MATERIAL SAFETY DATA SHEET

ACCORDING TO REGULATION (CE) 1907/2006 REACH AND (EU) No 453/2010

fluteck® P1000

PTFE Standard Grade

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

1.1	**Identification of the product**	Polytetrafluoroethylene (PTFE) Semifinished and finished products of PTFE
	Trade name	fluteck™ P1000 - fluteck™ P1050 - fluteck™ P1500 - fluteck™ P1550 Semifinished and finished products of PTFE
	Grade	Moulded and Extrusion
	Structural formula: (of the polymer)	$-(CF_2-CF_2)_n-$
	Product code	
1.2	**Identified uses and recommended for the substance or mixture**	
	Recommended use	Product for industrial use only

1.3	**Details of the supplier of the safety data sheet**	
	Company name	fluorseals S.p.A.
	Address	Via Tribolina, 20/22 24064 – Grumello del Monte (BG) I
	Telephone and Fax nr	+39 035 4492842
	e-mail address	cristianr@fluorseals.it
1.4	**Emergency Calls**	+39 035 4492842 (internal corporate)

2 – HAZARD IDENTIFICATIONS

2.1 **Classification of the substance or mixture**

*This mixture is classified as **not dangerous** in accordance with directives*

2.1.1 European Regulation (EC) 1272/2008, as mentioned

2.1.2 Classification according to the CLP (Classification Labeling an Packaging, Regulation (EC) No 1272/2008).

Hazard Class	Hazard Category	H-phrases
None	None	None

2.1.3 **European Directive 67/548 / EEC or 1999/45 / EC**

Class Hazard /category Hazard	**R-phrases**
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.

3 – COMPOSITION/ INFORMATION ON INGREDIENTS

3.2 mixture
3.2.1 Concentration

Name	Conc.	N° CAS.	Symbol	Risk Phrases
Polytetrafluoroethylene	100 %	9002-84-0	$-(CF_2-CF_2)-$	None

4 – FIRST AID MEASURES

4.1	**Description of first aid measures** **Symptomatology following exposure to products of thermal decomposition**	
4.1.1	If inhaled	Headache, short breathing, cough, chills and fever, tachycardia.
4.1.3	In case of contact with skin	Redness, irritation, burns
4.1.4	Eye contact	Redness, irritation, burns
4.1.5	Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician
4.2	**First Aid Measures in case of exposure to gases from thermal decomposition**	
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.
4.2.5	If swallowed	Not a probable route of exposure. However, in case of accidental ingestion, call a physician

5 – FIRE FIGHTING MEASURES

5.1	**Specific hazards**
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_2)
	Tetrafluoroethylene
	Hexafluoroisobutylene
	Perfluoroisobutylene
	Sulphurous anydride
5.2	**Extinguishing media**
5.2.1	Water (spray, fog, stream), CO_2, chemicals in powder or foam.
5.3	**Specific methods**
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.
5.4	**Protection of fire-fighters**
5.4.1	Self contained breathing apparatus.
	Full anti-acid clothing

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.
6.4	**Reference to other sections**
	None

7 – HANDLING AND STORAGE

7.1	**Handling**
7.1.1	**Precautions**
	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
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	**Conditions for safe storage, including any incompatibilities**
7.2.1	**Storage**
	Keep away from sparks and flames, hot surfaces and inflammable materials.
	Do not store near incompatible materials (see par. 10).
7.2.2	**Packaging**
	Cardboard boxes or plastic drums, wooden boxes

8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters

8.1.1 **Exposure Limit Values**

Exposure guidelines

Ingredient	Authority	Type	Limit	Additional information
Polytetrafluoroethylene	CMRG	TWA,as respirable dust	5 mg/m^3	-
Polytetrafluoroethylene	CMRG	TWA, as total dust	10 mg/m^3	-
HF	TLV/CEILING	2,6 mg/ m^3	3 ppm	
COF_2	TLV/STEL	13,5 mg/ m^3	5 ppm	

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)

8.2 Exposure controls

8.2.1 Appropriate engineering controls

8.2.2 Individual protection measures

8.2.2.1 Respiratory protection

Normally it is required any protective device for the respiratory system.
If dust / mist / fume, dust mask with filter type P2.
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

8.2.3 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	odorless
	Colour	white
	Density relative	2,130 – 2,200 g/cm^3
	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

10.1	**Stability**
	The product is stable in normal condition of use and storage.
10.2	**chemical stability**
	The product is chemically stable
10.3	**Possibility of hazardous reactions**
	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.
10.4	**Conditions to avoid**
	To avoid thermal decomposition, do not overheat. Abnormally long processing time or high temperatures can produce irritating and toxic fumes. Stable under normal conditions
10.5	**Materials to avoid**
	Finely divided aluminium Powdered metals Potent oxidizers like fluorine and related compounds. Contact with incompatible materials can cause fire and explosion
10.6	**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.

11 – TOXICOLOGICAL INFORMATION

11.1	**Acute toxicity**
	See 11.1.1
11.1.1	**Acute oral toxicity**
	Polytetrafluoroethylene LD50/rat : > 11,280 mg/kg
11.1.2	**Acute inhalation toxicity**
	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)
11.2	**Corrosion / Skin Irritation**
	Polytetrafluoroethylene - rabbit Classification: not classified as irritant Result: No skin irritation Polytetrafluoroethylene - human Classification: not classified as irritant Result: No skin irritation
11.3	**Serious eye damage / eye irritation**
	No eye irritation in normal condition of use
11.4	**Sensitisation**
	Polytetrafluoroethylene - human Classification: not a skin sensitizer Result: Does not cause skin sensitisation. Patch test on human volunteers did not demonstrate sensitisation properties
11.5	**Mutagenicity**
	Polytetrafluoroethylene Test on bacterial or mammalian cell cultures did not show mutagenic effects.
11.6	**Carcinogenicity**
	Polytetrafluoroethylene. Not classifiable as a human carcinogen
11.7	**Toxic for reproduction**
	Polytetrafluoroethylene. No toxicity to reproduction
11.8	**Repeated dose toxicity**
	Polytetrafluoroethylene. Oral – feed rat No toxicologically significant effects were found
11.9	**other information**
	none

12 – ECOLOGICAL INFORMATION

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

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 bags within plastic canisters, cardboard boxes or plastic drums, wooden boxes	
14.3	**International transport classification**	
	Packaging group:	not assigned
	U.N. Number:	not assigned

15 – REGULATORY INFORMATION

15.1	**EC Regulations**	
	Regulation (CE) n.1907/2006 Regulation (CE) n. 453/2010 Directive 67/548 and following amendments Directive 1999/45 CE and following amendments	
15.2	**Classification**	
	Hazard class:	none
	Classification type	not required
15.3	**Labelling**	
	Trade name	Polytetrafluoroethylene (PTFE) Virgin ptfe semifinished and finished products
	Risk phrases (R)	none
	Safety phrases (S)	none
	Hazard Symbol	none
15.4	**Chemical Safety Assessment**	
	None	

16 – OTHER INFORMATION

16.1	**Text of hazard "H" referred to under sections 2-3**
	none
16.2	**Text of risk phrases "R" mentioned in section 2-3**
	none
16.3	**Other information**
	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, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45 / EC, and amending Regulation (EC) N.1907/2006.

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Q. A. Service