SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH) & 1272/2008 (CLP)

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

1.1 Product identifier

Trade name	**PEEK-OPTIMA™ Ultra-Reinforced Image Contrast Composite Tape** **LT3PPT50A-014-55Ba**

1.2 Other means of identification

CAS No.	PEEK Polymer: 31694-16-3 or 29658-26-2) Carbon Fibers: 7440-44-0 or 308063-67-4 Barium Sulphate: CAS 7727-43-7
EC No.	Not applicable**.**
REACH Registration No.	Not applicable**.**

1.3 Recommended use of the substance and restrictions on use

Identified use(s)	The materials are generally for used for the preparation of composite laminates & parts for use in long term human implantation

1.4 Supplier details

Company Identification	Invibio Ltd. Hillhouse International, Thornton-Cleveleys Lancashire, UK FY5 4QD
Telephone	+ 44 (0) 1253 898000
E-Mail (competent person)	RAPS@invibio.com

Only Representative details

Company Identification	Stewardship Chemicals 40, Dlugosza 67, 43-188 Orzesze, Poland
Telephone:	+48 501168430
E-Mail (competent person)	pawelskiba@stewardshipsolutions.eu

1.5 Emergency telephone number

Emergency Phone No.	+ 44 (0) 1253 898000

SECTION 2: HAZARDS IDENTIFICATION

2.1	**Classification of the substance or mixture**	
2.1.1	**Regulation (EC) No. 1272/2008 (CLP).**	Not classified as dangerous for supply/use.
2.2	**Label elements (GHS)**	None.
	Hazard pictogram(s)	None.
	Signal word(s)	None.
	Hazard statement(s)	None.
	Precautionary statement(s)	None.
2.2	**Other hazards**	None
2.4	**Additional Information**	None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Polyetheretherketone polymer (CAS No. 29658-26-2 or 31694-16-3)
Carbon Fibre Tape (CAS No 7440-44-0 or 308063-67-4)
Barium Sulphate (CAS No 7727-43-7)
This product does not contain any reportable hazardous materials

Classification according to Regulation EC No. 1272/2008 [CLP]:

Hazardous ingredient(s)	%W/W	EC No.	CAS No.	REACH Registration No.	Hazard statement(s)
None.	-	-	-	-	-

3.2 Additional Information

For full text of H/P phrases see section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove patient from exposure. Keep patient at rest and give oxygen if breathing difficult. If symptoms develop, obtain medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of soap and water. In the event of contact with molten product: Cool affected area quickly with water. Do not attempt to remove hardened product. Obtain medical attention.
Eye Contact	Flush eyes with water for at least 2 minutes while holding eyelids open.
Ingestion	Call a physician (or poison control centre immediately).Do not induce vomiting wash out mouth with water.

4.2 Most important symptoms and effects, both acute and delayed — Unlikely to be required but if necessary treat symptomatically.

4.3 Indication of any immediate medical attention and special treatment needed — Unlikely to be required but if necessary treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	In case of fire, use water spray, foam, dry powder or CO_2 for extinction.
Unsuitable Extinguishing Media	None.

5.2 Special hazards arising from the substance or mixture — In case of fire the following can develop: Oxides of carbon.

5.3 Advice for fire-fighters — A self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
Dust is ignitable but will not sustain combustion. A high temperature source of ignition is required. Insensitive to sparks. The minimum spark energy required for ignition of a dust cloud is greater than 5000 mJ. It will not train fire, e.g. along beams etc.

5.4 Other — Dispose of contaminated extinction water according to official regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	**Personal precautions, protective equipment and emergency procedures**	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.
6.2	**Environmental precautions**	Avoid release to the environment. Prevent surface and ground water infiltration, as well as ground penetration.
6.3	**Methods and material for containment and cleaning up**	Sweep up carefully with non-sparking tools. Transfer to a lidded container for disposal or recovery.
6.4	**Reference to other sections**	Refer to Section 13 for disposal considerations and Section 8 for Personal Protection.
6.5	**Additional Information**	None.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for 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. Additional information can be obtained from the Invibio Processing Guide.

7.2 Conditions for safe storage, including any incompatibilities

Store products enclosed, in original packing.

Storage Temperature	Store at room temperature.
Storage Life	> 10 Year(s).
Incompatible materials	None known

7.3 Specific end use(s)

The materials are generally for used for the preparation of composite laminates & parts for use in long term human implantation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters Ensure adequate ventilation.

8.1.1 Occupational exposure limits None.

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m^3)	STEL (ppm)	STEL (mg/m^3)	Note:
Dust.	-	-	10			Inhalable Dust
(general dust limit value)			4			Respirable Dust.
Carbon Fibre Dust	7440-44-0 or 308063-67-4		2 fibres/ml, 5mg/m3			

8.1.2 Biological limit value None

8.1.3 PNECs and DNELs Not available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls Local Exhaust Ventilation at the workplace or on the processing machines required.

8.2.2 Personal protection equipment

Eye/face protection

Eye protection with side protection (EN 166)

Skin protection (Hand protection/ Other)

Impervious Gloves. Plastic or synthetic rubber gloves.
Additional information on hand protection – No tests have been performed.
When dealing with heated material: Insulating gloves EN 407 (heat)

Respiratory protection

If above exposure limits are likely to be exceeded, breathing mask with fine dust filter (EN 143)

8.2.3 Environmental Exposure Controls No special requirements.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Solid (Tape)
Colour.	Black
Odour	Odourless
Odour threshold (ppm)	None
pH (Value)	Not applicable
Melting point (°C)	343°C
Boiling point/boiling range (°C):	Not known.
Flash point (°C)	Not known.
Evaporation rate	Not known.
Flammability (solid, gas)	Solid , Non-flammable
Explosive limit ranges	Not explosive.
Vapour pressure (Pascal)	39.6 (@107°C)
Vapour density (Air=1)	Not known
Bulk Density (g/ml)	~1.55 – 1.80
Solubility (Water)	Insoluble
Solubility (Other)	Insoluble
Partition coefficient (n-Octanol/water)	Not known
Auto ignition point (°C)	595°C
Decomposition temperature (°C)	> 450°C
Viscosity (mPa. s)	Not known
Explosive properties	Not explosive
Oxidising properties	Not oxidising

9.2 Other information Contains carbon fiber. Dust from this compound may be electrically conductive.

SECTION 10: STABILITY AND REACTIVITY

10.1	**Reactivity**	Stable under normal conditions.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	Stable under normal conditions.
10.4	**Conditions to avoid**	Stable under normal conditions. Electrostatic charge. Open flame, ignition sources. Decomposes at temperatures above 450°C.
10.5	**Incompatible materials**	Concentrated Sulphuric acid
10.6	**Hazardous Decomposition Product(s)**	When Glowing and during combustions, CO/CO_2 (oxides of carbon) is generated.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	**Information on toxicological effects**	This product is essentially inert and non-toxic. Where appropriate the material has been tested in accordance with the following tests: US Pharmacopoeia Class VI ISO 10993-1 Guidance ISO 10993-5 Cytotoxicity ISO 10993-10 Sensitisation Please contact Invibio Ltd for details. The following information is based on a consideration of the properties of the main components of this mixture.
11.1.1	**Substances**	
	Acute toxicity	
	Ingestion	Predicted to be low toxicity under normal conditions of handling and use.
	Inhalation	Mechanical irritation of the respiratory tract.
	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).
	Eye Contact	No data. Dust may have irritant effect on eyes. Permanent damage is unlikely.
	Hazard label(s)	Not known
	Serious eye damage/irritation	Not known
	respiratory or skin sensitization	Not known
	Mutagenicity	Not known
	Carcinogenicity	Not known
	Reproductive toxicity	Not known
	STOT - single exposure	Not known
	STOT - repeated exposure	Not known
	Aspiration hazard	Not known
11.1.2	**Mixtures**	Not applicable
11.2	**Other information**	None

SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Low toxicity to aquatic organisms. Insoluble in water
12.2	**Persistence and degradability**	Not readily biodegradable.
12.3	**Bioaccumulative potential**	Not classified as PBT or vPvB.
12.4	**Mobility in soil**	The product has low mobility in soil. The product has low mobility in sediment.
12.5	**Results of PBT and vPvB assessment**	Not classified as PBT or vPvB.
12.6	**Other adverse effects**	None anticipated

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Disposal should be in accordance with local, regional, state or national legislation.
13.2	**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. Container must be decontaminated in accordance with all applicable regulations.

SECTION 14: TRANSPORT INFORMATION

14.1	**Land transport (ADR/RID)**	Not classified as dangerous for transport.
	UN number	Not applicable
	Proper Shipping Name	Not applicable
14.2	**Sea transport (IMDG)**	Not classified as dangerous for transport.
	UN number	Not applicable
	Proper Shipping Name	Not applicable
14.3	**Air transport (ICAO/IATA)**	Not classified as dangerous for transport.
	UN number	Not applicable
	Proper Shipping Name	Not applicable
14.4	**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable

SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	Not classified as dangerous for supply/use.
15.1.1	**EU regulations**	
	Authorisations and/or restrictions on use	None
15.1.2	**National regulations**	
	USA	
	TSCA – PEEK Polymer	Listed - ACTIVE
	TSCA – Carbon Fibre	Listed – ACTIVE
	TSCA – Barium Sulphate	Listed - ACTIVE
	OSHA	

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

15.2 Chemical Safety Assessment Not relevant for this material.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: No major updates, general review and template update.

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
STOT	Specific Target Organ Toxicity
DNEL	Derived No Effect Level
PNEL	Predicted No Effect Concentration

References: Workplace Exposure Limit (UK HSE EH40)

Risk Phrases and Safety Phrases: None

Hazard statement(s) and Precautionary statement(s): None

Training advice: www.invibio.com

Additional Information

Manufactured in the UK by Invibio Ltd, under a Quality System approved to ISO 13485.

Additional information on the properties, processing and application of INVIBIO® polymers is available at www.invibio.com. These details refer to the product as it is delivered.
The statements made here should describe the product with regard to the necessary safety precautions – they are not meant to guarantee definite characteristics – but they are based on our present up-to-date knowledge.

SDS Date of Preparation: 18 October 2022 – updated from SDS Revision 15 May 2020

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