

EC - Material Safety Data Sheet

1. Company and product Identification Product details:

Product Details -

Product name: PTFE II

Product Usage: Seal rings and self-lubricated bushings

Company identification: SSP Manufacturing, Inc.

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2. Identification of Hazards

Non-hazardous preparation in application of articles 4-5-6 of Legislative Decree 65 of March 14, 2003

PTFE is an inert product with low oral toxicity. The major risk for the human health is due to inhalation of products which can be formed by thermal decomposition. Avoid contamination with products containing tobacco. The metallic powders contained are reducing agents and may dangerously react with oxidizing substances.

3. Composition/Data on components:

Chemical Identification	Formula	%	CAS	N. CEE N. Index	Classification
Polytetrafluoroethylene (PTFE): (-CF ₂ – CF ₂ -) 20%-60% 9002-84-0					
Alloy powders of :					
Copper	CU	/	7440-50-8		
tin	SN	/	7440-50-8		
Pigment	Inorganic Substance	/	/		

4. First aid measures

Inhalation: In case of inhalation of the material or products from thermal decomposition, take the person to the fresh air and let him have a rest. If irritation persists, call a physician.

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Ingestion: Ingestion of the product is unlikely. Should an accidental ingestion take place, keep the person under medical observation for a few days, to be sure that no intestinal block occurs.

Skin contact: Wash with soft soap and flushing water.

Eye contact: Wash the eyes with plenty of running water for at least 15 minutes. If the irritation does not disappear call a physician.

Other Information: In case of serious exposure, keep the person under medical observation for at least 48 hours, to avoid a possible delayed pneumonic oedema.

5. Fire fighting measures

Suitable extinguishing agents: Extinguishing powders

Hazards of exposure from combustion products of gases formed:

The product can burn when the flame gets near, but combustion stops when flame is removed. In case of fire, toxic and corrosive products are created like:

Carbon Monoxide (CO)

Hydrofluoric Acid (HF)

Carbonyl Fluoride (COF₂)

Tetrafluoroethylene

Hesafluoroethylene

Perfluoroisobutylene

Metal Powders (Cu, Zn)

Special Protective equipment: In case of fire, use breathing apparatus and full protection clothing set.

6. What to do in case of accidental Leakage

Attention: The released material can be slippery

Methods of decontamination: The leaked material must be collected and transferred into a container for further recovery or disposal according to local regulations

Leakage into water: The product may sink and disperse. In water at room temperature, it does not create problems of toxicity. When in an acid or alkaline environment, the product may release metal oxides.

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7. Handling and storage

Handling: Avoid any contact with free fires and hot areas, because of thermal decomposition and subsequent formation of irritant and toxic products. Seriously avoid the contact with products containing tobacco. The "polymer fever" is particularly related to the fume of polluted tobacco. Clean face and hands before eating, drinking or smoking. Smoking is strictly forbidden in the working areas. The product must be removed from the machinery before any combustion or welding operation.

Storage: No special cautions required during storage operations.

8. Exposure control and individual protection

Exposure limit values

Ingredients	Limits of occupational exposure	Agency/Regulation of Ref.
Polytetrafluorethylene (PTFE)	10 mg/m ³ (powders)	ACGIH (2005)
Copper	0,2 mg/m ³ (fumes)	ACGIH (2005) 1,0 mg/m ³ (fumes and hazes)
Zinc (as oxide)	5,0 mg/m ³ (fumes)	ACGIH (2005) 10,0 mg/m ³ (fumes and hazes)
Pigment	10,0 mg/m ³	ACGIH (2005)

The leaked material must be collected and transferred into a container for further recovery or disposal according to local regulations.

Dispose in authorized landfills. Disposal must be performed in compliance with local, state or national law.

Respiratory Protection:

In the absence of suction points located in any areas where dusts or other kinds of pollutants are present:

If the exposure limits in the work places have been exceeded, or in the event of concentrations of chemical agents that affect health, individual protection devices must be used that are specific to the types of pollutants and exposure levels reached (dust masks, masks with filters for gases, acids, and volatile organic substances)

NOTE: action must be taken on plants and collective protection must be used to reduce exposure.

Hand protection: Wear approved gloves

Eye protection: Wear safety glasses

Skin protection: Wear long sleeves overalls high up to the neck, long trousers and gloves.

Control of environmental exposure: Observe legal limits for atmospheric emissions and discharge into bodies of water, both for the product itself and for substances resulting from processing.

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9. Physical and chemical properties:

Physical State:	Powder
Colour:	Bronze
Odour:	Odourless
Odour threshold (PPM):	Not applicable
PH:	Not applicable
Boiling point (°C)	Not applicable
Melting Point (°C)	334 °C
Fire Point	
Powder cloud	>600 °C
Depositing powders	>365 °C
Fire Limits:	Not applicable
Auto ignition Temp. (°C):	ca. 575
Explosivity:	Do not permit contact with highly oxidizing substances
Oxidant Properties:	Metallic powders are deoxidant
Vapour Pressure (Pascal):	Not applicable
Density (g/cm ³):	For the values please refer to the technical product specifications
Solubility (Water):	Not soluble
Solubility (Other media)	Not soluble
Distribution coefficient:	Not applicable
Decomposition Temp. (°C):	>260 – notable decomposition above 400°C
Softening Point (°C):	342
Bulk Density (g/l):	For the values please refer to the technical product specifications

10. Stability and reactivity

Thermal decomposition: > 400°C

Hazardous reactions: Reactions with metal powders beginning at 370°C

Hazardous products from decomposition: Hydrofluoric Acid, Carbonyl Fluoride, Tetrafluoroethylene, Hexafluoroethylene, Perfluoroisobutylene

Hazardous polymerization: None

11. Toxicological information

Inhalation: The exposure to dust can have an irritating effect to the upper respiratory organs. The exposure to fumes coming from PTFE sintering process and high temperature processing can cause the "Polymer Hume Fever". This fever gives same symptoms as the "Flu". These symptoms appear a few hours after the exposition and may last up to 48 Hrs.

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Skin and eye contact: Physical abrasion and irritation when in contact with skin and eyes.

Ingestion: Low oral toxicity. Material must not be ingested

Prolonged exposure: Experience indicates that the exposure to fumes coming from PTFE sintering does not present long lasting effects.

Carcinogenic properties: Non cancerogenic

12. Environmental information

At room temperature, the material is solid; its components are essentially non-toxic and insoluble in water. If the material is brought to thermal decomposition temperature, the fumes released are toxic to the environment. In cases of prolonged contact or when dissolved, copper, zinc and sulphur are toxic to aquatic environments.

13. Comments on Disposal

Dispose in authorized landfills. Disposal must be performed in compliance with local, state or national law.

Contaminated packaging: If not labelled as hazardous goods, handle like other packaging.

14. Transport information

Road Transport (ADR): The product is danger free for transportation and in accordance to IATA regulations

15. Regulatory information

Classification according to EC Directive: Reference has been made to EC Directives/norms on hazardous products / Directive 67/548/EC - 29th adaptation and Directives 1999/45/EC and 2001/60/EC implemented by Legislative Decree 65 of March 14, 2003.

Initials and label indicating hazardousness: Product not subject to classification and not labelled as hazardous.

Nature of specific risks (R phrases) and safety advice (S phrases): The preparation is not hazardous according to Legislative Decree 65 of March 14, 2003 (articles 4-5-6), so does not need R risk phrases and S safety phrases.

The package for PTFE must be labelled as follows:

Attention: any product containing tobacco must be kept in areas where the contact and contamination with PTFE is impossible. Whenever products containing tobacco polluted by PTFE are smoked, a "Flu –

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Like" momentary condition – known as "Polymer Fume Fever" ,may appear – such a condition is the only negative effect which has been noted up today in the human being. Generally the symptoms appear only some hours after fumes inhalation and disappear after 36-48 hrs, also without any special treatment. The results have proved these "symptoms" have no long lasting effect and the effects are not cumulative. When PTFE is heated above 260°C a first degradation occurs and the speed of degradation increases with the temperature. The type of gas formed during this process depends on the temperature and other conditions, but always contains noxious components. For this reason and adequate ventilation is necessary.

16. Other Information:

This Safety information is given in good faith and according to the best knowledge of SSP Manufacturing, Inc. at the date of issue. The processors are requested to carefully check that the product is suitable for the specific application and the processing conditions are according to the existing laws related to sanitary and working place safety regulations. SSP Manufacturing, Inc. is not responsible for damages caused by the use of the product in applications for which it was not intended or for conditions of use outside its control.

It is responsibility of the customer to determine whether its specific formulations and intended use comply with applicable laws and is suitable for its intended applications.

This information describes only demands of security. Product features are listed in special specifications.