Data Sheet | Material Safety Data Sheet

1. Product identification

Product name:	Poly Urethane
Material numbers:	PU-UF03, PU-UF05, PU-UF07, PU-UF09, PU-UF1, PU-UF3, PU-UF15, PU-UF20, PU-UF30, PKPU, PU-W1, PU-TEX, PU-MAG08, PU-AS10 Clear & PU-AS10 Blue
Chemical family:	Thermoplastic/thermoset Poly Urethane
Chemical name:	Poly Urethane elastomer
Supplier:	Filcoflex B.V. Luxemburgstraat 3 5171PK Kaatsheuvel The Netherlands

2. Hazards identification

2.1 Classification of the substance or mixture
Filcoflex has determined that this material does not require classification under Regulation (EC) No. 1272/2008 and does not contain hazardous substances according to the Globally Harmonized System (GHS) classification.

2.2 Label elements
According to Regulation (EC) No. 1272/2008, labeling is not required. The material is classified as non-hazardous under the Globally Harmonized System (GHS).

2.3 Other hazards
Contact with molten material may cause thermal burns to the skin.

3. Composition/ information on ingredients

3.1 Type of product
Mixture

3.1 Mixtures
Ether-based thermoplastic Poly Urethane

No hazardous ingredients are present according to Regulation (EC) No. 1907/2006 (REACH).

3.3 Candidate list of substances of very high concern for Authorisation
This product does not contain substances of very high concern (SVHC) as defined in Article 57 of Regulation (EC) No. 1907/2006 (REACH).

4. First aid measures

4.1. Description of first aid measures
In case of skin contact: In case molten polymer comes into contact with the skin, cool immediately with plenty of cold water. Do not attempt to remove any product that has solidified on the skin, either forcibly or by using solvents. Seek medical attention for possible burns and appropriate further treatment.

In case of eye contact: In case of eye contact, immediately flush the eyes with plenty of water for at least 15 minutes. Seek medical advice if symptoms persist.

In case of inhalation: If exposed to fumes from overheating the material, move to fresh air. Seek medical attention if symptoms persist.

4.2. Most important symptoms, Acute or immediate effects
Contact with molten material may cause thermal burns to the skin.

4.3 Indication of any immediate medical attention and special treatment needed
Currently, no information is available from Filcoflex.

5. Fire-fighting measures

5.1. Extinguishing media
In case of fire involving the material, use suitable extinguishing media, such as water, foam, or dry chemical agents.

5.2. Spacial hazards arising from the substance or mixture
Burning the product releases carbon oxides, water vapor, smoke, hydrogen cyanide, and aliphatic and aromatic hydrocarbons. In the event of fire, do not breathe the fumes.

5.3. Advice for fire-fighters
Firefighters must wear self-contained breathing apparatus.
Do not allow contaminated extinguishing water to enter soil, groundwater, or surface water.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
- Wear protective equipment (see Section 8).
- Ensure adequate ventilation or exhaust extraction.
- Keep unauthorized personnel away.

6.2. Environment related measures
Do not discharge into surface water or the sanitary sewer system.

6.3. Methods and material for containment and cleaning up
Use mechanical handling equipment. Avoid the formation of dust. Sweep up and shovel into suitable containers for disposal.

6.4. Reference for safe handling
For further disposal measures, see Section 13.

7. Handling and storage

7.1. Precautions for safe handling
Ensure adequate ventilation and/or local exhaust systems are used, and that the workplace exposure limits stated in Section 8 are not exceeded.
In case of mechanical processing, dust must be removed by effective exhaust ventilation.
Wash hands and face before breaks and at the end of the workday.
Keep workwear separate from personal clothing. Change contaminated clothing.

7.2. Conditions for safe storage, including incompatibilities
Keep the material in a dry place, protected from UV light and heat sources.
Storage class (TRGS 510): 11 – Combustible solids
Storage temperature: < 40°C / < 104°F

8. Exposure controls / Personal protection

7.3. Specific end uses
No information available.

8.1. Control parameters
The regulations for the substances listed below must be observed during processing of this product, particularly when processing is carried out at elevated temperatures. In our experience, providing effective fresh air and exhaust ventilation at points where vapors may be generated will ensure compliance with the exposure limits listed below.

Substance	Basis	Type	Value	Ceiling limit value	Remarks
General limiting value of dust	TRGS 900		10mg/m^3	2	Inhalable fraction
			3mg/m^3	2	Alveolar fraction
		STEL CL			Category II: Substances with a resorptive effect

8.2. Exposure controls
Respiratory protection
Under normal processing conditions with adequate ventilation, the use of a respirator is not required.

Hand protection
Wear protective gloves. According to EN 374, suitable glove material is polyvinyl chloride (PVC) with a thickness of at least 0.5 mm / 0.0197 inch. Contaminated and/or damaged gloves must be replaced.

Eye protection
The use of safety goggles is recommended to prevent particles from entering the eyes during grinding or machining.

Skin and body protection
When handling molten material, wear a long-sleeved cotton shirt and long trousers.

Further protective measures
Do not breathe dust or vapors. Avoid skin contact.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Molded parts or sheets
Color	Transparant
Odor	Slight odor
pH	Not applicable
Percent volatiles	None
Softening point	> 120°C / > 248°F
Solubility in water	Insoluble
Specific gravity	1.1 - 1.2
Upper/lower flammability or explosive limits	Not applicable
Vapor pressure	Not applicable
Density	Ca. 1,2g/cm^3
Bulk density	500-700 kg/m^3
Auto-ignition temperature	Not applicable
Ignition temperature	> 210°C / > 410°F
Visosity, dynamic	Not applicable

9.2 Other information

The indicated values do not necessarily correspond to the product specifications. Please refer to the product information sheet or technical data sheet for specification details.

10. Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable at ambient temperatures and pressures

10.3. Possibility of hazardous reactions

No hazardous reactions observed

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

Smoldering or incomplete combustion leads to the formation of toxic gas mixtures consisting mainly of carbon monoxide (CO), carbon dioxide (CO^2), and nitrogen oxides.
Under recommended processing conditions, small amounts of isocyanates may be emitted. Exceeding the recommended processing temperatures leads to a significant increase in isocyanate vapors.

Overexposure entails a risk of concentration-dependent inhalation irritation and/or sensitization by isocyanates, including delayed onset of breathing difficulties, coughing, and possible asthma.
The regulations for the substances listed below must be observed during processing of this product, particularly when processing is carried out at elevated temperatures. Isocyanates (all, as –NCO).

11. Toxicological information

Toxicological studies on the product are not yet available. Available data are provided below:

11.1 Information on toxicological effecs

Acute toxicity, oral
Thermoplastic Poly Urethane
LD50 rat: > 5.000 mg/kg
Method: OECD Test Guideline 423
Studies on a comparable product.

Acute toxicity, dermal
Thermoplastic Poly Urethane
LD50 rat: > 2.000 mg/kg
Studies on a comparable product.

Acute toxicity, inhalation
Thermoplastic Poly Urethane
Assessment: The substance or mixture has no acute inhalation toxicity
Studies of a comparable product.
Primary skin irritation
Thermoplastic Poly Urethane
Species: rabbit
Result: non-irritant
Classification: No skin irritation
Method: OECD Test Guideline 404
Studies on a comparable product.

Primary mucosae irritation
Thermoplastic Poly Urethane
Species: rabbit
Result: non-irritant
Classification: No eye irritation
Studies on a comparable product.

Sensitisation
Thermoplastic Poly Urethane
Skin sensitisation according to Magnusson/Kligmann (maximizing test):
Species: Guinea pig
Result: negative
Classification: Does not cause skin sensitization.
Method: OECD Test Guideline 406
Studies on a comparable product.

Subacute, sub chronic and prolonged toxicity
Thermoplastic Poly Urethane
No data available.

Carcinogenicity
Thermoplastic Poly Urethane
No data available.

Reproductive toxicity/Fertility
Thermoplastic Poly Urethane
No data available.
Reproductive toxicity/Teratogenicity
Thermoplastic Poly Urethane
No data available.

Genotoxicity in vitro
Thermoplastic Poly Urethane
Test type: Salmonella/microsome test (Ames test)
Result: No indication of mutagenic effects.
Method: OECD Test Guideline 471
Studies on a comparable product.

Genotoxicity in vivo
Thermoplastic Poly Urethane
No data available.

STOT evaluation – one-time exposure
Thermoplastic Poly Urethane
Based on available data, the classification criteria are not met.

STOT evaluation – repeated exposure
Thermoplastic Poly Urethane
No data available

Aspiration toxicity
Thermoplastic Poly Urethane
No data available.

CMR Assessment
Thermoplastic Poly Urethane
Carcinogenicity: No data available.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: No data available.
Reproductive toxicity/Fertility: No data available.

12. Ecological information

Ecotoxicological studies on the product are not available. Do not allow the product to enter waterways, wastewater, or soil. Available data are provided below:

12.1. Toxicity

Acute Fish toxicity
Thermoplastic Poly Urethane
EC50 > 100 mg/l
Species: Danio rerio (zebra fish)
Exposure duration: 96 h
Method: Tested according to Directive 92/69/EEC
Studies on a comparable product.

Chronic Fish toxicity
Thermoplastic Poly Urethane
No data available.

Acute toxicity for daphnia
Thermoplastic Poly Urethane
EC50 > 100 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: Tested according to Directive 92/69/EEC.
Studies on a comparable product.

Chronic toxicity to daphnia
Thermoplastic Poly Urethane
No data available.

Acute toxicity for algae
Thermoplastic Poly Urethane
Endpoint: Growth inhibition
Species: scenedesmus subspicatus
Exposure duration: 72 h
Method: OECD Test Guideline 201
No toxic effects with saturated solution.
Studies on a comparable product.

Acute bacterial toxicity
Thermoplastic Poly Urethane
EC50 > 10.000 mg/l
Test type: Respiration inhibition
Species: activated sludge
Exposure duration: 3 h
Method: OECD Test Guideline 209
Studies on a comparable product.

12.2. Persistence and degradability

Biodegradability

Thermoplastic Poly Urethane
Biodegradation: 1 %, 28 d, i.e. not readily degradable
Method: Tested according to Directive 92/69/EEC.
Studies on a comparable product.

12.3 Bio accumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Other adverse effects

The product does not contribute to the AOX value of effluent water (DIN 38409).

13. Disposal considerations

Dispose of in accordance with applicable international, national, and local laws, regulations, and statutes. For disposal within the EU, the appropriate code from the European Waste Catalogue (EWC) should be used.

13.1 Waste treatment methods

After containers have been emptied as thoroughly as possible (e.g., by pouring, scraping, or draining until drip-dry), they may be sent to an appropriate collection point within an existing chemical industry take-back scheme. Containers must be recycled in compliance with national legislation and environmental regulations. The product is suitable for mechanical recycling. After appropriate treatment, it can be remelted and reprocessed into new molded articles. Mechanical recycling is only possible if the material has been selectively collected and carefully segregated by type.

14. Transport information

ADR/RID

14.1 UN number or ID number:	Not dangerous goods
14.2 UN proper shipping name:	Not dangerous goods
14.3 Transport hazard class(es):	Not dangerous goods
14.4 Packing group:	Not dangerous goods
14.5 Environmental hazards:	Not dangerous goods

ADN

14.1 UN number or ID number:	Not dangerous goods
14.2 UN proper shipping name:	Not dangerous goods
14.3 Transport hazard class(es):	Not dangerous goods
14.4 Packing group:	Not dangerous goods
14.5 Environmental hazards:	Not dangerous goods

IATA

14.1 UN number or ID number:	Not dangerous goods
14.2 UN proper shipping name:	Not dangerous goods
14.3 Transport hazard class(es):	Not dangerous goods
14.4 Packing group:	Not dangerous goods
14.5 Environmental hazards:	Not dangerous goods

IMDG

14.1 UN number or ID number:	Not dangerous goods
14.2 UN proper shipping name:	Not dangerous goods
14.3 Transport hazard class(es):	Not dangerous goods
14.4 Packing group:	Not dangerous goods
14.5 Environmental hazards:	Not dangerous goods

14.5. Special precautions for users

See Sections 6–8.
Additional information: Not classified as dangerous goods.
Slight odor.
Keep dry.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

Not applicable.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Water contaminating class (Germany)

Not classified as water-hazardous (in accordance with Annex I to the Directive on water-hazardous substances).

15.2. Chemical safety assessment

A Chemical Safety Assessment has not been conducted for this substance or mixture, or its components.

16. Other information

16.1 Disclaimer of expressed and implied warranties

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Name: Werner van Loon
Function: Managing Director
Date: 02/11/2026



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