

Safety data sheet according to EEC Directive 91/155

Product Lines :

**Straight and corrugated PTFE tubing (polytetrafluoroethylene)**

SSP.040

Revision 00

dated 20-06-96

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### 1. MANUFACTURER & PRODUCT IDENTIFICATION

Product :

Straight and corrugated thermoplastic tubing produced by extrusion and sinterization of polytetrafluoroethylene virgin polymer (PTFE)

Manufacturer data :

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characteristics :

- White tubing; 100% solid PTFE polytetrafluoroethylene polymer

### 3. HAZARDS IDENTIFICATION

Adverse effects and main risks

- The water dispersed product is an inert polymer and no risk is expected for the human health and the environment in its normal use.
- Some risk may be expected at temperature - 350 °C for emission of noxious compounds (HF and COF<sub>2</sub>) which are extremely corrosive and can cause severe burns not immediately visible.

Symptomatology following Exposure

The products of thermal decomposition are very dangerous in case of contact with eyes and skin or when inhaled; in this last case the symptoms do not occur until several hours after exposure.

- Eye contact: redness, irritation, burns.
- Skin contact: redness, irritation, burns.
- Inhalation: headache, short breathing, cough, chills and fever ("polymer fume fever"), tachycardia.

### 4. FIRST AID MEASURES

In case of inhalation of vapours from thermal decomposition speed of medical intervention is extremely important.

Eye Contact

- Flush immediately and continuously with plenty of water for at least 15 minutes or until medical treatment is received.
- Seek medical advice.

### 5. FIRE FIGHTING MEASURES

Fire Hazards

- Possible risks are due to corrosive and toxic effects of by-products from thermal decomposition (HF and COF<sub>2</sub>).

precaution in case of Fire

- Remove the product from the source of flame , if possible to do so in

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safe conditions.

- Keep containers cool by spraying with water when exposed to fire.
- Stay opposite the wind and at safety distance from the flames.

Suitable Extinguishing Media

- Water.spray, water-fog, water-stream, CO<sub>2</sub>, dry chemical foam, earth or sand.

Specific Protective Equipment

- Self-contained breathing apparatus and skin protection to protect from HF vapours.

## 6. ACCIDENTAL RELEASE MEASURES

Hazards in case of Release

- The release of product in working is not dangerous for working people.

Behaviour in case of Release

- Try to stop as soon as possible the release in safe conditions.

Environmental Precautions

- Avoid the uncontrolled released the product in sewage systems, in surface and underground waters, in the soil.

Cleaning Methods

- Sweep and scoop out the released material.
- Disperse of in accordance with local laws and regulations.

## 7. HANDLING AND STORAGE MEASURES

Handling Precautions

- Avoid processing above the decomposition temperature (350 °C) without adequate venting.
- Do not drink, eat and smoke during handling.

Storage Precautions

- Keep containers closed.
- Keep away from heat, sparks and flames.
- Do not store near combustible, explosive and incompatible materials.

Compatible Packaging Materials

- Store in plastics containers.

## 8. EXPOSURE CONTROL/PERSONAL

Exposure Limit Values

Only The threshold values (ACGIH 1993/94) of the decomposition products are applicable.

- Hydrofluoric Acid (HF): TLV/TWA = 2.6 mg/m<sup>3</sup>
- carbonilfluoride (COF<sub>2</sub>): TLV/TWA = 5.4 mg/m<sup>3</sup>

Precautional Measures

- Vent vapours from high-temperature processing.
- Do not breathe vapours from thermal decomposition.

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Personal Protective Clothing

Clothing to be worn in case of fire or thermal decomposition:

- Respiratory Protection: self-contained breathing apparatus
- Eyes protection: safety goggles
- Hands Protection: rubber gloves
- Body Protection: worksuit or rubber apron

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State: solid
- Colour: white
- Odour: odourless
- Melting Point: 327-335°C
- flammability: not flammable
- Explosivity: not explosive
- Density (H<sub>2</sub>O=1): from 2.14 to 2.18 g/cm<sup>3</sup> at 23 °C
- Solubility in Water: not soluble
- Solubility in Org: Solvents: non soluble

## 10. STABILITY AND REACTIVITY

stability

- Stable in normal condition of use:
- Negligible decomposition starts above 250°C; at temperatures above 350°C starts the emission of noxious compounds (HF and COF<sub>2</sub>)

Conditions to avoid

- Flames and high temperatures:

Materials to avoid

- The chemical reactivity is very low
- Avoid the contact with combustible materials.
- Avoid the contact with molten alkaly metals.

Decomposition Hazards

- The gaseous compounds generated by thermal decomposition of the product (HF and COF<sub>2</sub>) are very toxic and corrosive.

## 11. TOXICOLOGICAL INFORMATION

Penetration Routes

- Ingestion of product, inhalation of decomposition vapours.

Adverse Effects

Delayed and/or immediate effects after short and/or prolonged exposure.

- Irritation: not irritant; decomposition products may cause burns on skin and mucousae.
- Sensitization: not sensitizer
- Chronic Toxicity: no known effect
- Carcinogenesis: no known effect
- Mutagenesis: no known effect

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- Reprotoxicity: no known effect

**Experimental Toxicological Data**

- Referred to pyrolysis products of PTFE at 625°C:

LC50 (inhalation, 30 min, rat) = 3500 mg/m<sup>3</sup>.

- referred to pyrolysis products of PTFE at 800°C:

LC50 (INHALATION, 5 MIN, RAT)= 2700 mg/m<sup>3</sup>

**12. ECOTOXICOLOGICAL INFORMATION****Ecological Precautions**

- Use the product according to the good working practice avoiding polluting the environment.

Water Pollution: officially not classified, internal self classification: 0 (generally not water endangering)

**13. DISPOSAL CONSIDERATIONS****Waste product Disposal**

- Dispose of in landfill according to local laws and regulations or destroy using high-temperature incinerator designed to burn fluorine compounds.

**14. TRANSPORT INFORMATION****Hazard in transportation**

- The product is not dangerous for transportation

**Transport Classifications**

U.N. Number: not assigned

Packaging Group: not assigned

- Road Transportation (ADR): not classified
- Rail Transportation (RID): not classified
- Sea Transportation (IMDG/IMO): not classified
- Air Transportation (ICAO/IATA): not classified

**15. REGULATORY INFORMATION**

EEC Directive 67/548 and following amendments

- Classification Type: none

**Labelling Information**

- Trade Name: Algoflon - Aqueous Dispersions
- Classification: not required
- Hazard Symbol: not required
- Risk Phrases: not required
- Safety Phrases: not required

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European Regulation for Protection of Man and Environment  
DPR 303//56 (General regulation for safety and hygiene in work places):  
not cited.

### 16. OTHER INFORMATION

#### BIBLIOGRAFY

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The information given in this safety data sheet is for safety purpose only. It is given in good faith and based on the best knowledge and experience of the company at the date of issuing. The company is not responsible for damages caused by the use of the product in applications for which it was not intended or for conditions of use outside its control.