

# MATERIAL SAFETY DATA SHEET

ACCORDING TO REGULATION (CE) 1907/2006 REACH AND (EU) No 2015/830

## PTFE Standard - Premium Grade

Data

Rev.

### 1 - IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND COMPANY/ UNDERTAKING

1.1	<b>Identification of the product</b>	Polytetrafluoroethylene (PTFE) Semifinished and finished products of PTFE
	<b>Trade name</b>	
	<b>Grade</b>	Moulded and Extrusion
	<b>Structural formula: (of the polymer)</b>	$-(CF_2-CF_2)_n-$
	<b>Product code</b>	
1.2	<b>Identified uses and recommended for the substance or mixture</b>	
	<b>Recommended use</b>	Product for industrial use only

1.3	<b>Details of the supplier of the safety data sheet</b>	
	<b>Company name</b>	Polyfluor Plastics bv
	<b>Address</b>	Minervum 7006, 4817 ZL BREDA, Netherlands
	<b>Telephone and Fax nr</b>	T: 00-31-76-7920000
	<b>e-mail address</b>	info@polyfluor.nl
1.4	<b>Emergency Calls</b>	

### 2 - HAZARD IDENTIFICATIONS

2.1	<b>Classification of the substance or mixture</b>		
	<i>This mixture is classified as <b>not dangerous</b> in accordance with directives</i>		
2.1.1	European Regulation (EC) 1272/2008, as mentioned		
2.1.2	Classification according to the CLP (Classification Labelling and Packaging, Regulation (EC) No 1272/2008).		
	Hazard Class	Hazard Category	H-phrases
	None	None	None
2.1.3	<b>European Directive 67/548 / EEC or 1999/45 / EC</b>		
	Class Hazard /category Hazard	<b>R-phrases</b>	
	None	None	
2.2	Label elements:	None	
2.2.1	Names on the label:	None	
2.2.2	Signal word :	None	
2.2.3	Hazard pictograms:	None	
2.2.4	Hazard :	None	
2.2.5	Safety advice:	None	
2.3	Other hazards: The product is biologically inert. Not hazardous under normal conditions of handling and use. Ecological injuries are not known or expected under normal use. Thermal decomposition can lead to release of toxic and corrosive gases.		

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## 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

- 3.1 mixture  
3.2 Concentration

<u>Name</u>	<u>Conc.</u>	<u>N° CAS.</u>	<u>Symbol</u>	<u>Risk Phrases</u>
Polytetrafluoroethylene	≥ 99,9%	9002-84-0	-(CF <sub>2</sub> -CF <sub>2</sub> )-	None

## 4 – FIRST AID MEASURES

<b>4.1</b>	<b>Description of first aid measures</b> <b>Symptomatology following exposure to products of thermal decomposition</b>	
4.1.1	If inhaled	Headache, short breathing, cough, chills and fever, tachycardia.
4.1.2	In case of contact with skin	Redness, irritation, burns
4.1.3	Eye contact	Redness, irritation, burns
4.1.4	Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician
<b>4.2</b>	<b>First Aid Measures in case of exposure to gases from thermal decomposition</b>	
4.2.1	If inhaled	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. 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.
4.2.2	Eye contact	Flush immediately and copiously with water for at least 15 minutes, retracting eyelids often. Seek medical attention in case burns continues.
4.2.3	In case of contact with skin	Wash immediately with water and soap (pay particular attention to flushing skin under nails). Seek medical attention in case burns continues.
4.2.4	If swallowed	Not a probable route of exposure. However, in case of accidental ingestion, call a physician

## 5 – FIRE FIGHTING MEASURES

<b>5.1</b>	<b>Specific hazards</b>
5.1.1	The product is neither flammable nor explosive. In the event of fire, corrosive and toxic gases from thermal decomposition may be formed, like Carbon monoxide (CO) Hydrofluoric acid (HF) Carbonil Fluoride (COF <sub>2</sub> ) Tetrafluoroethylene Hexafluoroisobutylene Perfluoroisobutylene Sulphurous anydride
<b>5.2</b>	<b>Extinguishing media</b>
5.2.1	Water (spray, fog, stream), CO <sub>2</sub> , chemicals in powder or foam.
<b>5.3</b>	<b>Specific methods</b>
5.3.1	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.
<b>5.4</b>	<b>Protection of fire-fighters</b>
5.4.1	Self contained breathing apparatus. Full anti-acid clothing

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## 6 – ACCIDENTAL RELEASE MEASURES

<b>6.1</b>	<b>Personal precautions</b>
	Keep away from hot surfaces and flames.
	Stop the release as soon as possible, in safe conditions.
<b>6.2</b>	<b>Environmental precautions</b>
	Avoid uncontrolled discharge of the product in the soil and underground waters.
<b>6.3</b>	<b>Methods for cleaning up</b>
	Sweep and scoop out the released material, collecting it in suitable container for re-use or disposal according to applicable regulations.
<b>6.4</b>	<b>Reference to other sections</b>
	None

## 7 – HANDLING AND STORAGE

<b>7.1</b>	<b>Handling</b>
<b>7.1.1</b>	<b>Precautions</b>
	Ensure adequate ventilation
	Use personal protective equipment
	Avoid creating dust
	Do not contaminate products based on tobacco
	Keep away from heat and sources of fire
	To avoid thermal decomposition do not overheat
	Before each operation clean and dry pipes and equipment
	Take measures to prevent the build up of electrostatic charge
	Ensure all equipment is electrically grounded before beginning transfer operations
<b>7.1.2</b>	<b>Security measures</b>
	In working areas where the materials are handled at temperatures higher than 350°C appropriate exhaust ventilation and smoke down bringing are required.
<b>7.2</b>	<b>Conditions for safe storage, including any incompatibilities</b>
<b>7.2.1</b>	<b>Storage</b>
	Keep away from sparks and flames, hot surfaces and inflammable materials.
	Do not store near incompatible materials (see par. 10).
<b>7.2.2</b>	<b>Packaging</b>
	Cardboard boxes or plastic drums, wooden boxes

<b>8.1</b>	<b>Control parameters</b>																									
<b>8.1.1</b>	<b>Exposure Limit Values</b>																									
	Exposure guidelines																									
	<table border="1"> <thead> <tr> <th>Ingredient</th> <th>Authority</th> <th>Type</th> <th>Limit</th> <th>Additional information</th> </tr> </thead> <tbody> <tr> <td>Polytetrafluoroethylene</td> <td>CMRG</td> <td>TWA, as respirable dust</td> <td>5 mg/m<sup>3</sup></td> <td>-</td> </tr> <tr> <td>Polytetrafluoroethylene</td> <td>CMRG</td> <td>TWA, as total dust</td> <td>10 mg/m<sup>3</sup></td> <td>-</td> </tr> <tr> <td>HF</td> <td>TLV/CEILING</td> <td>2,6 mg/ m<sup>3</sup></td> <td>3 ppm</td> <td></td> </tr> <tr> <td>COF<sub>2</sub></td> <td>TLV/STEL</td> <td>13,5 mg/ m<sup>3</sup></td> <td>5 ppm</td> <td></td> </tr> </tbody> </table>	Ingredient	Authority	Type	Limit	Additional information	Polytetrafluoroethylene	CMRG	TWA, as respirable dust	5 mg/m <sup>3</sup>	-	Polytetrafluoroethylene	CMRG	TWA, as total dust	10 mg/m <sup>3</sup>	-	HF	TLV/CEILING	2,6 mg/ m <sup>3</sup>	3 ppm		COF <sub>2</sub>	TLV/STEL	13,5 mg/ m <sup>3</sup>	5 ppm	
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	Source of exposure limit data: ACGIH : American Conference of Governmental Industrial Hygienists CMRG: Chemical Manufacturer Recommended Guideline OSHA: Occupational Safety and Health Administration AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)																									
<b>8.2</b>	<b>Exposure controls</b>																									
<b>8.2.1</b>	Appropriate engineering controls																									
<b>8.2.2</b>	Individual protection measures																									
<b>8.2.2.1</b>	Respiratory protection																									
	Normally it is required any protective device for the respiratory system. If dust / mist / fume, dust mask with filter type P2.																									

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	Use respirator when performing operations involving potential exposure to vapor of the product. Use only respiratory protection that conforms to international / national standards.
8.2.2.2	Hand Protection
	Latex gloves When handling hot material, use heat resistant gloves
8.2.2.3	Eye protection
	In case of high dust concentration wear safety goggles and appropriate work suits/overalls.
8.2.2.4	Body protection
	Long sleeved clothing Safety shoes
8.2.2.5	Hygiene measures
	When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Handle in accordance with good practice of industrial hygiene and safety practice
<b>8.2.3</b>	Environmental exposure control
	Every four years, the working environment is monitored. Result: not dangerous

## 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1	Information on basic physical and chemical.	
	Polytetrafluoroethylene PTFE	
9.1.1	general information	
	Fluorinated polymer	
	Appearance	Solid
	Odour	odourless
	Colour	white
	Density relative	2,130 – 2,200 g/cm <sup>3</sup>
	Point of fusion	327 ÷ 335 °C
	Decomposition temperature	> 350 °C
	Auto-ignition temperature	575 °C
	pH	not applicable
	Boiling point	not applicable
	Flash point	non flammable
	explosive properties	not explosive
	oxidizing properties	non-oxidizing
	Vapor Density	not applicable
	Solubility in water	insoluble
	Solubility in organic solvent	insoluble

## 10 – STABILITY AND REACTIVITY

<b>10.1</b>	<b>Stability</b>
	The product is stable in normal condition of use and storage.
<b>10.2</b>	<b>chemical stability</b>
	The product is chemically stable
<b>10.3</b>	<b>Possibility of hazardous reactions</b>
	During drying, cleaning and moulding, small amounts of hazardous gases and/or particulate matter may be released. These may irritate eyes, nose and throat. Large molten masse may give off hazardous gases. Stable under normal condition.
<b>10.4</b>	<b>Conditions to avoid</b>
	To avoid thermal decomposition, do not overheat. Abnormally long processing time or high temperatures can produce irritating and toxic fumes. Stable under normal conditions
<b>10.5</b>	<b>Materials to avoid</b>
	Finely divided aluminium Powdered metals Potent oxidizers like fluorine and related compounds. Contact with incompatible materials can cause fire and explosion
<b>10.6</b>	<b>Hazardous decomposition products</b>
	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

<b>11.1</b>	<b>Acute toxicity</b>
	See 11.1.1
<b>11.1.1</b>	<b>Acute oral toxicity</b>
	Polytetrafluoroethylene LD50/rat : > 11,280 mg/kg
<b>11.1.2</b>	<b>Acute inhalation toxicity</b>
	The thermal decomposition vapours of fluorinated plastics may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco.  CL50, 30min, rabbit . 3,5 mg/l, Pyrolysis products (625 ° C) (polytetrafluoroethylene) CL50, 5min, rabbit . 2,7 mg/l, Pyrolysis products (800°C) (polytetrafluoroethylene)
<b>11.2</b>	<b>Corrosion / Skin Irritation</b>
	Polytetrafluoroethylene - rabbit Classification: not classified as irritant Result: No skin irritation Polytetrafluoroethylene - human Classification: not classified as irritant Result: No skin irritation
<b>11.3</b>	<b>Serious eye damage / eye irritation</b>
	No eye irritation in normal condition of use
<b>11.4</b>	<b>Sensitisation</b>
	Polytetrafluoroethylene - human Classification: not a skin sensitizer Result: Does not cause skin sensitisation. Patch test on human volunteers did not demonstrate sensitisation properties
<b>11.5</b>	<b>Mutagenicity</b>
	Polytetrafluoroethylene Test on bacterial or mammalian cell cultures did not show mutagenic effects.
<b>11.6</b>	<b>Carcinogenicity</b>
	Polytetrafluoroethylene. Not classifiable as a human carcinogen
<b>11.7</b>	<b>Toxic for reproduction</b>
	Polytetrafluoroethylene. No toxicity to reproduction
<b>11.8</b>	<b>Repeated dose toxicity</b>
	Polytetrafluoroethylene. Oral – feed rat No toxicologically significant effects were found
<b>11.9</b>	<b>other information</b>
	none

## 12 – ECOLOGICAL INFORMATION

<b>12.1</b>	<b>Toxicity</b>
	Toxicity to fish : the substance is a polymer and is not expected toxic effects
<b>12.2</b>	<b>Persistence and Degradability</b>
	no data available
<b>12.2.1</b>	<b>Abiotic degradation</b>
	no data available
<b>12.2.2</b>	<b>Biodegradation</b>
	no data available
<b>12.3</b>	<b>Biocumul potential</b>
	no data available
<b>12.4</b>	<b>Mobility in soil</b>
	no data available
<b>12.5</b>	<b>Results of PBT and vPvB</b>
	no data available

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<b>12.6</b>	<b>Other adverse effects</b>
	no data available

## 13 – DISPOSAL CONSIDERATIONS

<b>13.1</b>	<b>Waste treatment</b>
	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.
<b>13.2</b>	<b>Packaging treatment</b>
	Dispose of in authorised landfills according to local laws and regulations.

## 14 – TRANSPORT INFORMATION

<b>14.1</b>	<b>Specific hazards</b>
	The product is not classified as dangerous in transportation
<b>14.2</b>	<b>Packaging information</b>
	Product usually shipped in bags within plastic canisters, cardboard boxes or plastic drums, wooden boxes
<b>14.3</b>	<b>International transport classification</b>
	Packaging group: not assigned
	U.N. Number: not assigned

## 15 – REGULATORY INFORMATION

<b>15.1</b>	<b>EC Regulations</b>
	Regulation (CE) n.1907/2006 Regulation (CE) n. 453/2010 Regulation (CE) n. 2015/830
<b>15.2</b>	<b>Classification</b>
	Hazard class: none
	Classification type: not required
<b>15.3</b>	<b>Labelling</b>
	Trade name: Polytetrafluoroethylene (PTFE) Virgin pte semifinished and finished products
	Risk phrases (R): none
	Safety phrases (S): none
	Hazard Symbol: none
<b>15.4</b>	<b>Chemical Safety Assessment</b>
	None

## 16 – OTHER INFORMATION

<b>16.1</b>	<b>Text of hazard "H" referred to under sections 2-3</b>
	none
<b>16.2</b>	<b>Text of risk phrases "R" mentioned in section 2-3</b>
	none
<b>16.3</b>	<b>Other information</b>
	Safety data sheet according to Regulation (CE) n.1907/2006 and (CE) n.453/2010
	Regulation (EC) N.1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation Service, Authorization and Restriction of Chemicals (REACH), establishing a European Agency for chemicals, What Change 1999/45/EC and repealing Regulation (EEC) 793/93 and Council Regulation (EC) n.1488 /94 the Commission, as well as the Directive 76/769/EEC and Commission Directives 93/67/EEC, 93/105 /EC and 2000/21/EC.  Regulation (EU) 453/2010 of the Commission of 20 May 2010 amending Regulation (EC) No. 1907/2006 of the European Parliament and the Council. Regulation EEC / EU n ° 453 of 20/05/2010 of the Commission of 20 May 2010 amending Regulation (EC) n.1907 / 2006 of the European Parliament and the Council.  Regulation EEC/EU n.1272 of 16/12/2008 "Regulation (EC) n.1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45 / EC, and amending Regulation (EC) N.1907/2006.