

## Product Handling Information Sheet (PHIS)

Information on the safe handling of products



# TECAFORM AD AF

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## 1. Identification of the article and of the company

**Trade name:**

TECAFORM AD AF natural

**Application:**

Semi-finished engineering plastics, finished parts

**Note:**

The present product is an article in the sense of regulation (EC) No 1907/2006 (REACH).

**Manufacturer/Supplier:**

Ensinger GmbH  
Rudolf-Diesel-Straße 8  
D - 71154 Nufringen  
Tel. +49 7032 819 0  
www.ensingerplastics.com

**Competent person:**

phib@ensingerplastics.com

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## 2. Hazards identification

**Classification and labelling:**

The product is not classified and doesn't need any labelling.

**Other hazards:**

There are no known risks, if the regulation/details for handling are observed.

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## 3. Composition/information on ingredients

**Description:**

Article based on polyoxymethylene homopolymer (POM-H).  
Containing polytetrafluoroethylene (PTFE).  
Possibly containing additives and processing aids.

**Information on ingredients:**

The product doesn't contain any substance, which is supposed to be released under normal or reasonably foreseeable conditions of use.

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### **4. First aid measures**

**After inhalation:**

After inhalation of fumes or thermal decomposition products, remove person from the danger zone. Oxygen supply, apply artificial respiration if necessary. Keep quiet and warm, seek medical help immediately. Symptoms of poisoning often first appear after some hours.

**After skin contact:**

No special measures necessary.

**After eye contact:**

If a foreign body (splinter, chip) enters the eye do not rub. Immobilize the eye, cover both eyes with bandages, consult an eye specialist.

**Indication of any immediate medical attention and special treatment needed:**

No special measures necessary.

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### **5. Firefighting measures**

**Suitable extinguishing media:**

Water spray, alcohol-resistant foam, carbon dioxide, dry chemical foam.

**Unsuitable extinguishing media:**

Water jet.

**Special hazards arising from the article:**

With carbonization and incomplete combustion toxic gases develop, predominantly carbon dioxide and carbon monoxide. The development of further fission and oxidation products is dependent on the conditions of burning. Traces of other toxic substances may develop under certain conditions of burning.

The release of formaldehyde, hydrofluoric acid, tetrafluoroethylene, hexafluoropropylene, perfluoroisobutylene, carbonyl difluoride and other low-molecular fluorocarbons is possible.

**Advice for firefighters:**

If exposed to fumes and carbonization gases during fire-fighting measures, rescue operations and cleanup wear a self-contained breathing apparatus.

The product ignites in a flame and continues to burn on removal of the source.

In an advanced state of fire, the molten polymer must be cooled with water. Water used to extinguish the fire and fire remainders must be collected and water disposed of, in accordance with local regulations.

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### **6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

No special measures necessary.

**Environmental precautions:**

No special measures necessary.

**Methods and material for containment and cleaning up:**

Mechanical cleaning up.

Avoid dry sweeping. Use an appropriate suction device for cleaning to avoid the generation of dust.

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### **7. Handling and storage**

**Precautions for safe handling:**

Avoid overheating of material by improper handling. The "Ensinger machining recommendations for semi-finished engineering plastics" are to be observed.

Mechanical processing should generate as little dust as possible. A local extraction system must be installed, or else a proper ventilation of the workplace must be guaranteed.

Take measures against static discharge. Keep away from sources of ignition.

Avoid inhalation of dust/mist/vapour.

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.

**Conditions for safe storage, including any incompatibilities:**

No special measures necessary.

The appropriate company regulations for fire prevention are to be followed.

Large amounts of product should not be stored with inflammable materials. If in fire, polymers containing fluorine can cause relatively toxic gases to be released.

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### 8. Exposure controls/personal protection

**Control parameters:**

In case of mechanical processing the general limit for dust is valid.

Substances with working place related, limits to be monitored or with biological limits are contained.

substance	EC No	CAS No	exposure limit value	biological limit value	comment	source	country (type)
Formaldehyde	200-001-8	50-00-0	2,5 mg/m <sup>3</sup>		TWA (8 hrs)	Workplace Exposure Limit (WEL)	UK

**Exposure controls:**

If appropriate ventilation systems are used, the values will stay well below the limits.

Technical measures have priority over personal protective equipment.

**Respiratory protection:**

Wear protective breathing apparatus in case of insufficient ventilation. Composite filter for organic, inorganic, acetous inorganic and alkaline fumes/vapours and toxic particles (e.g. DIN EN 14387 type ABEK-P3).

**Eye/face protection:**

For mechanical operations wear safety glasses with side pieces or fully closed and tight-fitting goggles (DIN EN 166).

**Hand protection/skin protection:**

Skin protection should be used (barrier cream containing tanning agent).

### 9. Physical and chemical properties

**Appearance:**

solid (semi-finished or finished parts)

**Melting point/Melting range:**

ca. 179 °C

**Relative density:**

ca. 1,5 g/cm<sup>3</sup>

**Flash point:**

N/A (solid)

**Explosive properties:**

N/A

**Solubility(ies):**

insoluble (water, 20 °C)

**Odour/odour threshold:**

product-specific

**Initial boiling point and Boiling range:**

N/A (solid)

**Decomposition temperature:**

> 230 °C

**Flammability (solid, gas):**

375 °C

**Vapour pressure:**

N/A (solid)

**Partition coefficient: n-octanol/water:**

N/A

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### **10. Stability and reactivity**

**Chemical stability:**

Product is stable. No hazardous reactions known when stored and handled according to instructions and used for its intended purpose.

**Conditions to avoid:**

Do not heat to a temperature above the melting or decomposition temperature.

**Incompatible materials:**

Strong acids, strong alkalis, oxidizing agents, halogenated compounds.

**Hazardous decomposition products:**

In case of contact with incompatible substances: generation of formaldehydes, paraformaldehyde, formic acid, trioxanes.

By strong overheating of the material gaseous, toxic and caustic decomposition products, especially formaldehyde, hydrofluoric acid, tetrafluoroethylene, hexafluoropropylene, perfluoroisobutylene and carbonyl difluoride may be generated.

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### **11. Toxicological information**

**Acute toxicity:**

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

Slight inhalation of thermal decomposition products or smoking contaminated tobacco can cause "fluorine polymer fever" after 2 - 6 hours (allergic 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.

**Chronic toxicity:**

When used and handled according to specifications, the product does not have any harmful effects.

**Other information:**

In our experience and according to the literature provided to us the product does not cause any noxious effects when used and handled according to regulations.

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### **12. Ecological information**

No relevant information available.

Due to the consistency of the product a disperse distribution in the environment is not likely. Therefore, according to the present state of knowledge negative ecological effects are not expected.

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### 13. Disposal considerations

**Waste treatment methods:**

Product residues can be recycled or treated in an energy recovery plant.  
When segregated, unpolluted product residues can be recycled mechanically.

**European waste catalogue:**

The unpolluted product has no dangerous properties and is therefore not a hazardous waste within the meaning of regulation on the European List of wastes.

**Waste codes/waste identification:**

The exact assignment to a waste code must be carried out source- and use-related.  
Proposals for the waste code numbers based on the probable use of the unpolluted product:  
07 02 13 (waste plastic)  
12 01 05 (plastics shavings and turnings)  
20 01 39 (plastics from separately collected fractions)

**Packaging:**

Uncontaminated or cleaned packaging can be recycled without verification.

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### 14. Transport information

Not classified as dangerous in the meaning of transport regulations.

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### 15. Regulatory information

**Safety, health and environmental regulations/legislation specific:**

According to annex II of the REACH regulation there is no legal obligation to compile safety data sheets for articles. We explicitly would like to point out that the present product handling information sheet (PHIS) is a voluntary information sheet for the handling of products, based on the same principle as our safety data sheets.

**EU regulations:**

According to regulation (EC) No 1272/2008 (CLP) articles are not subject to classification and labelling requirements.

Information pursuant to Article 33 of Regulation (EC) No 1907/2006 (REACH): That article doesn't contain any substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0,1 % weight by weight (w/w).

**Chemical safety assessment:**

**National regulations:**

Storage class VCI/TRGS 510 (Germany): 11 (flammable solid materials)

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### **16. Other information**

**Indication of changes:**

Limit value corrected (point 8).

Status as of 08/20

Previous version V02, status as of 04/014.

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Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values. They do not represent guaranteed properly values and therefore they must not be used for specification purposes. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. It is the user's responsibility to ensure that existing legislation and regulation are followed.