

**1.1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION****Material identification**

P84-Powder is a registered trademark of HP-Polymer GmbH

**Tradenames and synonyms**

P84 Powder VPD (325/+1200, 325, 425, 1200 mesh)  
P84 Powder HT VPD (325/+1200, 325, 425, 1200 mesh)  
P84 Powder STD (140/325, 200, 325, 425, 1200 mesh; 45/75µm;)  
P84 Powder HCM (40, 200, 325, 1200 mesh)  
P84 Powder HCM Blends (15G, 40G, 30P, 20CF, 30 CF, 15G/MB, 40G/MB, 50 Glass/5P, 15G/10P)  
P84 Powder HT HCM (40, 325, 1200 mesh)  
P84 Powder HP and HP/HT HCM (40 mesh)  
P84 Granulate (STD, SG)

**1.2 COMPANY IDENTIFICATION**

**Manufacturer:** ENSINGER SINTIMID GmbH  
Werkstraße 3  
A-4860 Lenzing/Austria

**Distributor:** HP-Polymer GmbH  
Werkstraße 3  
A-4860 Lenzing/Austria

**Phone Numbers:** Product-information: 0043 7672 701-3572  
Transport-emergency: 0043 7672 701-2800  
Medical-emergency: 0043 7672 701-2222

**2.1. COMPOSITION/INFORMATION ON INGREDIENTS**

Components Material	CAS No.	%
Aromatic Polyimide	TSCA 58698-66-1 TSCA 134119-41-8	60-100
Present in HCM Blend 15G, 40G, 15G10P, 15G/MB,40G/MB: Graphite	TSCA 7782-42-5	15-40
Present in HCM Blend 30P, 15G/10P, 50 Glass/5P Polytetrafluorethylene	TSCA 9002-84-0	5-30
Present in HCM Blend 20CF, 30 CF: Carbon fibre	CAS 7440-44-0	20-30
Present in HCM Blend 50 Glass/5P Glass	CAS 65997-17-3	50

**2.2. HAZARDS IDENTIFICATION****Potential health effects**

P84-Powder and Compounds are not hazardous as shipped. The primary hazard associated with PTFE in the HCM blend 30P, 15G/10P, 50 Glass/5P in the inhalation of fumes from overheating (>260 °C or >500 °F) or burning PTFE, which may cause „polymer fume fever“, a temporary flu-like illness with fever, chills, and sometimes cough, of approximately 24 hours duration. Smokers should avoid contamination of tobacco products with this material. Small amounts of carbonyl fluoride and hydrogen fluoride may also be evolved when PTFE is overheated or burned.

**Aromatic Polyimide**

The polymer resin is a slight skin irritant, but is not a skin sensitiser in animals. Effects of a single exposure by inhalation include discomfort and difficult respiration (4 hours LC50 is 15600 mg/m<sup>3</sup> in rats). Effects of repeated oral exposure include reduced food consumption and reduce rate of weight gain. Human health effects of overexposure by skin contact may include skin irritation with discomfort or rash. Inhalation may cause irritation of the upper respiratory passages, with coughing and discomfort. No acceptable information is available to confidently predict the effects of excessive human exposure by eye contact, or ingestion. Significant skin permeation, and systemic toxicity, after contact appears unlikely. There are no reports of human sensitisation.

**Polytetrafluoroethylene (PTFE):**

Oral LD<sub>50</sub> 1250 mg/kg in rats

The powder/compound is not a skin irritant. Effects in animals from single exposure by inhalation to high concentration of the dust include irritation of the lung. Repeated oral doses resulted in no observed toxic effects except for alteration in the number of circulating white blood cells after longterm dosing. Tests demonstrate no developmental toxicity in animals, and no genetic damage in animals or in bacterial cell cultures.

**Human health effects of overexposure:**

Inhalation of fumes from burning „Teflon“ PTFE may cause polymer fume fever, a temporary flu-like illness with fever, chills, and sometimes cough, of approximately 24 hours duration. Smokers should avoid contamination of tobacco products, and should wash their hands before smoking. Significant skin permeation after contact appears unlikely. There are no reports of human sensitisation.

Inhalation of low concentrations of *hydrogen fluoride* can initially include symptoms of choking, coughing, and severe eye, nose, and throat irritation. Possibly followed after a symptomless period of 1 to 2 days by fever, chills, difficulty in breathing, cyanosis, and pulmonary edema. Acute or chronic overexposure to HF can injure the liver and kidneys.

Inhalation, ingestion, or skin or eye contact with *carbonyl fluoride* may initially include: skin irritation with discomfort or rash; eye corrosion with corneal or conjunctival ulceration; irritation effects with cough, discomfort, difficulty breathing, or shortness of breath. By analogy with phosgene, symptoms may be delayed. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures from thermal decomposition products of PTFE.

**Graphite**

Very low toxicity by ingestion (oral LD<sub>50</sub>>5000 mg/kg in rats). The compound is not an eye irritant. Human health effects of overexposure by long term inhalation may include chronic lung disorders with symptoms of lung insufficiency. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposure to graphite.

**Carbon fibre**

The fibre is petrol-pack based, carbonised. A skin irritation is possible. The fibre is not listed in EG 67/548.

**Glass spheres**

All components are amorphous oxides, non hazardous. Dust in excess of recommended exposure limits may result in irritation to respiratory tract.

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**3. CARCINOGENICITY INFORMATION**

None of the components in this material is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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**4. FIRST AID MEASURES****First aid*****Inhalation***

No specific intervention is indicated as the powder/compound is not likely to be hazardous by inhalation. Consult a physician if necessary.

***Skin contact***

The powder/compound is not likely to be hazardous by skin contact but cleaning the skin after use is advisable.

***Eye contact***

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

***Ingestion***

No specific intervention is indicated as powder/compound is not likely to be hazardous by ingestion. Consult a physician if necessary.

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**5. FIRE FIGHTING MEASURES****Flammable properties**

Fire and explosion hazards:

Hazardous gases/vapours produced in fire are: carbon monoxide, carbon dioxide, smoke. HCM-Blend 30P, 15G/10P, 50 Glass/5P may also produce hydrogen fluoride, carbonyl fluoride and low molecular weight fluorocarbons.

**Extinguishing media**

Use media appropriate for surrounding material.

**Fire fighting instructions**

Wear self-contained breathing apparatus.

In a fire, HCM Blend 30P, 15G/10P, 50 Glass/5P form hydrogen fluoride fumes which react with water to form hydrofluoric acid. Wear neoprene gloves when handling refuse from a fire involving these types.

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**6. ACCIDENTAL RELEASE MEASURES****Safeguards (Personnel)**

Note: Review *fire fighting measures and handling (personnel)* sections before proceeding with clean-up. Use appropriate *personnel protective equipment* during clean-up.

**Spill clean up**

Recover undamaged and minimally contaminated material for reuse and reclamation. Shovel or sweep up.

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**7. HANDLING AND STORAGE****Handling (Personnel)**

Avoid breathing dust.

**Handling (Physical aspects)**

Avoid dust generation.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Exposure guidelines**

P-84 powder in all synonymes

PEL (OSHA)	Particulates (not otherwise classified) 15 mg/m <sup>3</sup> , 8 hours TWA, total dust 5 mg/m <sup>3</sup> , 8 hours TWA, respirable dust
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TLV (ACGIH)	None established
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Other applicable exposure limits

Aromatic Polyimide

PEL (OSHA)	None established
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TLV (ACGIH)	None established
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Graphite

PEL (OSHA)	2,5 mg/m <sup>3</sup> , respirable dust, 8 hours TWA
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TLV (ACGIH)	2 mg/m <sup>3</sup> , respirable dust, 8 hours TWA
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Polytetrafluoroethylene (PTFE)

PEL (OSHA)	None established
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TLV (ACGIH)	None established
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Carbon fibre

Synthetic mineral fibre, length: diameter &gt; 3 : 1, length &gt; 5 µm, diameter &lt; 3 µm

PEL (OSHA)	2,5 mg/m <sup>3</sup> , respirable dust, 8 hours TWA
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TLV (ACGIH)	2 mg/m <sup>3</sup> , respirable dust, 8 hours TWA
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Glass spheres

PEL (OSHA)	particulates 15 mg/m <sup>3</sup> , respirable dust, 8 hours TWA
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TLV (ACGIH)	5 mg/m <sup>3</sup> , respirable dust, 8 hours TWA
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**8.2 Personal protection****Engineering controls**

Avoid contamination of cigarettes or tobacco with polymer dust.

**Personal protective equipment****Eye/Face protection**

For handling operations wear appropriate protective equipment such as goggles or safety glasses with side shield.

**Respirators**

During handling grinding, sanding, or sawing operations use a NIOSH/MSHA approved air purifying respirator with dust/mist cartridge or canister if airborne particulate concentrations are expected to exceed permissible exposure levels.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Physical data**

Melting point	NONE	% volatiles	NA
Solubility in water	Insoluble	Odour	None
Form	Powder	Specific gravity	1,34 to 1,56
Thermal degradation:	starting at T=450°C in air		

**10. STABILITY AND REACTIVITY****Chemical stability**

Stable at normal temperatures and storage conditions.

**Decomposition**

Decomposes with heat. Decomposition temperature 260° C (500° F). Hazardous gases/ vapours produced are carbon monoxide at temperatures over 300° C; small amounts of hydrogen fluoride from HCM Blend 30P, 15G/10P, 50 Glass/5P.

**Polymerisation**

Polymerisation will not occur.

**11. TOXICOLOGICAL INFORMATION**

No substances on the United State hazardous substances list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyse these products, or the raw materials used in their manufacture, for substances on various state hazardous substances list, to be best of our knowledge the products on this Material Safety Date Sheet contain no such substances.

*Warning: Substances known to the state of California to cause cancer:* Non known.

*Warning: Substances to the state of California to cause birth defects or other reproduction harm:* None known.

**12. ECOLOGICAL INFORMATION****Ecotoxicological information**

Aquatic toxicity. No information available. Toxicity is expected to be low based on the insolubility of the product in water.

**13. DISPOSAL CONSIDERATIONS****Waste disposal**

Dispose of in compliance with federal, state and local regulations. Preferred options for disposal are (1) incineration with energy recovery, and (2) landfill. The high fuel value of this product makes option 1 very desirable, but incinerator must be capable of scrubbing out acidic combustion products for HCM blend 30P, 15G/10P, 50 Glass/5P.

**14. TRANSPORTATION INFORMATION****Shipping information**

DOT

Propper shipping name Not regulated

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**15. REGULATORY INFORMATION****15.1 EC regulations**

No warning necessary.

**15.2 US federal regulations**

TSCA Inventory status Reported/included

Section 313 supplier notification

This product contains no known toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

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**16. OTHER INFORMATION****16.1** The processing of P84 together with other materials may influence the inherent non flammability of P84 powder and must be adapted accordingly.

The drying of pure P84 powder in circulating air at 300 °C must not be done at heights of bed over 2,5 cm. A vacuum drying oven or artificial atmosphere oven is recommended.

Sintering compounds containing up to 40 % polyimide requires temperatures of 360 °C and a heights of bed of 10 mm.

**16.2** The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process

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