
SECTION 1 – Identification of the substance/mixture and of the company

Product Name KRATIR rPEEK CF
Chemical Name Recycled Polyether ether ketone with carbon fiber
Pure substance/mixture Mixture

Section 1.2 – Relevant identified uses of the substance or mixture and uses advised against

Application Additive Manufacturing
Used advised against Not identified.

Section 1.3 – Details of the supplier of the safety data sheet**Manufacturer**

Tectonic 3D B.V.
High Tech Campus 9
5656 AE Eindhoven
The Netherlands
Tel +31 (0) 408517575
<https://www.tectonic-3d.com/>

E-mail address info@tectonic-3d.com

Section 1.4 – Emergency telephone number**Europe**

Emergency telephone +31 (0) 408517575 (08.00-17.00 CET)

United Kingdom See above.

SECTION 2 - Hazards Identification Summary

Section 2.1 – Classification of the substance or mixture**Classification according to Regulation (EC) NO. 1272/2008 [CLP]**

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

Section 2.2 – Label elements

According to EC directives or the corresponding national regulations the product does not have to be labelled.

Symbols/Pictograms

Not applicable.

Signal word

None.

Hazard Statements

Not applicable.

Precautionary Statements

Not applicable.



Additional information

In process of carbon enhanced materials particles of fibers can be released. These comply with alveolar fibers (WHO-Criteria). Such fibers are classified into the category 2 of carcinogenic substances of TRGS 905 (revision of 26.03.2018). Because of that, measures to reduce the loads have to be implemented (enclosure and aspiration). A valuation of the loads at the workplace must be done from the operator.

Section 2.3 – Other Hazards

The hazards of this product are associated mainly with its processing. Molten polymer will produce thermal burns. Polymer dust may represent a fire hazard at sufficient concentrations in presence of ignition sources.

SECTION 3 – Composition/information on ingredients

Section 3.1 – Substances

Not applicable

Section 3.2 – Mixtures

Chemical Name	EC No	CAS No	REACH Registration Number	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Polyether ether ketone	-	29658-26-2 / 31694-16-3	No data available	90-100	Not classified
Carbon Fiber	701-026-1	7440-44-0	01-2119966900-32	-	Not classified

SECTION 4 – First Aid Measures

Section 4.1 – Description of first aid measures**Inhalation**

Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. Consult a physician after significant exposure.

Skin Contact

In contact with molten product immediately flush with cold water for at least 10 min. Do not peel solidified polymer of skin. Obtain medical attention.

Eye Contact

Rinse thoroughly with plenty of water for at least 20 minutes, also under the eyelids. Consult a physician immediately.

Ingestion

Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur and show mSDS.

Section 4.2 – Most important symptoms and affects, both acute and delayed

No known symptoms to date. May cause respiratory irritation. Unlikely to be required but if necessary, treat symptomatically.

Section 4.3 – Indication of any immediate medical attention and special treatment needed

Unlikely to be required but if necessary, treat symptomatically.

SECTION 5 – Firefighting Measures

Section 5.1 – Extinguishing media**Suitable extinguishing media**

Water spray(fog), Foam, Carbon Dioxide(CO_2), Extinguishing powder.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Section 5.2 – Special hazards arising from the substance or mixture

In case of fire may be liberated: Oxides of carbon.

Section 5.3 – Advice for firefighters

In the event of fire, wear self-contained breathing apparatus and chemical protective clothing.

Section 5.4 – Additional information

Fire class A (Fires of solids, mainly organic nature, which normally burn down under glow forming.) Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Section 6 – Accidental Release Measures

Section 6.1 – Personal precautions, protective equipment and emergency procedures**6.1.1. For non-emergency personnel**

Avoid inhalation and contact with eyes or skin. Ensure sufficient supply of air. Avoid build up of dust. Remove possible cause of ignition – do not smoke. Take precautionary measures against static discharge.

Protective equipment:

Wear breathing apparatus if exposed to vapors/dusts/aerosols. Wear protective gloves/protective clothing/eye protection/face protection

6.1.2. For emergency responders**Personal protection equipment:**

Use appropriate respiratory protection. Personal protection equipment: see section 8

Section 6.2 – Environmental precautions

Avoid release to the environment. Prevent surface and ground water infiltration, as well as ground penetration.

Section 6.3 – Methods and material for containment and cleaning**Methods for containment**

Sweep up carefully with non-sparking tools. Transfer to a lidded container for disposal or recovery.

Section 6.4 – Reference to other sections

No information available.

6.5 Additional Information

Clear spills immediately. Use appropriate container to avoid environmental contamination.



Section 7 – Handling and Storage

Section 7.1 – Precautions for safe handling

Protective measures

Advices on safe handling

General hygiene measures for the handling of chemicals are applicable. Eating, drinking, smoking, as well as food storage, is prohibited in work room. Avoid build up of dust. Local Exhaust Ventilation at the workplace or on the processing machines required. Note: Danger of explosive dust.

Machine Cleaning (purging): Purging with other polymers (e.g Polyethylene) at high temperatures can be hazardous. Auto ignition may also occur. Local exhaust ventilation is required. The relevant Safety Data Sheet for the purge material to be used should be consulted

Fire prevent measures

Usual measures for fire prevention.

Measures to prevent aerosol and dust generation

Dust should be exhausted directly at the point of origin.

Advices on general occupational hygiene

Do not eat, drink or smoke or sniff when using this product. Wash hands before breaks and after work. Avoid contact with skin, eyes and clothes.

Section 7.2 – Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Store products enclosed, in original packing.

Section 7.3 – Specific end use(s)

See the Technical data sheet (sTDs) for further information

Section 8 – Exposure Controls/Personal Protection

8.1 – Control parameters

No data available.

Section 8.2 – Exposure Controls

Substance	CAS No	LTEL (8hr TWA ppm)	LTEL (8hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note:
Dust (general dust limit value)	-	-	-	-	-	Inhalable Dust
	-	-	-	-	-	Respirable Dust

8.2.1. Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

8.2.2. Individual protection measures, such as personal protective equipment



Eye/face protection
Skin and Body protection

Wear safety glasses with side shields EN 166 (or goggles)
Hand protection is not required. Tested protective gloves must be worn EN ISO 374 Suitable material: Breakthrough time: min In the case of wanting to use the gloves again, clean them before taking off and air them well.

Respiratory protection

Usually no personal respirative protection necessary. Particle filter device (EN 143)

8.2.3. Environmental exposure controls

Do not use above following temperatures: No data available.

8.3 Additional information

In process of carbon enhanced materials particles of fibers can be released. These comply with alveolar fibers (WHO-Criteria). Such fibers are classified into the category 2 of carcinogenic substances of TRGS 905 (revision of 26.03.2018). Because of that, measures to reduce the loads have to be implemented (enclosure and aspiration). A valuation of the loads at the workplace must be done from the operator.

Section 9 – Physical and Chemical Properties

Section 9.1 – Information on basic physical and chemical properties

Appearance	Filament
Color	Black
Odor	Odourless
Odor threshold	Not applicable

Property	Value	Remarks Method
PH		Not determined
Melting point	330 - 344 °C	DSC, 10K/min DIN EN ISO 11357-3
Freezing point		Not determined
Boiling point / boiling range		Not determined
Flash point		Not determined
Evaporation rate		Not determined
Flammability (solid, gas)	Solid , Non-flammable	Not determined
Explosive limits	Not explosive	Not determined
Upper explosive limits		Not determined
Lower explosive limits		Not determined
Vapor Pressure(Pascal)	39.7(@107°C)	Not determined
Vapor Density(Air=1)	-	No information available
Relative Density		Not determined
Water Solubility	Insoluble	Insoluble in water
Solubility(ies)	Insoluble	No information available
Partition Coefficient		No information available
Autoignition Temperature	596 °C	No information available
Decomposition Temperature	>450°C	No information available
Kinematic Viscosity		No information available
Dynamic Viscosity		No information available



Explosive properties

Not explosive, May form
explosible dust clouds in air.

No information available

Oxidizing properties

Not oxidising

No information available

Density

~ 1.31 g/cm³

23°C | ISO 1183

Bulk Density

No information available

Section 9.2 – Other information

No information available

Section 10 – Stability and Reactivity

Section 10.1 – Reactivity

The product is stable under storage at normal ambient temperatures.

Section 10.2 – Chemical stability

The product is stable under storage at normal ambient temperatures.

Section 10.3 – Possibility of hazardous reactions

The product is stable under storage at normal ambient temperatures.

Section 10.4 – Conditions to avoid

Stable under normal conditions. Electrostatic charge.
Open flame, ignition sources. Decomposes at temperatures
above 450°C.

Section 10.5 – Incompatible materials

Concentrated Sulphuric acid.

Section 10.6 – Hazardous decomposition products

Oxides of carbon

Section 11 – Toxicological Information

Section 11.1 – Information on toxicological effects**Acute oral toxicity**

Ingestion Predicted to be low toxicity under normal conditions of handling and use.

Acute dermal toxicity

No data available.

Acute inhalation

Inhalation Mechanical irritation of the respiratory tract.

Skin corrosion/irritation

Skin contact Repeated and/or prolonged skin contact may cause irritation.
In the event of contact with molten product: Thermal Burns (molten polymer will
adhere to skin and cause severe burns).

Serious eye damage/eye irritation

Eye contact No data. Dust may have irritant effect on eyes. Permanent damage is unlikely.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

STOT – Single exposure

No data available.

STOT – Repeated exposure

No data available.

Aspiration hazard

No data available.

Section 11.2 – Information on other hazards

No data available

Section 12 – Ecological Information

Section 12.1 – Toxicity

Low toxicity to aquatic organisms.

Section 12.2 – Persistence and degradability

Not readily biodegradable.

Section 12.3 – Bio accumulative potential

Not classified as PBT or vPvB.

Section 12.4 – Mobility in soil

The product has low mobility in soil. The product has low mobility in sediment.

Section 12.5 – Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

Section 12.6 – Endocrine disrupting properties

No data available

Section 12.7 – Other adverse effects

None anticipated.

Section 13 – Disposal Considerations

Section 13.1 – Waste treatment methods

Waste from residues/unused products

Disposal should be in accordance with local, regional, state or national legislation.

13.1.1 Additional information

The European waste codes are recommendations based on the scheduled use of this product. For alternative uses and applications, other waste codes may be allocated under certain circumstances. 07 02 13- waste plastic, 07 02 99-waste not otherwise specified.

Section 14 – Transport Information

RID/ADR: Land Transport

14.1 UN Number	No dangerous good in sense of these transport regulations.
14.2 UN Proper Shipping Name	No dangerous good in sense of these transport regulations.
14.3 Transport Hazard Class(es)	Not relevant.
14.4 Packing Group	Not relevant.
14.5 Environmental Hazard	Not relevant.
14.6 Special Precautions For User	Not relevant.

AND: Inland waterway craft

14.1 UN Number	No dangerous good in sense of these transport regulations.
14.2 UN Proper Shipping Name	No dangerous good in sense of these transport regulations.
14.3 Transport Hazard Class(es)	Not relevant.
14.4 Packing Group	Not relevant.
14.5 Environmental Hazard	Not relevant.
14.6 Special Precautions For User	Not relevant.

IMDG: Sea Transport

14.1 UN Number	No dangerous good in sense of these transport regulations.
14.2 UN Proper Shipping Name	No dangerous good in sense of these transport regulations.
14.3 Transport Hazard Class(es)	Not relevant.
14.4 Packing Group	Not relevant.
14.5 Marine Pollutant	Not relevant.
14.6 Special Precautions For User	Not relevant.
14.7 Transport In Bulk According to Annex II of MARPOL 73/78 and The IBC Code	Not relevant.

ICOA-TI / IATA-DGR: Air Transport

14.1 UN Number	No dangerous good in sense of these transport regulations.
14.2 UN Proper Shipping Name	No dangerous good in sense of these transport regulations.
14.3 Transport Hazard Class(es)	Not relevant.
14.4 Packing Group	Not relevant.
14.5 Environmental Hazard	Not relevant.
14.6 Special Precautions For User	Not relevant.

14.7 Maritime Transport in bulk according to IMO instruments

No data available.

Section 15 – Regulatory Information

Section 15.1 – Safety, health and environmental regulation/legislation specific for the substance or mixture

International Regulations Not applicable. Source:

European Union National regulations None

USA
TSCA – PEEK Polymer Listed - Active

OSHA Not classified as a hazardous material under the criteria outlined in the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200).

China
IECSC – PEEK Polymer Listed
China Hazardous Chemical Inventory 2015 Not listed

Section 15.2 – Chemical Safety assessment

Not relevant for this material.

Section 16 – Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

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Revision Note No information available

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006, COMMISSION REGULATION (EU) No. 830/2015 of 20 May 2015

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End of Safety Data Sheet

