FLEXMARK 8

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

1.1 Product identifier

Trade name : FLEXMARK 8

Product code : 1046

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

Use of the Substance/Mixture : Hight-performance material for fused deposition modeling

1.3 Details of the supplier of the safety data shewet

Company : Treedplast
Via Messina, 103
20831 Seregno MB
Italy

Telephone : +039(0)362/320500

Responsible/issuing person : sales@treedfilaments.com

1.4 Emergency telephone number

Telephone : CAV “Osp. Pediatrico Bambino Gesù” Dip. Emergenza e Accettazione DEA (Roma)
+39(0)6/68593726

Az. Osp. Univ. Foggia (Foggia)
+039(0)800/183459

Az. Osp. “A. Cardarelli)” (Napoli)
+039(0)81/5453333

CAV Policlinico “Umberto I” (Roma)
+39(0)6/49978000

CAV. Poliniclinico “A. Gemelli” (Roma)
+39(0)6/3054343

Az. Osp. “Careggi” U.O. Tossicologia Medica (Firenze)
+39(0)55/7947819

CAV. Centro Nazionale di Informazione Tossicologica (Pavia)
+39(0)38224444

Osp. Niguarda Ca’ Granda (Milano)
+39(0)2/66101029

Azienda Ospedaliera Papa Giovanni XXII (Bergamo)
+39(0)800/883300

Azienda Ospedaliera Integrata Verona (Verona)
+39(0)800/011858

(DE): GIZ Giftinformationszentrum-Nord
49(0)551/19240

(IT): OSPEDALE NIGUARDA
CENTRO ANTIVELENI
(39)0266101029

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No. 1272/2008
The product is not considered dangerous in accordance with EC Regulation 1272/2008 (CLP).

Adverse physicochemical effects on human health and the environment:
No other hazards

2.2 Label elements

Labelling (REGULATION (EC) No. 1272/2008
The product is not considered dangerous according to EC Regulation 1272/2008 (CLP).

Ingredients with unknown acute toxicity:
None

Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3 Other hazards

No substances PBT, vPvB or endocrine disrupting substances present in concentrations >= 0.1%

The material can accumulate static energy charges that can cause sparks (ignition source).

SECTION 3: Composition/information on ingredients

3.1 Substances

No applications

3.2 Mixtures

Hazardous components according to CLP Regulation and related classification:
None

SECTION 4: First aid measures

First responders should take care to self-protect and use recommended protective clothing (chemical resistant gloves, splash protection).

If there is a possibility of exposure refer to section 8 for information on personal protective equipment.

4.1 Description of first aid measures

If inhaled	:	Remove victim to fresh air and keep warm and at rest.
In case of skin contact	:	Wash thoroughly with soap and water in case of redness or skin irritation.
In case of eye contact	:	Rinse immediately with water.
If swallowed	:	Do not induce vomiting, seek medical advice and show this MSDS and hazard labeling.

4.2 Most important symptoms and effects, both acute and delayed
No applications

4.3 Indication of any immediate medical attention and special treatment needed
In case of accident or unwellness, seek medical advice immediately (show instructions for use or safety data sheet if possible).
See also SECTION 11 for any additional information relating to the substances contained.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Eliminate, if possible, the source of the flammable product.
Remove containers from the fire area, if this is possible without risk.
In the event of a fire involving containers, cool them with water even after the fire has been extinguished.

Suitable extinguishing media	:	Foam, carbon dioxide, chemical powder, in case of large fires also water in mist.
Unsuitable extinguishing media	:	Do not use a jet of water as it may disperse or spread the fire.

5.2 Special hazards arising from the substance or mixture
Do not inhale gases produced by explosion and combustion.
Combustion produces heavy smoke.

5.3 Advice for firefighters
In case of fire, wear a positive pressure breathing apparatus and fire-fighting protective clothing: jacket (reference standard: EN469), helmet (reference standard: EN443), gloves (reference standard: EN407), boots (reference standard: EN345-S3 HI WRU HRO).
Also refer to the personal protective equipment recommended in Section 8.2 of this document.
Collect contaminated fire-fighting water separately. Do not discharge into sewer system.
If safe to do so, move undamaged containers from the immediate danger area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	For non-emergency personnel For non-emergency personnel: Wear personal protective equipment. Move people to a safe place. Consult the protective measures set out in points 7 and 8.
For those who intervene directly	:	Wear personal protective equipment.

6.2 Environmental precautions

Environmental precautions	:	Prevent penetration into soil/subsoil. Prevent flow into surface water or sewer system. Retain contaminated wash water and dispose of it. In case of gas leak or penetration into watercourses, soil or sewer system inform the responsible authorities. Suitable material for collection: inert absorbent material.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Mechanically remove the product

6.4 Reference to other sections
For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Warnings for safe use	:	This product tends to accumulate an electrostatic charge during transportation, handling and processing. Due to the risk of electrostatic discharge, the handling of these products in potentially flammable atmospheres must be considered. Appropriate precautions must be taken at all times. Reducing the speed of transport will reduce the charge. The generation of an electrostatic charge can represent a potential fire hazard, when used in the presence of volatile and flammable mixtures. Avoid contact with skin and eyes, inhalation of vapours and mists. Do not eat, drink or smoke while working. See also paragraph 8 for recommended protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

Incompatible materials	:	See paragraph 10 below.
Indications for local	:	Properly ventilated local

7.3 Specific end use(s)

Special uses	:	Recommendations referring to special uses must be evaluated on a case-by-case basis, also in light of the sector of activity for which the product is intended and the technological and

production cycle of use.

Recommendations : Refer to paragraph 1.

Industry-specific solutions : Nothing in particular.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No data available

8.2 Exposure controls

Appropriate technical measures and work operations must take priority over the use of personal protective equipment. See section 7.1.

General industrial hygiene practice: Avoid contact with skin, eyes and clothing.
Do not breathe vapours or aerosols.
Ensure that eyewash stations and showers are close to the workstation. Hygiene measures: During use, do not eat, drink or smoke. Remove all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

The choice of personal protective equipment varies according to potential exposure conditions such as applications, handling procedures, concentration and ventilation. The information on the choice of protective equipment, as given below, is based on normal and defined use.

Personal protective equipment

Eye/face protection : Safety glasses with side-shields
Equipment should conform to EN 166

Hand protection
Material : Protective gloves
Directive : Equipment should conform to EN 374

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. 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.
Environmental exposure controls	:	With regard to environmental protection, consider the applicability of Article 225, paragraph 2, of Legislative Decree 81/2008 and subsequent amendments.
Technical and Hygiene Measures	:	Provide adequate ventilation so as not to exceed exposure limits. Do not breathe dust/fumes/gases/mist/vapours/aerosols. Keep away from food and drink. Do not eat, drink or smoke during use. Always observe standard personal hygiene measures, such as washing hands after handling the material and before eating, drinking and/or smoking.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	filament
Colour	:	Light
Odour	:	odorless
pH	:	No applications
Viscosity, kinematic	:	No applications
Melting/Freezing Point	:	>160 °C (320 °F) Notes: (160 - 220 °C)
Initial boiling point and boiling range	:	No applications
Flash point	:	No applications
Upper/lower flammability or explosive limits, %	:	No applications
Vapor Density (air = 1)	:	No applications
Vapor pressure	:	No applications
Density	:	1.18-1.21 g/cm^3 (20 °C)
Water solubility	:	Insoluble

Solubility in other solvents	:	No applications
Partition coefficient: n-octanol/water	:	No applications
Dispersion stability of nanoforms	:	
Autoignition temperature	:	No applications
Decomposition temperature	:	> 230 °C
Flammability	:	No applications
Particle Characteristics		
Particle dimensions	:	No applications

9.2 Other information
No other relevant information

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
Under normal conditions of storage and use, no hazardous reactions occur
See also paragraphs 2 and 9.

10.4 Conditions to avoid
Heating

10.5 Incompatible materials
No one in particular.

10.6 Hazardous decomposition products
Toxic gases may develop when heated to decomposition

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
We have not conducted animal testing for this product. All toxicity values quoted below are taken from toxicity classifications that were performed using the ATE (Acute Toxicity Estimation) calculation method using the LD/LC50 or ATE values provided by the raw material manufacturer.

Toxicological information concerning the mixture

Acute toxicity	:	Not classified Based on available data, the classification criteria are not met.
Skin corrosion/irritation	:	Not classified Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	:	Not classified Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	:	Not classified Based on available data, the classification criteria are not met.
Germ cell mutagenicity	:	Not classified Based on available data, the classification criteria are not met.
Carcinogenicity	:	Not classified Based on available data, the classification criteria are not met.
Reproductive toxicity	:	Not classified Based on available data, the classification criteria are not met.
STOT - single exposure	:	Not classified Based on available data, the classification criteria are not met.
STOT - repeated exposure	:	Not classified Based on available data, the classification criteria are not met.
Aspiration toxicity	:	Not classified Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties
No endocrine disruptors present in concentration >= 0.1%

SECTION 12: Ecological information

12.1 Toxicity

Use according to good working practices, avoiding dispersing the product into the environment.
Eco-Toxicological Information:
The components of the product are not classified as dangerous for the environment.

12.2 Persistence and degradabilità

Biodegradability	:	No applications No data available for the mixture as such

12.3 Bioaccumulative potential

Bioaccumulation : No applications
No data available for the mixture as such

12.4 Mobility in soil

Mobility : No applications
No data available for the mixture as such

12.5 Results of PBT and vPvB assessment

Assessment : No PBT, vPvB or endocrine disrupting substances present at concentrations >= 0.1%

12.6 Endocrine disrupting properties

Assessment : No endocrine disruptors present in concentration >= 0.1%

12.7 Other adverse effects

No Data Available
No PBT/vPvB Ingredient is present

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The disposal recommendations are based on the material as supplied. Dispose of in accordance with applicable laws and regulations and the characteristics of the material at the time of disposal.
For handling and measures in the event of accidental dispersion of the waste, the indications provided in sections 6 and 7 generally apply. However, specific precautions and actions must be assessed in relation to the composition of the waste.
Dispose of the waste consisting of the product after having assessed the possibilities of its reuse or re-use in another production cycle, or of its recovery at companies authorised pursuant to Legislative Decree no. 152/2006. The European Waste Catalogue (EWC) code is specific to the waste production process and waste components. Determine the EWC code (CER) in accordance with the criteria provided by the European Waste Catalogue and the list of hazardous waste defined by Commission Decision 2000/532/EC and subsequent amendments.
Drain the container thoroughly.
The product must not enter sewers, water courses or soil.

SECTION 14: Transport information

This product is not regulated as dangerous goods for transport according to (ADR/RID,IMDG,IATA)

SECTION 15: Regulatory information

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

Legislative Decree 9/4/2008 n. 81
Ministerial Decree on Work 26/02/2004 (Occupational Exposure Limits)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EU) n. 2020/878
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) No. 605/2014 (ATP 6 CLP)
Regulation (EU) No. 1221/2015 (ATP 7 CLP)
Regulation (EU) No. 918/2016 (ATP 8 CLP)
Regulation (EU) No. 1179/2016 (ATP 9 CLP)
Regulation (EU) No. 2017/776 (ATP 10 CLP)
Regulation (EU) No. 2018/669 (ATP 11 CLP)
Regulation (EU) No. 2018/1480 (ATP 13 CLP)
Regulation (EU) No. 2019/521 (ATP 12 CLP)
Regulation (EU) No. 2020/217 (ATP 14 CLP)
Regulation (EU) No. 2020/1182 (ATP 15 CLP)
Regulation (EU) No. 2021/643 (ATP 16 CLP)
Regulation (EU) No. 2021/849 (ATP 17 CLP)
Regulation (EU) No. 2022/692 (ATP 18 CLP)
Regulation (EU) No. 2021/849 (ATP 17 CLP)
Regulation (EU) No. 2022/692 (ATP 18 CLP)
Regulation (EU) No. 2023/1434 (ATP 19 CLP)

ECHA website
RIGOLETTO website (WGK - water hazard class)
IFA GESTIS website (OEL)
DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 (definition of VOC)
Legislative Decree of the Government n. 152 of 3 April 2006 (definition of VOC)

Restrictions related to the product or the substances contained in accordance with Annex XVII of Regulation (EC) 1907/2006 (REACH) and subsequent amendments:
Restrictions related to the product: None
Restrictions related to the substances contained: 75

Provisions relating to EU Directive 2012/18 (Seveso III)
None
Water hazard class (Italy) : No data available

SVHC Substances:
This product does not contain substances of very high concern in quantities exceeding the respective regulatory limit (> 0.1% (w/w) Regulation (EC) No. 1907/2006 (REACH), Art. 57).

15.2 Chemical safety assessment
A chemical safety assessment has not been carried out for the mixture.
The SDS incorporates the relevant information on the constituents of the mixture and, where possible, reports the relevant Exposure Scenarios in the annex.

SECTION 16: Other information

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regula-tion (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - 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 Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships car-rying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - Interna-tional Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test popula-tion; 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)EL - No Observed (Adverse) Ef-fect 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 sub-stance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament 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; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Contact Point : Business Unit “FILAMENT 3D, PRINTING”

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