LUVOCOM3F PEEK 9581 Filament

1. Chemical product and company information

a	Chemical product name	PolyEtherEtherKetone (PEEK)
b	Usage	Medical, aerospace, automotive chemical process industries etc.
c	Chemical type	High performance thermoplastic
d	Company's address	3D4Makers BV, Waarderweg 56, 2031 BP Haarlem, The Netherlands
e	Phone number	+31 (0) 238200584

2. Hazards identification

a Classification of the substance

Classification (REGULATION) (EC) No 1272/2008	Not a hazardous substance

b Label elements

Labelling (REGULATION (EC) No 1272/2008)	Not a hazardous substance
Other Hazards	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. Composistions/information on ingredients

a Mixtures

Remarks	No hazardous ingredients

4. First aid measures

a Description of first aid measures

General advice	Move out of dangerous area. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice. Give oxygen or artificial respiration if needed.
If inhaled	Move to fresh air. If symptoms persist, call a physician.
In case of skin contact	Do NOT use solvents or thinners. Wash off with soap and water. If symptoms persist, call a physician. Cool melted product on skin with plenty of water. Do not remove solidified product. In case of burns apply cold water until pain subsides then seek medical advice.

In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Keep eye wide open while rinsing.
If swallowed	If symptoms persist, call a physician.

b Most important symptoms and effects, both acute and delayed

Symptoms	No information available

c Indication of any immediate medical attention and special treatment needed

Treatment	No information available

5. Fire fighting measures

a Extinguishing media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.

b Special hazards arising from the substance or mixture

Specific hazards during fire fighting	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. Do not use a solid water stream as it may scatter and spread fire. Hazardous decomposition products formed under fire conditions.
Hazardous combustion products	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

c Advice for fire fighters

Special protective equipment for fire fighters	Exposure to decomposition products may be a hazard to health. In the event of fire, wear self-contained breathing apparatus.
Further information	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. In the event of fire and/or explosion do not breathe fumes.

6. Accidentall release measures

a Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Avoid inhalation of vapour or mist. Contaminated surfaces will be extremely slippery. Treat recovered material as described in the section “Disposal considerations”.

b	Environmental precautions	Should not be released into the environment. Do not allow contact with soil, surface or ground water. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

c Methods and material for containment and cleaning up

Methods for cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid dust formation.

7. Handling and storage

a Precautions for safe handling

Advice on safe handling	Provide for appropriate exhaust ventilation and dust collection at machinery. The material can accumulate static charge and can therefore cause electrical ignition. Minimize dust generation and accumulation. Dust must be collected and disposed of carefully. Wear personal protective equipment. Do not breathe vapours/dust.
Advice on protection against fire and explosion	Take measures to prevent the build up of electrostatic charge. During processing, dust may form explosive mixture in air. Keep away from heat and sources of ignition. Normal measures for preventive fire protection.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing. Keep away from food and drink. General industrial hygiene practice. When using do not eat, drink or smoke.

b Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	Keep containers tightly closed in a dry, cool and well- ventilated place.
Further information on storage conditions	Keep away from heat and sources of ignition. Keep away from direct sunlight. Avoid moisture.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.
Storage class (TRGS 510)	11, Combustible Solids

c Specific end use(s)

Specific use(s)	For further information, refer to the product technical data sheet

8. Exposure controls/personal protection

a Control parameters — Contains no substances with occupational exposure limit values.

b Exposure controls

Engineering measures — Provide sufficient air exchange and/or exhaust in work rooms. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Apply measures to prevent dust explosions.
Personal protective equipment

Personal protective equipment

Eye protection	Safety glasses with side-shields
Hand protection	
Material	Protective gloves
Remarks	The suitability for a specific workplace should be discussed with the producers of the protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use. The exact break through time can be obtained from the protective glove producer and this has to be observed. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Request information on glove permeation properties from the glove supplier. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.
Skin and body protection	Safety shoes Wear suitable protective clothing.
Respiratory protection	Effective dust mask In the case of vapour formation use a respirator with an approved filter.
Protective measures	Follow the skin protection plan.

9. Physical and chemical properties

a Information on basic physical and chemical properties

Colour	Beige
Odour	Characteristic
Odour Threshold	Not determined
pH	Not determined

	Melting point/range	**345 °C**
	Boiling point/boiling range	**Not determined**
	Flash point	**Not determined**
	Flammability (solid, gas)	**No data available**
	Upper explosion limit	**No data available**
	Lower explosion limit	**The product is not explosive at itself, but it may form explosive dust**
	Vapour pressure	**Not determined**
	Relative density	**No data available**
	Density	**Not determined**
	Solubility	
	Water solubility	**Not determined**
	Solubility in other solvents	**Not determined**
	Partition coefficient: n-octanol/water	**No data available**
	Ignition temperature	**Not determined**
	Decomposition temperature	**No data available**
	Viscosity	
	Viscosity, dynamic	**Not applicable**
	Viscosity, kinematic	**Not applicable**
b	**Other information**	
	Conductivity	**Not determined**
	Self-ignition	

10. Stability and reactivity

a	**Reactivity**	**No decomposition if stored and applied as directed.**
b	**Chemical stability**	**The product is chemically stable.**
c	**Possibility of hazardous reactions**	
	Hazardous reactions	**Finely dispersed particles form explosive mixtures with air. Burning produces noxious and toxic fumes.**
d	**Conditions to avoid**	**Keep away from heat and sources of ignition. Avoid dust formation. Avoid moisture.**
e	**Incompatible materials**	
	Materials to avoid	**No data available**
f	**Hazardous decomposition products**	**Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).**

11. Toxicological information

a Information on toxicological effects

Skin corrosion/irritation	No known irritant effect. May cause irritation of respiratory tract.
Serious eye damage/eye irritation	Dust contact with the eyes can lead to mechanical irritation.
Respiratory or skin sensitisation	No known sensitising effect.

12. Ecological information

a	Toxicity	No data available
b	Persistence and degradability	No data available
c	Bio accumulative potential	
	Partition coefficient: n-octanol/water	No data available
d	Mobility in soil	No data available
e	Results of PBT and vPvB assessment	
	Assessment	This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher..
f	Other adverse effects	
	Additional ecological information	Should not be released into the environment

13. Disposal considerations

a Waste treatment methods

Product	Dispose of in accordance with the European Directives on waste and hazardous waste. In accordance with local and national regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Contaminated packaging	Dispose of in accordance with local regulations. Dispose of as unused product.

14. Transport information

a	UN Number	Not regulated as a dangerous good
b	UN proper shipping name	Not regulated as a dangerous good
c	Transport hazard class(es)	Not regulated as a dangerous good
d	Packing group	Not regulated as a dangerous good
e	Environmental hazards	Not regulated as a dangerous good

f	Special precautions for user	Not applicable
g	Transport in bulk	

15. Regulatory information

a	Safety, health and environmental regulations/legislation specific for the substance or mixture	
	Other regulations	The product does not need to be labelled in accordance with EC directives or respective national laws.
b	Chemical safety assessment	A Chemical Safety Assessment is not required for this substance.

16. Other information

a Full text of other 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; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CM R - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the Germ an Institute for Standardisation; DS L - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substanc es (Japan); ErCx - Concentration associated with x% growt h rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IA TA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibit ory concentration; ICAO - International Civil A viation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Mari- time Organization; IS HL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)E L - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substanc- es; (Q)SAR - (Quantitative) Structure Activity Relationship; REA CH - Regulation (E C) No 1907/2006 of the European Parliam ent and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCS I - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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 m aterial used in combinat ion with any other materials or in any process, unless specified in the text.