Trade name: Polyester (PET) Monofilament yarns

Date of issue: 14.03.2014/Version 3.04/chw replaces issue of: 17.01.2011/chw

1. Identification of substance/preparation and company/undertaking

Product name: Polyester (PET) Monofilament Yarns
Product Type: Article
Producer and Supplier: Monosuisse AG
Gerliswilstrasse 19
CH-6021 Emmenbrücke (Switzerland)

Telephone Numbers:
Switchboard No. +41 41 414 71 00
Fax No. +41 41 414 73 99
E-Mail: info@monosuisse.com
Website: www.monosuisse.com

2. Hazards identification

No significant hazards to humans and environment are associated with this article, if used in accordance with good industrial hygiene practice.

Eye contact: Not irritating to eyes. During proceeding possible risk of mechanical impact.
Skin contact: After long exposure times spin finish may cause a temporary irritation of skin.
Inhalation: Not relevant.
Ingestion: No adverse health effects are expected if small amounts are swallowed.

No dangerous preparation according Directive 1999/45/EC

3. Composition / information on ingredients

Chemical nature of base polymer:
Polyester (PET) produced from Terephthalic acid (PTA) or Dimethylterephthalate (DMT) and Ethylene glycol [CAS No. 25038-59-9].
Catalyst system at an amount < 0.1%
Dulled Monofilament yarns contain max. 0.5% of Titanium Dioxide.

Physical nature: Monofilament continuous yarn, different dtex / diameters and types. Raw white or spun dyed in different colours, wound on suitable bobbins, flanged bobbins or cylinders.

Spin-finish: Yarns are treated with a spin-finish; typical content 0.02% - 0.6% of the yarn weight depending on type and diameter. Typical composition: lubricants, emulsifiers and anti-electrostatics.

No dangerous ingredients according Regulation 1907/2006/EC

4. First-aid measures

Inhalation: Not specifically concerned
Skin contact: Not specifically concerned. Traces of spin-finish may be washed away with water.
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In case of fire, the molten product may cause burns. Rinse with plenty of water. **Do not** attempt to remove clothes (danger of adherence to the skin). Call for a physician.

Eye contact: Not specifically concerned
Ingestion: Not specifically concerned

5. Fire-fighting measures

- **Fire extinguishing agents:** All usual extinguishing media may be used
- **Restrictions:** No restrictions. Fire fighting measures should be adjusted to the surrounding area.
- **Hazardous decomposition products:** Depending on temperature and oxygen availability, combustion off-gases contain variable quantities of toxic substances: carbon monoxide (CO), acetaldehyde and various other organic compounds, which must not be inhaled.
- **Protective equipment for fire-fight:** Use autonomous respirators to fight fire indoor or in poorly ventilated areas.
- **Emergency Response Intervention (ERI)**-Card number: 4-03

6. Accidental release measures

- **Environmental protection:** Not considered as harmful to the environment
- **Accidental dispersion/spill:** Collect material for controlled re-use or waste disposal. No special safety risks or risks to the environment. Refer to section 13 for disposal information.

7. Handling and storage

- **Handling:** In accordance with good industrial hygiene and safety practices.
- **Fire precautions:** Remove dust, fly and finish residues by ventilation and vacuum cleaning, especially on heat setting operations. Keep away from ignition sources. Beware of static electricity and discharges.
- **Storage:** No special safety precautions for storage rooms. Stable under normal storage conditions.
- **Storage conditions:** Consider technical advises referring to optimal processability.
- **Packaging:** Plastic bags, cardboard box with cardboard spacers. Plastic stretch wrap.

8. Exposure controls and personal protection

- **Respiratory protection:** Avoid inhalation of eventual vapours or smokes during processing.
- **Hand protection:** After long exposure times spin finish may cause a temporary irritation of skin. Protect hands with suitable protective gloves.
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c) Eye protection: Suitable eye protection is recommended.
d) Skin protection: Respect usual Safety standards for Polymer- and textile industries.
e) Occupational exposure limits: none

9. Physical and chemical properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Monofilament yarns, wound up on suitable bobbins / cylinders</td>
</tr>
<tr>
<td>Colour</td>
<td>raw white (ecru) or spun dyed</td>
</tr>
<tr>
<td>Odour</td>
<td>none</td>
</tr>
<tr>
<td>Melting range</td>
<td>250 - 260 [°C]</td>
</tr>
<tr>
<td>Flash point</td>
<td>350 – 400 closed cup</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>about 420 [°C]</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>starts at about 300°C. At 150°C evaporation of spin-finish may start</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>not explosive</td>
</tr>
<tr>
<td>Relative density of polymer</td>
<td>1.38 – 1.42 [g/cm³]</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not applicable</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Yarn products are not water soluble</td>
</tr>
<tr>
<td>VOC-Content</td>
<td>&lt; 1% (VOC = Volatile Organic Carbon)</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>stable under normal conditions</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>none under normal storage conditions</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>none under normal storage conditions</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>none under normal storage conditions</td>
</tr>
</tbody>
</table>

Combustion off-gases see point 5.

11. Toxicological information

No literature found where this type of yarn articles is described to present a special risk or toxicity. Spin-finish on the yarn may cause skin-irritation at long-term contact. In case of special end use, Monosuisse AG may be contacted for additional information.
The product is not aseptic.

12. Ecological information

The yarn product is not associated with ecological problems, provided that the wastes are orderly disposed of. Because of its chemical nature, the product is not ecotoxic and not readily biodegradable.
Waste water from proceeding steps should be disposed of in waste water treatment plants according to local regulations.
13. Disposal considerations

Can be disposed of as solid waste or burned in suitable installations, subject to local regulations. Recycling or thermal recycling is recommended for both the product and packaging material.

14. Transport information

International regulations:
Class RID/ADR: not classified as hazardous material
Class ICAO/IATA: not classified as hazardous material
Class OMI/IMDG: not classified as hazardous material

15. Regulatory information

The yarn complies with the following EC-Regulations:
2011/65/EC (08.06.2011) RoHS2 and
2012/19/EC (04.07.2012) WEEE2
It contains no Mercury, Cadmium, Lead and Chromium (VI), no brominated flame retardants, no PCB, PCT, CFC, HCFC, HTC, no Asbestos and no artificial radioactive materials.

16. Other information

This Safety Data Sheet (SDS) follows the EC-Regulation 1907/2006 dated 18.12.2006, Annex II though the yarns are not classified as dangerous articles. As per REACH Article 31 and ECHA “Guidance for Articles” (2008) there is no obligation for a SDS for above product. The intension of this SDS is to inform about physical properties, safety aspects, toxicological data and ecological characteristics that are relevant for the use of the yarn in textile and industrial applications, and to recommend procedures for handling, storage and transport.

This Safety Data Sheet is a complement to Technical Data Sheets but does not replace them. The information given is to the best of our knowledge at the date of issue. It does not constitute a contractual description of product properties.

The Safety Data Sheet is not meant to be handed out to private end-users. It does not disengage the user of his duty to know and to apply any law and regulation that may be relevant.

Additional information may be requested at Monosuisse AG if special applications of the yarns are intended.