

CARBON-FILAMENT

SAFETY DATA SHEET



INDEX	PAGE
SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING	2
SECTION 2: HAZARDS IDENTIFICATION	2
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS	3
SECTION 4: FIRST AID MEASURES	3
SECTION 5: FIREFIGHTING MEASURES	4
SECTION 6: ACCIDENTAL RELEASE MEASURES	4
SECTION 7: HANDLING AND STORAGE	4
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION	4
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	5
SECTION 10: STABILITY AND REACTIVITY	6
SECTION 11: TOXICOLOGICAL INFORMATION	6
SECTION 12: ECOLOGICAL INFORMATION	7
SECTION 13: DISPOSAL CONSIDERATIONS	8
SECTION 14: TRANSPORT INFORMATION	8
SECTION 15: REGULATORY INFORMATION	8
SECTION 16: OTHER INFORMATION	9

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name or designation of the mixture	CARBON
Registration number	-
Synonyms	None
Issue date	28.02.2019
Version number	02
Revision date	13.03.2020
Supersedes date	28.02.2019

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

Identified uses	3D printer filament
Uses advised against	None known

1.3 Details of the supplier of the safety data sheet

Supplier	
Company name	REDLINE FILAMENT GmbH
Address	Pleißeweg 15, 41469 Neuss, Germany
Phone	+49(0)177 62 77 918
Contact person	M. Eng. Robert Banse
Emergency phone number	+49(0)30 18 41 20

Section 2: Hazards identification

2.1 Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary Not available

2.2 Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Hazard pictograms	None
Signal word	None
Hazard statements	The mixture does not meet the criteria for classification

Precautionary statements

Prevention	Not available
Response	Not available
Storage	Not available
Disposal	Not available

Supplemental label information	None
2.3 Other hazards	Not a PBT or vPvB substance or mixture

Section 3: Composition/information on ingredients

3.1 Mixtures

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Modified PET (Polyethylene terephthalate)	80 - < 90	Proprietary	-	-	
Classification:					
Carbon fiber	10 - < 20	7440-44-0 231-153-3			
Classification:					
Other components below reportable levels	3 - < 5				

List of abbreviations and symbols that may be used above

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments The full text for all H-statements is displayed in section 16.

Section 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1 Description of first aid measures

Inhalation Not likely, due to the form of the product. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

Skin contact If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. Do not peel polymer from the skin.

Eye contact Not likely, due to the form of the product. If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.

Ingestion Not likely, due to the form of the product.

4.2 Most important symptoms and effects, both acute and delayed Exposure may cause temporary irritation, redness, or discomfort.

4.3 Indication of any immediate medical attention and special treatment needed Treat symptomatically.

Section 5: Firefighting measures

General fire hazards	No unusual fire or explosion hazards noted.
5.1 Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
5.2 Special hazards arising from the substance or mixture	During fire, gases hazardous to health may be formed.
5.3 Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
6.2 Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
6.3 Methods and material for containment and cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.
6.4 Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

Section 7: Handling and storage

7.1 Precautions for safe handling	Observe good industrial hygiene practices.
7.2 Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).
7.3 Specific end use(s)	Not available.

Section 8: Exposure controls/personal protection

8.1 Control parameters	
Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Follow standard monitoring procedures.
Derived no effect levels (DNELs)	Not available

Predicted no effect concentrations (PNECs) Not available

8.2 Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

- Hand protection Wear appropriate chemical resistant gloves.

- Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants

Environmental exposure controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state Solid.

Form filament

Colour Dark grey

Odour Slight.

Odour threshold Not available.

pH Not available.

Melting point/freezing point 200 - 220 °C (392 - 428 °F)

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure Not available.

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) insoluble

Solubility (solvents) soluble

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not self-igniting

Decomposition temperature > 280 °C (> 536 °F)

Viscosity Not available.

Explosive properties Not explosive.

Oxidising properties Not oxidising.

9.2 Other information

Density 1,19 g/cm³

Section 10: Stability and reactivity

10.1 Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2 Chemical stability	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4 Conditions to avoid	Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
10.5 Incompatible materials	Strong oxidising agents.
10.6 Hazardous decomposition products	No hazardous decomposition products are known.

Section 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Based on available data, the classification criteria are not met.
Skin contact	Based on available data, the classification criteria are not met.
Eye contact	Based on available data, the classification criteria are not met.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure
Symptoms	Exposure may cause temporary irritation, redness, or discomfort.

11.1 Information on toxicological effects

Acute toxicity	Not known.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory sensitisation	Based on available data, the classification criteria are not met.
Skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Hungary. 26/2000 EÜM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)	Not listed.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Mixture versus substance information	No information available.
Other information	Occupational exposure to the substance or mixture may cause adverse effects.

Section 12: Ecological information

12.1 Toxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
12.2 Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
12.3 Bioaccumulative potential	
Partition coefficient n-octanol/water (log Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4 Mobility in soil	No data available.
12.5 Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.

12.6 Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
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Section 13: Disposal considerations

13.1 Waste treatment methods

Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Special precautions	Dispose in accordance with all applicable regulations.

Section 14: Transport information

ADR	14.1. - 14.6.: Not regulated as dangerous goods.
RID	14.1. - 14.6.: Not regulated as dangerous goods.
ADN	14.1. - 14.6.: Not regulated as dangerous goods.
IATA	14.1. - 14.6.: Not regulated as dangerous goods.
IMDG	14.1. - 14.6.: Not regulated as dangerous goods.
14.1 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

Section 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended	Not listed.
Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended	Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended	Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended	Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended	Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended	Not listed.
Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended	Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA	Not listed.
Authorisations	
Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended	Not listed.
Restrictions on use	
Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended	Not listed.
Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.	Not listed.
Other EU regulations	
Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended	Not listed.
Other regulations	The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.
National regulations	Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.
15.2 Chemical safety assessment	No Chemical Safety Assessment has been carried out.

Section 16: Other information

List of abbreviations	Not available.
References	Not available.
Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.
Full text of any H-statements not written out in full under Sections 2 to 15	None.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Training information	Follow training instructions when handling this material.
Disclaimer	This safety data sheet (SDS) is issued based on the latest reference, data etc currently available. The information in this SDS has been carefully assessed, but no guarantee is given for its accuracy. We cannot anticipate all conditions under which this product may be used. It is the user's responsibility to take appropriate safety measures for handling.