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## TECAFLON PVDF

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### 1.1 MATERIAL/PRODUCT IDENTIFICATION

TRADENAME: TECAFLON PVDF

### 1.2 COMPANY IDENTIFICATION

ENSINGER GmbH  
Rudolf-Diesel-Straße 8  
D-71154 Nufringen  
Tel. 07032/819-0

EMERGENCY NUMBER: Tel. (+49) 30 19240 (Giftnotrufzentrum Berlin)

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### 2.1 COMPOSITION

CHEMICAL COMPOSITION: Based on polyvinylidene fluoride (PVDF), possibly containing reinforcing materials, fillers, carbon fibre, pigments, dyes, additives.

### 2.2 INFORMATION ON INGREDIENTS

This product contains no dangerous components.

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### 3. POTENTIAL RISKS

This product is not harmful.

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### 4. FIRST AID MEASURES

INHALATION: After accidental inhalation of fumes or thermal decomposition products, using self-protection (short term filter mask type B, or breathing apparatus), remove person from the danger zone. Keep warm and quiet in fresh air. Seek medical help immediately. Symptoms of poisoning often first appear after some hours.

SKIN CONTACT: After contact with molten polymer, immediately cool with cold water for a prolonged time. Remove affected clothing. Do not peel polymer from skin. Cover burns with sterile dressings. Obtain medical attention.

EYE CONTACT: If a foreign body (splinter, chip) enters the eye do not rub. Rinse immediately with plenty of water. Seek medical attention.

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### 5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Water, foam, dry powder, carbon dioxide

UNSUITABLE EXTINGUISHING MEDIA: None known

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTING: Wear self contained breathing apparatus and protective clothes to prevent contact with skin and eyes.

ADDITIONAL ADVICE: This product is difficult to ignite and is autoextinguishing. But in case of fire, with thermal decomposition toxic, acidic and combustible gasses and steam are released. Water used to extinguish the fire and fire residue must be collected and disposed of in accordance with local regulations..

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### 6. ACCIDENTAL RELEASE MEASURES

ENVIRONMENTAL PRECAUTIONS: Before entry of swarf waste to sewage it should be mechanically cleaned of product remainders.

METHODS FOR CLEANING UP: Mechanical

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## 7.1 HANDLING

GENERAL ADVICE:	Avoid overheating of material by improper handling. Avoid dust generation.
TECHNICAL MEASURES:	For mechanical operations local extraction / ventilation is recommended to ensure that less than the 8.1 limit is achieved. Where dust is produced, measures must be taken to avoid static electricity discharge.

## 7.2 STORAGE

GENERAL ADVICE:	The appropriate company regulations for fire prevention are to be followed.
SPECIAL REQUIREMENTS:	Large amounts of product should not be stored with inflammable materials. If in a fire, polymers containing fluorine can cause relatively toxic gasses to be released.

## 8.1 EXPOSURE CONTROLS

GUIDELINES FOR MATERIALS WITHIN THE WORKINGPLACE:

For mechanical operations the following are to be observed (TRGS 900, Standard 2000):

Respirable dust: MAC 6 mg/m<sup>3</sup>

## 8.2 PERSONAL PROTECTION

RESPIRATORY PROTECTION:	During dusty operations use respiratory protection (e.g. filter mask with P1 filter)
EYE PROTECTION:	For mechanical operations wear safety glasses with side pieces.
SKIN PROTECTION:	Skin protection should be used (barrier cream).
HYGIENE MEASURES:	General industrial hygiene regulations are to be observed. Wash hands before breaks and at the end of workday. Tobacco should not be kept in the workplace. Do not eat, drink or smoke in the workplace.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

FORM:	Solid (semifinished or finished parts)	
COLOUR:	Various, dependent on colourant	
ODOUR:	Odourless	
DENSITY (20 °C):	1,73 - 1,78 g/cm <sup>3</sup>	DIN 53479
GLASS TRANSITION TEMP. :	178 °C	DIN 53736
DECOMPOSITON TEMPERATURE:	> 375 °C	
IGNITION TEMPERATURE:	600 °C	ASTM-D 1929
EXPLOSION LIMITS	Not applicable	
SOLUBILITY (20 °C):	Insoluble in water	

## 10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Temperatures > 375 °C (Start of the thermal decomposition)
SUBSTANCES TO AVOID:	Concentrated and hot alkaline media, fuming sulphuric acid
HAZARDS DECOMPOSITION PRODUCTS:	According to the fire conditions toxic gasses develop, predominantly carbon dioxide, carbon monoxide, hydrofluoric acid, tetrafluoroethylene, hexafluoropropylene, perfluorisobutylene, carbonyl fluoride and other low-molecular fluorohydrocarbons.
ADDITIONAL INFORMATION:	None

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**11. TOXICOLOGICAL INFORMATION**

With proper use and in accordance with regulations there are no known dangers to health.

Contact with molten product can cause burns.

Slight inhalation of thermal decomposition products or smoking contaminated tobacco can cause "fluorine polymer fever" after 2 - 6 hours (allergenic alveolaritis with influenza-like symptoms: high temperature, shivering, chest pains, cough, increased pulse). Treatment is generally not necessary, symptoms disappear after 48 hours.

The result of massive inhalation of thermal decomposition products (in temperatures > 450 °C) is that after a symptomless time (4 - 24 hours) pulmonary oedema starts with the danger of suffocation.

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**12. ECOLOGICAL INFORMATION**

Because of insolubility in water separation by filtration or sedimentation is possible.

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**13. DISPOSAL CONSIDERATIONS**

Uncontaminated product can be recycled.

If no use is possible, product waste can, in accordance with official local regulations, be mixed with household waste or incinerated in an appropriate place. Burning is only allowed when fluoridic hydrogen has been removed by flue gas washing.

Waste product code No. for uncontaminated product (European waste catalogue): 20 01 06 other plastics

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**14. TRANSPORT INFORMATION**

Not classified as dangerous in the meaning of transport regulations.

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**15.1 EU GUIDELINES**

No warning necessary.

**15.2 NATIONAL REGULATIONS (GERMANY)**

GefStoffV (15.11.99): No warning necessary.

WHG (12.11.96): Not harmful to water in accordance with VwVwS (17.05.99).

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**16. OTHER INFORMATION**

This data sheet is valid for  
TECAFLON PVDF  
TECAFLON PVDF AS  
TECAFLON PVDF CF

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This statement is valid for pure product. It is based on our current knowledge and offers no assurance of properties. It is the user's responsibility to ensure that existing legislation and regulations are followed.

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