

Safety Data Sheet

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|------------------------------|---|-----------------------|--------------|
| Chemicals name: | PFE-20 | Version: | 3.0 |
| Issue Date: | 3/01/2024 | Previous Date: | 3/12/2022 |
| Editor: | Jay Chen | Approved by: | Stanley Zeng |
| Revision information: | 1.Change of company logo; 2.Update the content of some sections | | |

SECTION 1: Identification

1.1. Product identifier

PFE-20

1.2. Name, address and telephone number of manufacturer, importer or supplier

Manufacturer: Zhangzhou Xipu Material Technology Co.,Ltd.

Address: 166 Xialin Road, Gulei Town, Guleigang Economic Development Zone, Zhangzhou City, Fujian Province

Telephone: +86 18621865713

1.3. Emergency contact number/fax number/email address

Emergency contact number: +86 18621865713

Fax number: +86 21-58682568

Email address: stt@megachemistry.cn

1.4. Recommended use and restrictions on use

For industrial use only. Not Intended for use in medical device or drug. Not recommended use for food contact and consumer use.

Please contact for further information.

SECTION 2: Hazard Identification

2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

2.3. Hazards not otherwise classified

In use, may form flammable/explosive vapour-air mixture.\

SECTION 3: Composition/information on ingredients

| ingredient | C.A.S.No. | % by Wt |
|--------------------------------|-------------|---------|
| Ethyl nonafluoroisobutyl ether | 163702-06-5 | 55 - 90 |
| Ethyl nonafluorobutyl ether | 163702-05-4 | 10 - 45 |

SECTION 4: First aid measures**4.1. Description of first aid measures****4.1. Description of first aid measures****Inhalation:**

No need for first aid.

Skin Contact:

Wash with soap and water. If symptoms develop, call the medical doctor.

Eye Contact:

No need for first aid.

If Swallowed:

Rinse mouth. If symptoms develop, call the medical doctor.

4.2. Most important symptoms and effects, both acute and delayed

No critical symptoms or effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

Use a fire-fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Exposure to extreme heat can result in thermal decomposition. The material has no closed-cup flash point but may form flammable/explosive vapor air mixture.

5.3. Hazardous Decomposition or By-Products

Carbon monoxide, carbon dioxide and hydrogen fluoride are expected to be decomposition products during the combustion under extreme heat.

5.4. Special protective actions for fire-fighters

If in case a fire happens, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accident release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Ventilate the area with fresh air. Evacuated if needed.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Working from the edges of the spill inward, cover with commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Place in a closed container approved by appropriate authorities. Dispose of collected material as soon as possible in accordance with applicable regulations..

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial use only. Not for medical, drug and consumer use. Do not breathe thermal decomposition products. Avoid release to the environment. Avoid contact with oxidizing agents. No eating and smoking when handling the product.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store in a tightly closed original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

| Ingredient | CAS No. | Agency | Limit type | Additional Comments |
|--------------------------------|-------------|-------------------------|--|---------------------|
| Ethyl nonafluorobutyl ether | 163702-05-4 | Manufacturer determined | TWA (as total isomers): 200 ppm (2160 mg/m ³) | - |
| Ethyl nonafluoroisobutyl ether | 163702-06-5 | Manufacturer determined | TWA (as total isomers): 200 ppm (2160 mg/m ³) | - |

TWA: Time-Weighted-Average

8.2. Engineering controls

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation to maintain levels of decomposition products under their exposure guidelines.

8.3. Personal protective equipment (PPE)

Eye/face protection

None required.

Skin/hand protection

Chemical protective gloves are not required under normal use conditions. However, when the product is subjected to extreme heat, HF may be formed. For those cases, neoprene gloves and aprons are recommended.

Respiratory protection

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use a positive pressure supplied-air respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

| | |
|---|-------------------|
| Physical state | Liquid |
| Color | Colorless |
| Specific Physical Form: | Liquid |
| Odor | Faint Odor |
| Odor threshold | No Data Available |
| pH | Not Applicable |
| Melting point | -138 °C |
| Boiling Point | 76 °C |
| Flash Point | No flash point |
| Evaporation rate | No Data Available |
| Vapor Pressure | 16kPa at 25 °C |
| Density | 1.43 g/ml |
| Solubility In Water | Nil |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | No Data Available |

| | |
|----------------------------------|---------------------------------------|
| Decomposition temperature | Not Applicable |
| Viscosity | 0.6 cP |
| Flammability(solid, gas) | Not Applicable |
| Flammable Limits (LEL) | No Data Available |
| Flammable Limits (UEL) | No Data Available |
| Percent volatile | 100 % |
| Autoignition temperature | 375 °C [Details: ASTM E659-78 Method] |
| Average Molecular weight | 264 |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non-reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Flames.

10.5. Incompatible materials

Strong acids, strong bases and strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide, perfluoroisobutylene and hydrogen fluoride are the possible decomposition products during the combustion under extreme heat.

SECTION 11 :Toxicological information

Inhalation:

No know health effects.

Skin Contact:

No significant irritation.

Eye Contact:

No significant irritation.

Ingestion:

No known health effects.

Toxicological Data

Not classified as hazardous. Please contact the Zhangzhou Xipu Materials for detail information.

SECTION 12: Ecological information

12.1. Ecotoxicological information

| | |
|--------------------------------------|----------------------------------|
| Ecotoxicity | No data available |
| Persistence and degradability | This material may be persistence |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| PBT and vPvB assessment | No data available |

Other adverse effects

No known effects

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of the product in accordance with the local and national regulations. Consult local authorities and regulations to ensure proper classification. Dispose of waste product in a permitted industrial waste facility. Combustion products will include HF. Facility must be capable of handling HF. Empty and clean product containers may be disposed as non-hazardous waste. Consult your local regulations and service providers to determine available options and requirements.

SECTION 14: Transport information

Not regulated per U.S. DOT, IATA or IMO.

Please contact the Zhangzhou Xipu Materials for detail information.

SECTION 15: Regulatory information**Global Chemical Inventories**

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA of Canada.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply.

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact Zhangzhou Xipu Materials for more information.

SECTION 16: Other information**16.1.Revised date**

2024/2/28

16.2.Previous Date

2022/3/12

16.3.According to criteria

UN "Globally Harmonized System of Classification and Labelling of Chemicals" (Rev.9)

16.4.Disclaimer

This Safety Data Sheet (SDS) is revised by Zhangzhou Xipu Material Co. Ltd and issued on March 1, 2024. The Previous version was created on Mar 12, 2022. The information in this Safety Data Sheet (SDS) is prepared as accurate as possible based on our knowledge of the date issued. Users of SDS should judge the applicability of relevant information according to the actual situation.