

FILAFLEX SAFETY DATA SHEET

According to Regulation (EU)

No. 1907/2006

12000008185

DATE: 11/01/2013

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

TRADE NAME: FILAFLEX**USE:** Elastic filament for 3d printers Fused deposition material (FDM)**COMPANY:** RECREUS

IGNACIO GARCIA GARCIA

ADDRESS: C/ LOS VIENTOS, 11. C.P 03600 ELDA (ALICANTE), SPAIN**TELEPHONE:** 0034 865 77 79 65**EMAIL:** info@recreus.com**PRODUCT NAME:** FILAFLEX , 3D PRINTING ELASTIC FILAMENT**TRADE NAME:** FILAFLEX

2. HAZARDS IDENTIFICATION

Not a product dangerous for health or the environment according to the definition of EC directives 2006/121/EC or 1999/45/EC and their valid adaptations and derived national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Thermoplastic polyurethane

4. FIRST AID MEASURES

SKIN CONTACT: **CONTACT WITH THE HOT MELT:** Cool immediately with plenty of water.

Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. To obtain treatment for possible burns, and appropriate skin care, seek medical advice immediately.

EYES: Vapors during FDM process may cause slight irritation, remove exposed individual to fresh air.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, Foam, Dry chemical

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fume.

Firemen must wear self-contained breathing apparatus.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Put on protective equipment (see chapter 8).

Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

Environmental precautions: Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Use mechanical handling equipment. Avoid dust formation. sweep up and shovel into suitable containers for disposal.

Additional advice: For further disposal measures see chapter 13.

7. HANDLING AND STORAGE

Handling

Adequate ventilation and if necessary, effective exhaust must be provided at the workplace of fused deposition modeling process.

Provided good ventilation and/or local exhaust systems are used, the Workplace Exposure Limit(s) stated in Chapter 8 should not be exceeded. Dust must be removed by effective exhaust ventilation.

Storage

Keep container tightly closed and dry.

Storage temperature: < 40 °C

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:

During fused deposition modeling operations, use with ventilation adequate to reduce levels of air contaminants below that which may cause personal injury or illness. Local exhaust ventilation that removes air contaminants from the breathing zone is preferred.

General, mechanical, or dilution ventilation may be suitable.

Respiratory protection:

In case of dust formation use respiratory equipment with filter type particle filter P1 according to EN 143.

Hand protection:

Suitable materials for safety gloves; EN 374-3:
polyvinyl chloride - PVC (≥ 0.5 mm)
Contaminated and/or damaged gloves must be changed.

Eye protection:

Wear eye/face protection.

Skin and body protection:

Wear suitable protective clothing.

Further protective measures:

Do not breathe dust/vapor. Grease skin.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------------------|-----------------------------------|
| Colour: | different according to coloration |
| Form: | round section filament |
| Odour: | almost odorless |
| Softening point: | > 120 °C |
| Density: | ca. $1,2$ g/cm ³ |
| Bulk density: | 500 - 700 kg/m ³ |
| Vapour pressure: | not applicable |
| Viscosity, dynamic: | not applicable |
| Water solubility: | practically insoluble |
| pH: | not applicable |
| Ignition temperature(flame): | > 210 °C |
| Autoignition temperature: | not applicable |
| Explosion limits: | not applicable |

10. STABILITY AND REACTIVITY

Hazardous reactions: No hazardous reactions observed.

Hazardous decomposition products: Smouldering or incomplete combustion leads to the formation of toxic gas mixtures consisting mainly of CO, CO₂ and nitrogen oxides.

Thermal decomposition: Decomposition begins at 230 °C

11. TOXICOLOGICAL INFORMATION

Acute toxicity LD50 oral, rat: > 5000 mg/kg

Acute toxicity LD50 subcutaneous, rat: > 5000 mg/kg

Primary skin irritation, rabbit: non-irritant

Primary mucosae irritation, rabbit: non-irritant

Skin sensitisation according to Magnusson/Kligmann (maximizing test): No sensitisation established on guinea-pigs

Additional information: According to our experience and information the product has no harmful effects on health if properly handled.

12. ECOLOGICAL INFORMATION

Further information on ecology:

The product is practically insoluble in water. In view of its consistency and insolubility in water, no ecological problems are to be expected if the product is properly handled. The product is not readily biodegradable.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

14. TRANSPORT INFORMATION

ADR/RID --

ADNR --

IATA --

IMDG --

Other information : Not dangerous cargo.

Slight smell. Keep dry.

15. REGULATORY INFORMATION

No labeling necessary according to EC Directives 2006/121/EC or 1999/45/EC and their valid adaptations and derived national regulations.

National legislation

Water contaminating class (Spain): nw not water endangering

(in accordance with Annex 1 to the Directive on Water-Hazardous Substances)

16. OTHER INFORMATION

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 material used in combination with any other materials or in any process, unless specified in the text.