

SAFETY DATA SHEET



V1.0 | Issue date: April 2026

Prepared in accordance with Regulation (EC) No 1907/2006 (REACH), as amended by Regulation (EU) 2020/878, and Regulation (EC) No 1272/2008 (CLP).

SECTION 1 — IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name	Infilus™ TPU
Trade name	Infilus™ TPU
Product type	3D printing filament, 1.75 mm diameter
Chemical name	Thermoplastic polyurethane (ether / ester-based)
CAS number	9009-54-5
EC / EINECS number	618-416-4

1.2 Relevant identified uses and uses advised against

Identified uses	Material for fused-filament-fabrication (FFF) 3D printing in professional and domestic environments.
Uses advised against	Applications involving food contact, direct skin contact with printed parts for medical use, or continuous exposure to temperatures above the recommended service temperature, unless validated by the user.

1.3 Details of the supplier of the Safety Data Sheet

Supplier	Infilus GmbH
Address	Bahnhofstraße 44, 86641 Rain, Germany
Telephone	+49 9061 202 33 84
E-mail (competent person)	info@infilus.com
Website	www.infilus.com

1.4 Emergency telephone number

24/7 Emergency	European Emergency Number 112 (24/7) Giftnotruf München +49 89 19240 (24/7)
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SECTION 2 — HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not classified as hazardous according to Regulation (EC) No 1272/2008 (CLP).

2.2 Label elements

Hazard pictograms	None
Signal word	None
Hazard statements	None
Precautionary statements	None

2.3 Other hazards

- The mixture does not meet the PBT or vPvB criteria of Annex XIII of Regulation (EC) No 1907/2006.
- The mixture does not contain substances identified as endocrine disruptors.
- During 3D printing, volatile organic compounds and ultrafine particles may be released. Use only with adequate ventilation; see Section 7 and Section 8.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixture

Component	CAS No.	EC No.	% (w/w)	Classification (CLP)
Thermoplastic polyurethane	9009-54-5	618-416-4	95 – 99 %	Not classified
Colour pigments & processing additives	Various	—	1 – 5 %	Not classified

Additives (pigments, stabilisers, processing aids) are present at concentrations below the classification threshold and do not require individual listing.

SECTION 4 — FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Under normal handling the solid filament does not generate inhalable dusts or vapours. If printing fumes are inhaled and cause irritation, move the affected person to fresh air; if symptoms persist, seek medical advice.
Skin contact	Solid filament is not expected to cause skin irritation. If molten polymer contacts the skin, do NOT attempt to peel the material off. Cool the affected area with plenty of cold water and seek medical attention immediately.
Eye contact	Rinse eyes cautiously with clean water for several minutes. Remove contact lenses if present and easy to do. If irritation persists, seek medical advice.
Ingestion	Not an expected route of exposure. Do not induce vomiting. Rinse mouth with water. Seek medical advice if any symptoms develop.
Most important symptoms	No specific acute or delayed symptoms known under normal handling. Thermal decomposition products (see Section 10) may irritate the eyes and upper respiratory tract.
Indication of immediate medical attention	Treat symptomatically. Show this Safety Data Sheet to the attending physician.

SECTION 5 — FIREFIGHTING MEASURES

Suitable extinguishing media	Water spray, foam, dry chemical powder, carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Special hazards	In case of fire, toxic and irritant gases including carbon monoxide, carbon dioxide and trace monomers/oligomers may be released.
Advice for firefighters	Wear full protective clothing and self-contained breathing apparatus (SCBA). Do not enter fire area without proper protection. Cool closed containers exposed to fire with water spray.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal precautions	Use standard housekeeping to collect solid filament. Avoid slipping hazards from loose filament strands. No special emergency procedures required.
Environmental precautions	Prevent entry to drains, surface water or soil, although the material is inert under ambient conditions.
Methods for containment and cleaning up	Collect the material mechanically and place in a suitable container for reuse or disposal in accordance with Section 13.
Reference to other sections	See Section 7 (Handling & Storage), Section 8 (Exposure Controls) and Section 13 (Disposal).

SECTION 7 — HANDLING AND STORAGE

7.1 Precautions for safe handling

- Handle in accordance with good industrial hygiene and safety practice.
- Avoid generating fine dust, for example by grinding or sawing printed parts without local extraction.
- Ensure adequate ventilation in the printing and post-processing area.
- During melt processing small amounts of vapours, including traces of isocyanate-related compounds, may be released. Ensure adequate ventilation or use an enclosed printer with extraction.

7.2 Conditions for safe storage, including any incompatibilities

- Store the filament sealed in its original packaging in a cool, dry place (15 – 25 °C, < 50 % RH).
- Keep away from sources of ignition, direct sunlight and strong oxidising agents.
- Protect from mechanical damage and moisture ingress.

7.3 Specific end use(s)

3D printing filament for fused-filament-fabrication (FFF) systems. No additional guidance beyond Sections 7.1 and 7.2.

SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No specific Indicative Occupational Exposure Limit Values (IOELV) have been established for the base polymer by Commission Directive 2019/1831/EU or subsequent amendments.
Engineering controls	Ensure adequate general or local exhaust ventilation, particularly during 3D printing and any mechanical post-processing. An enclosed printer with filtration is recommended for elevated-temperature grades.
Respiratory protection	Not required under normal conditions of use. If ventilation is insufficient, wear a filtering half-mask complying with EN 149 (FFP2 or higher).
Hand protection	Heat-resistant gloves compliant with EN 407 when handling the hot nozzle or freshly printed parts.
Eye protection	Safety goggles compliant with EN 166 are recommended during mechanical post-processing.
Body protection	Standard work clothing. No special protective clothing required for handling the solid filament.
Environmental exposure controls	Prevent uncontrolled release of the product to the environment.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid filament, spool-wound
Colour	According to grade (see Infilus colour swatch)
Odour	Odourless to slight plastic odour
pH	Not applicable (insoluble in water)
Melting point / Glass transition	Melting point ≈ 205 °C (DSC)
Boiling point	Not applicable (polymer)
Flash point	Not applicable (solid material)
Auto-ignition temperature	Not determined
Decomposition temperature	≥ 300 °C
Flammability (solid)	Not flammable under normal conditions
Explosive properties	Not explosive
Oxidising properties	Not oxidising
Density	1.21 g/cm³ at 23 °C
Solubility in water	Insoluble
Partition coefficient (log Kow)	Not applicable (polymer)
Viscosity	Not applicable (solid)

SECTION 10 — STABILITY AND REACTIVITY

Reactivity	No hazardous reactions known under normal use and storage.
Chemical stability	Stable under the recommended storage and handling conditions.
Possibility of hazardous reactions	None known.
Conditions to avoid	Excessive heat above the decomposition temperature, open flames, direct sunlight over prolonged periods, and sources of ignition.
Incompatible materials	Strong oxidising agents; strong acids and alkalis at elevated temperatures.
Hazardous decomposition products	Thermal decomposition may produce carbon monoxide, carbon dioxide, and minor quantities of hydrocarbon fragments, monomers, or pyrolysis gases depending on the base polymer.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute toxicity	The product has not been tested as a whole; based on composition, acute toxicity is not expected via any route of exposure.
Skin corrosion / irritation	Solid filament is not expected to cause skin irritation.
Serious eye damage / irritation	Not expected to cause serious eye damage; dust may cause mechanical irritation.
Respiratory or skin sensitisation	Not expected to be a skin or respiratory sensitiser.
Germ cell mutagenicity	No data available. Not expected based on base polymer.
Carcinogenicity	No component present at a concentration $\geq 0.1\%$ is classified as a carcinogen under Regulation (EC) No 1272/2008, IARC or OSHA.
Reproductive toxicity	No data available. Not expected based on base polymer.
STOT (single exposure)	Not expected to cause specific target organ toxicity after a single exposure.
STOT (repeated exposure)	Not expected to cause specific target organ toxicity after repeated exposure.
Aspiration hazard	Not considered an aspiration hazard.
Other information	The mixture does not contain substances identified as endocrine disruptors according to the criteria set out in Regulation (EU) 2017/2100 or (EU) 2018/605.

SECTION 12 — ECOLOGICAL INFORMATION

Aquatic toxicity	No data available. Not expected to be acutely toxic to aquatic organisms.
Persistence and degradability	The product is a synthetic polymer; it is not readily biodegradable under standard test conditions.
Bioaccumulative potential	No bioaccumulation expected due to the high molecular weight of the polymer.
Mobility in soil	Low mobility — the material is solid and insoluble in water.
Results of PBT and vPvB assessment	The substance does not meet the PBT / vPvB criteria of Annex XIII of Regulation (EC) No 1907/2006.
Endocrine disrupting properties	The mixture does not contain substances identified as endocrine disruptors.
Other adverse effects	Improper disposal (e.g. open burning or release to the environment as plastic waste) can contribute to microplastic pollution. See Section 13.

SECTION 13 — DISPOSAL CONSIDERATIONS

Product	Dispose of the product in accordance with local and national regulations. In the EU, the European Waste Catalogue (EWC) code 07 02 13 ("waste plastic") is generally applicable. The product is not classified as hazardous waste.
Contaminated packaging	Infilus spools and boxes are made from recycled cardboard and recyclable materials. Empty spools and boxes should be recycled through paper/cardboard collection streams. Printed parts and filament scrap should be recycled where local infrastructure allows, or disposed of as non-hazardous industrial waste.

SECTION 14 — TRANSPORT INFORMATION

Mode of transport	Classification	UN No.	Packing group	Proper shipping name
ADR / RID (road / rail)	Not dangerous goods	—	—	—
IMDG (sea)	Not dangerous goods	—	—	—
IATA / ICAO (air)	Not dangerous goods	—	—	—
ADN (inland waterway)	Not dangerous goods	—	—	—

The product is not classified as dangerous for transport under any international transport regulation. No transport in bulk according to Annex II of MARPOL and the IBC Code.

SECTION 15 — REGULATORY INFORMATION

REACH (EC) 1907/2006	The product is an article / mixture of polymers. All monomers used in Thermoplastic polyurethane (ether / ester-based) are registered, pre-registered, or exempt under REACH by the respective suppliers.
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REACH Annex XIV (Authorisation list)	The product does not contain substances included in Annex XIV above the threshold of 0.1 % (w/w).
REACH Annex XVII (Restrictions)	The product does not contain substances restricted under Annex XVII above the respective concentration limits.
SVHC (Candidate List)	The product does not contain Substances of Very High Concern (SVHC) above 0.1 % (w/w) at the time of issue.
CLP Regulation (EC) 1272/2008	The mixture is not classified as hazardous under CLP.
WGK (German Water Hazard Class)	Not classified / not applicable.
Other EU regulations	Regulation (EC) No 1005/2009 (ozone layer): Not listed. Regulation (EC) No 649/2012 (PIC): Not listed. Regulation (EU) 2019/1021 (POPs): Not listed.
Chemical Safety Assessment	No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16 — OTHER INFORMATION

Abbreviations	ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. CAS: Chemical Abstracts Service. CLP: Classification, Labelling and Packaging (Regulation (EC) No 1272/2008). DSC: Differential Scanning Calorimetry. EC / EINECS: European Commission / European Inventory of Existing Commercial Chemical Substances. FFP2: Filtering Face Piece class 2. IARC: International Agency for Research on Cancer. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods code. PBT: Persistent, Bioaccumulative, Toxic. PIC: Prior Informed Consent. POP: Persistent Organic Pollutants. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals. RID: Regulations concerning the International Carriage of Dangerous Goods by Rail. SCBA: Self-Contained Breathing Apparatus. STOT: Specific Target Organ Toxicity. SVHC: Substance of Very High Concern. TGA: Thermogravimetric Analysis. vPvB: very Persistent, very Bioaccumulative. WGK: Wassergefährdungsklasse (German water hazard class).
Key references	Regulation (EC) No 1907/2006 (REACH); Regulation (EU) 2020/878 (amending Annex II of REACH); Regulation (EC) No 1272/2008 (CLP); Directive 2019/1831/EU (indicative occupational exposure limits); published supplier data for the base polymer.
Revision information	Version 1.0 — first issue, April 2026. This document supersedes all previous versions.

Disclaimer

This Safety Data Sheet for Infilus™ TPU has been compiled by Infilus on the basis of published information for the relevant polymer family and on the knowledge available at the date of issue. The information is believed to be accurate at the time of publication and is intended solely as guidance for the safe handling, storage, transport, use and disposal of the product. Because the final conditions of use are outside the control of Infilus, no warranty, either express or implied, is given concerning the suitability of the product for any particular purpose. Users must satisfy themselves that the product and the recommendations contained herein are appropriate for their own intended application and comply with all applicable local, national and EU legislation. Infilus reserves the right to revise this Safety Data Sheet without prior notice whenever new information becomes available or regulations change. Infilus does not accept liability for any loss, damage or injury arising out of or in connection with the handling, storage, use or disposal of this product, other than as set out in a separate written contract between Infilus and the customer.

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