessary.

5.3 *Methods and materials for containment and cleaning up*

Sweep up and contain spilled material if possible. High risk of slipping.

5.4 *Reference to other sections*

Refer to section (8)

6. Handling and storage

6.1 *Handling*

Provide suitable exhaust ventilation at the drying process and in the area surrounding the melt outlet of processing machines.

Protection against fire and explosion:

No special precautions necessary.

6.2 *Conditions for safe storage, including any incompatibilities*

Segregate from foods and animal feeds.

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), paper, board

Further information on storage conditions: Keep container tightly closed. Protect against moisture.

7. Exposure controls/personal protection

7.1 *Control parameters*

Components with occupational exposure limits:

The substances mentioned are contained only in traces in the product.

101-68-8: 4,4'-Methylenediphenyl diisocyanate
PNEC: The obligation to register acc. to the REACH Regulation (EC) No 1907/2006 does not apply to polymers.

DNEL: The obligation to register acc. to the REACH Regulation (EC) No 1907/2006 does not apply to polymers.

7.2 *Exposure controls*

Personal protection:

Hand protection : not required.

Eye protection : not required.

Respiratory protection: Breathing protection if breathable aerosols/dust are formed.

General safety and hygiene measures

Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke.

Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied.

8. Physical and chemical properties

8.1 Information on basic physical and chemical properties

Appearance:	Flexible Solid Filament
Odour:	Odourless
Colour:	depending on product grade
Odour threshold:	Not determined
pH:	Not applicable
Softening Temperature:	>120°C
Initial boiling point and boiling range:	The product is a non-volatile solid.
Flash point:	Not applicable
Evaporation rate:	Not applicable
Flammability (solid, gas):	flammable
Upper/lower flammability or explosive limits:	For solids not relevant for classification and labelling.
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	Ca. 1.1-1.2 g/cm ³ (20°C)
Bulk density:	ca. 600 kg/m ³ as granules
Solubility(ies):	Practically insoluble
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	>400°C
Decomposition temperature:	>230°C
Viscosity:	Not applicable
Explosive properties:	Not explosive
Oxidizing properties:	Not oxidizing

9. Stability

9.1 Reactivity:

Stable under normal handling and storage conditions

Corrosion to metals: No corrosive effect on metal.

9.2 Chemical stability:

Stable under normal handling and storage conditions

9.3 Possibility of hazardous reactions:

No hazardous reactions observed under normal handling and storage conditions

9.4 Conditions to avoid:

While printing, keep away from sparks and open flame. Exposure to elevated temperatures can cause product to decompose.

9.5 Incompatible materials:

None known

9.6 Hazardous decomposition products

Possible decomposition products on thermal decomposition:

carbon monoxide, Carbon dioxide, hydrogen cyanide; hydrocyanic acid isocyanates, nitrogen oxides

10. Toxicological information

10.1 Information on toxicological effects

Acute toxicity:

Assessment of acute toxicity:

Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. Virtually nontoxic after a single ingestion.

Experimental/calculated data:

LD50 rat (oral): > 5,000 mg/kg

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation:

Assessment of irritating effects:

Not irritating to the eyes. Not irritating to the skin. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Respiratory/Skin sensitization:

Assessment of sensitization:

The chemical structure does not suggest a sensitizing effect.

Germ cell mutagenicity:

Assessment of mutagenicity:

The chemical structure does not suggest a specific alert for such an effect.

Carcinogenicity:

Assessment of carcinogenicity:

The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity:

Assessment of reproduction toxicity:

The chemical structure does not suggest a specific alert for such an effect.

Developmental toxicity:

Assessment of teratogenicity:

The chemical structure does not suggest a specific alert for such an effect.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Repeated exposure to the substance by dermal administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by inhalative administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure.

Aspiration hazard:

No aspiration hazard expected.

11. Ecological information

11.1 Toxicity

Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

11.2 Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Poorly biodegradable.

Elimination information:

Poorly biodegradable

11.3 *Bioaccumulative potential*

To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.

11.4 *Mobility in soil*

No data available

11.5 *Results of PBT and vPvB assessment*

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria.

11.6 *Other adverse effects*

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer

11.6 *Additional information*

Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

12. Disposal considerations

12.1 *Waste treatment methods*

Can be used without re-conditioning.

May be disposed of or combusted with domestic refuse according to local regulations.

Waste key:

07 02 13 waste plastic

Contaminated packaging:

Completely emptied packagings can be given for recycling.

13. Transport information

Product has been classified as being non-dangerous substance according to transport regulations ADR, RID, IMDG, IATA/ICAO

13.1 *UN number*

Not applicable

13.2 *UN proper shipping name*

Not applicable

13.3 *Transport hazard class(es)*

Not applicable

13.4 *Packing Group*

Not applicable

13.5 *Environmental hazards*

No additional data is available

13.6 *Special precautions for user*

No data available

13.7 *Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code*

Not evaluated

14. Regulatory information

14.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

14.2 Chemical Safety Assessment

The obligation to register acc. to the REACH Regulation (EC) No 1907/2006 does not apply to polymers.

15. Other information

Information is referenced from other manufacturers.

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 and Regulation (EC) No. 2015/830. Label element according to Regulation (EC) No 1272/2008.

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.