

SAFETY DATA SHEET
PTFE- VIRGIN POWDERS

Updating: 18/09/2006

COMPANY IDENTIFICATION

- Company name : **POLIS_{SRL}**
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- Telephone and Fax nr : 030 – 979304 – 979989

Emergency Calls

- Telephone nr. : 030- 979304 – 979989

1) COMPOUND IDENTIFICATION

- Trade Name : PTFE PLS
- Grades : P156E-P146E-P322E-P105E-P101E-P BIL SM-P BIL PN
P SM FF-P PN FF-P RB FF-P310E
- Compound description : Polytetrafluoroethylene
- Structural formula :
(of the polymer) $-(CF_2-CF_2)_n-$
- CAS Name: Polytetrafluoroethylene
- CAS Number : 9002-84-0
- EINECS Number : not assigned
- ELINCS Number : not assigned
- INDEX Number : not assigned

2) COMPOSITION / INFORMATION ON INGREDIENTS

Substances with established exposure limits or classifiable as dangerous according to EC Directive 67/548 and following amendments, in concentration equal or higher that that reported in EC Directive 88/379 (item.3, sect..6) :

| <u>Name</u> | <u>Conc.</u> | <u>N° CAS.</u> | <u>Symbol</u> | <u>Risk phrases</u> |
|--------------------------------|--------------|----------------|---|---------------------|
| PTFE (Polytetrafluoroethylene) | 100% | 9002-84-0 | - (CF ₂ – CF ₂) _n | ----- |

3) HAZARD IDENTIFICATIONS

3.1 Adverse human health effects

- The product is an inert polymer, which is not dangerous for the human health

3.2 Main symptoms

- See section 4

3.3 Environmental effects

- Environmental pollution only in case of emission of toxic and corrosive gases following thermal decomposition.

3.4 Physical and chemical hazards

- Toxic and corrosive gases are released in thermal decomposition.

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4) FIRST-AID MEASURES

4.1 Symptomatology following exposure to products of thermal decomposition

- Inhalation Headache, short breathing, cough, chills and fever , tachycardia.
- Eye contact Redness, irritation, burns
- Skin contact Redness, irritation, burns

4.2 First Aid Measures in case of exposure to gases from thermal decomposition

- Inhalation Move immediately affected person to fresh air.
Seek medical attention immediately.
If not breathing, supply artificial respiration, preferably mouth to mouth.
In case of difficult breathing, give oxygen.
The symptoms by inhalation of thermal decomposition products do not occur until several hours after exposure.
Keep the affected person under medical observation for at least 48 hours.
A timely medical attention is absolutely required.

- Eye contact Flush immediately and copiously with water for at least 15 minutes, retracting eyelids often.
Seek medical attention in case burns continues.

- Skin contact Wash immediately with water and soap (pay particular attention to flushing skin under nails).
Seek medical attention in case burns continues.

5) FIRE FIGHTING MEASURES

5.1 Specific hazards

- The product is neither flammable nor explosive.
- In the event of fire, corrosive and toxic gases from thermal decomposition may be formed.

5.2 Specific methods

- In case of surrounding fire, if possible, remove the containers in a safety place.
To do only if in safe conditions (safety distance from the flames and staying upwind)
- In case of impending fire, keep containers cool by spraying with water.

5.3 Extinguishing media

- Water (spray, fog, stream), CO₂, chemicals in powder or foam.

5.4 Protection of fire-fighters

- Self contained breathing apparatus.
- Full anti-acid clothing

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6) ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions

- Keep away from hot surfaces and flames.
- Stop the release as soon as possible, in safe conditions.

6.2 Environmental precautions

- Avoid uncontrolled discharge of the product in the soil and underground waters.

6.3 Methods for cleaning up

- Sweep and scoop out the released material, collecting it in suitable container for re-use or disposal according to applicable regulations.

7) HANDLING AND STORAGE

7.1 HANDLING

7.1.1 Precautions

- Wear suitable protective clothing (see par. 8)
- Avoid processing above decomposition temperature without adequate ventilation.
- Keep attention that particles of products coming from hands or from garments will not become in contact with materials or substances that could be burnt. (ex. cigarettes, tobacco)
- Clean facilities (pipe, vessels) before any discontinuous operations.

7.1.2 Security measures

- In working areas where the materials are handled at temperatures higher than 350°C appropriate exhaust ventilation and smoke down bringing are required .

7.2 STORAGE

7.2.1 Storage conditions

- Keep away from sparks and flames , hot surfaces and inflammable materials .
- Do not store near incompatible materials. (see par. 10).

7.2.2 Packing

- Polythene bags placed in cardboard boxes or plastic drums .

8) EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure limits

ACGIH 2003

- | | | | |
|--------------------|-------------|------------|-------|
| • Total dust | TLV/TWA | 10 mg/mc | |
| • HF | TLV/CEILING | 2,6 mg/mc | 3 ppm |
| • COF ₂ | TLV/STEL | 13,5 mg/mc | 5 ppm |

8.2 Technical measures

- Adequate local exhaust ventilation is required in case of high temperature processing

8.3 PERSONAL PROTECTIVE EQUIPMENT

8.3.1 Respiratory protection

- Dust safety masks, self-contained breathing apparatus in case of fire

8.3.2 Hand protection

- Latex gloves or similars

8.3.3 Eye and body Protection

- In case of high dust concentration wear safety goggles and appropriate worksuits/overalls.

8.3.4 Measures

- Do not eat, drink or smoke while handling the product.

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9) PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|----------------------------------|-----------------|
| • Physical state | solid or powder |
| • Odour | odourless |
| • Colour | white |
| • Bulk Density | 250÷550 g/l |
| • Melting point | 327 ÷ 335 °C |
| • Decomposition temperature | > 350 ° C |
| • Autoignition temperature | 575 ° C |
| • Ph | not applicable |
| • Boiling point | not applicable |
| • Flash point | not flammable |
| • Explosion properties | not explosive |
| • Oxidising properties | not oxidiser |
| • Vapour pressure | not applicable |
| • Vapour density | not applicable |
| • Solubility in water | not soluble |
| • Solubility in organic solvents | not soluble |

10) STABILITY AND REACTIVITY

10.1 Stability

- The product is stable in normal condition of use and storage.

10.2 Conditions to avoid

- Avoid heating the product above a temperature of 350 °C in absence of adequate protective measures
- Avoid contact with sparks and flames , hot surfaces and inflammable materials

10.3 Materials to avoid

- Avoid contact with alkaline metals and Fluorine under pressure.

10.4 Hazardous decomposition products:

- Toxic and corrosive vapour-steam(hydrogen fluoride, carbonyl fluoride, tetrafluoroethylene, hexafluoropropane and perfluoroisobutane).
- The temperature level influences directly the thermal combustion products

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11) TOXICOLOGICAL INFORMATION

11.1 Penetration routes

- Inhalation of toxic vapours or dust ingestion

11.2 Adverse effects for the Human Health

- Delayed and/or immediate effects after short and/or prolonged exposure: Health injuries are not known or expected under normal use. The thermal decomposition vapours of fluorinated polymers may cause Polymer fume fever with influenza-like symptoms (headache, tremors, sweating, high temperature), especially when smoking contaminated tobacco; danger of serious damage to health by prolonged exposure.
- Acute toxicity: Health injuries are not known or expected under normal use. The thermal decomposition vapours of fluorinated polymers may cause Polymer fume fever with influenza-like symptoms (headache, tremors, sweating, high temperature), especially when smoking contaminated tobacco; danger of serious damage to health by prolonged exposure.
- Chronic toxicity No data available in normal industrial documentation
- Local effects May cause irritation to the eyes or skin due to mechanical effects
Decomposition products may cause severe burns on skin, eyes and mucousae.
- Sensitisation No data available
- Carcinogenicity IARC Evaluation : Group 3 (the agent is not classifiable as to its carcinogenicity to humans)
- Mutagenicity and Reproduction toxicity: The product is not listed as potential mutagenic agent by National and International Agencies or Competent Authorities.

11.3 Experimental toxicological data (on animals)

- LC₅₀ – inhalation 3500 mg/m³ (30 min.) Species : rat
(referred to pyrolysis products of PTFE at 625 °C)
- LC₅₀ – inhalation 2700 mg/m³ (5 min.) Species : rat
(referred to pyrolysis products of PTFE at 800 °C)

12) ECOLOGICAL INFORMATION

12.1 Environmental effects

- Mobility and bioaccumulation: no data available
- Persistence: no data available
- Degradability: no data available
- Ecotoxicity: no data available

12.2 Evaluation

- Avoid polluting the environment

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13) DISPOSAL CONSIDERATIONS

13.1 Waste treatment

- The product that can not be recycled must be disposed in authorised landfill or destroyed in a high-temperature incinerator designed to burn halogen materials.

13.2 Packaging treatment

- Dispose of in authorised landfills according to local laws and regulations.

14) TRANSPORT INFORMATION

14.1 Specific hazards

- The product is not classified as dangerous in transportation

14.2 Packaging information

- Product usually shipped in plastic (PE) bags within plastic canisters.

14.3 International transport classification

- Packaging group: not assigned
- U.N. Number not assigned

15) REGULATORY INFORMATION

15.1 EC Regulations

- Directive 67/548 and following amendments

15.2 Classification

- Hazard class: none
- Classification type not required

15.3 Labelling

- Trade name PTFE PLS
- Types P156E,P146E,P322E,P105E,P101E,P BIL SM,P BIL PN
P SM FF,P PN FF,P RB FF, P310E
- Risk phrases (R) none
- Safety phrases (S) none
- Hazard Symbol none

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16) OTHER INFORMATION

- Data Bases : IUCLID(1996) OHMTADS (2003) IRIS (2003) RTECS (2003) HSDB (2003)
- Safety data sheet according to Directive 2001/58/CE

The information given in this safety data sheet is based on the present available knowledge.

Their aim is to describe the security appearance related to our products and not really to grant their properties.

The Company is not responsible for damages to persons or things caused by a misuse of the information indicated in this document .