

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 1. IDENTIFICATION

- **Product name:** Everflon ETFE 4020
- **Product type:** Fluoroplastic Resin Pellets / Granules
- **Recommended use:** Resin for extrusion and/or moulding. For industrial use only.
- **Restrictions on use:** Do not use in medical applications involving permanent implantation in the human body or contact with internal body fluids or tissues.
- **Supplier's details:**
 - **Company Name:** Wuhan Everflon Fluoropolymers Co.,Ltd.
 - **Address:** Wuhan, Hubei Province, China
 - **Telephone:** 0086-185-7168-9228
 - **Emergency telephone:** 0086-185-7168-9228 (24h)

SECTION 2. HAZARDS IDENTIFICATION

- **GHS Classification (29 CFR 1910.1200):** Not a hazardous substance or mixture as supplied.
- **GHS Label Elements:** No pictogram, signal word, hazard statement, or precautionary statement required.
- **Other hazards:**
 - Thermal decomposition vapors of fluorinated polymers may cause **polymer fume fever** (flu-like symptoms including chills, fever, cough, and shortness of breath), especially when smoking tobacco contaminated with resin dust.
 - Molten material can cause severe thermal burns.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

- **Substance / Mixture:** Substance
- **Chemical Name:**
Poly(Ethylene/3,3,4,4,5,5,6,6,6-Nonafluoro-1-Hexene/Tetrafluoroethylene)
- **Common Name:** ETFE Fluoropolymer
- **CAS Number:** 68258-85-5
- **Concentration:** 100%
- **Hazardous Ingredients:** None under OSHA criteria.

SECTION 4. FIRST AID MEASURES

- **Inhalation:** If inhaled decomposition fumes, remove victim to fresh air. If symptoms persist or breathing is difficult, seek immediate medical attention.
- **Skin contact:** Wash thoroughly with soap and water as a precaution. If contact with molten material occurs, cool immediately with plenty of cold water. Do not

attempt to peel molten polymer from skin. Get prompt medical attention.

- **Eye contact:** Flush eyes thoroughly with water for at least 15 minutes as a precaution. Obtain medical advice if irritation develops and persists.
- **Ingestion:** Rinse mouth thoroughly with water. DO NOT induce vomiting unless directed by medical personnel. Obtain medical attention if symptoms occur.
- **Most important symptoms/effects:** Inhalation of thermal decomposition products causes polymer fume fever.
- **Notes to physician:** Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

- **Suitable extinguishing media:** Water spray, alcohol-resistant foam, dry chemical, carbon dioxide (CO₂).
- **Unsuitable extinguishing media:** None known.
- **Specific hazards during firefighting:** Exposure to thermal combustion products can be hazardous. Evolution of toxic and corrosive gases at high temperatures.
- **Hazardous combustion products:** Hydrogen fluoride (HF), Carbonyl difluoride (COF₂), Carbon monoxide (CO), Carbon dioxide (CO₂), aerosolized toxic fluorinated compounds.
- **Special protective equipment for firefighters:** In the event of fire, wear full protective gear and self-contained breathing apparatus (SCBA) operated in positive-pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Ensure adequate ventilation. Avoid dust formation. Wear suitable personal protective equipment (see Section 8).
- **Environmental precautions:** Avoid release to the natural environment. Prevent material from entering drains or watercourses.
- **Methods for cleaning up:** Vacuum or sweep up spilled pellets and place into suitable labeled containers for reclamation or disposal. Avoid dispersible dust creation.

SECTION 7. HANDLING AND STORAGE

- **Advice on safe handling:**
 - Provide adequate local exhaust ventilation, especially around hot processing equipment.
 - Do not breathe thermal decomposition vapors or dust.
 - Do not smoke while handling; keep resin away from tobacco products.
 - Wash hands thoroughly before breaks and after handling.
- **Conditions for safe storage:** Store in original, properly labeled containers in a cool, dry, well-ventilated area away from direct sunlight, moisture, and

incompatible materials (strong oxidizing agents).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- **Workplace Exposure Limits:** No specific occupational exposure limits for the polymer as supplied.
- **Exposure limits for thermal decomposition products:**
 - **Hydrogen fluoride (CAS 7664-39-3):** ACGIH TLV: 0.5 ppm TWA, 2 ppm Ceiling; OSHA PEL: 3 ppm TWA.
 - **Carbonyl difluoride (CAS 353-50-4):** ACGIH TLV: 2 ppm TWA, 5 ppm STEL.
 - **Carbon monoxide (CAS 630-08-0):** ACGIH TLV: 25 ppm TWA; OSHA PEL: 50 ppm TWA.
- **Engineering controls:** Use local exhaust ventilation during high-temperature melt processing (extrusion/molding) to keep airborne contaminant concentrations below permissible limits.
- **Personal Protective Equipment (PPE):**
 - **Eye/face protection:** Safety glasses with side shields.
 - **Skin and hand protection:** Heat-resistant protective gloves when handling hot/molten resin. Regular industrial workwear.
 - **Respiratory protection:** Not required under ambient conditions. If processing produces fumes or in high-temperature emergencies, use NIOSH-approved air-purifying respirators fitted with acid gas/HEPA cartridges or positive pressure air-supplied breathing apparatus.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Solid pellets, granules
- **Color:** Off-white, translucent
- **Odor:** Odorless
- **Melting Point:** $> 250^{\circ}\text{C}$ ($> 482^{\circ}\text{F}$)
- **Boiling Point:** Not applicable
- **Flash Point:** Not applicable
- **Flammability:** Not classified as a flammability hazard
- **Density:** 1.7g/cm^3
- **Water Solubility:** Insoluble
- **Auto-ignition Temperature:** Not determined
- **Decomposition Temperature:** Thermal decomposition begins at elevated processing temperatures ($> 300^{\circ}\text{C}$).

SECTION 10. STABILITY AND REACTIVITY

- **Reactivity:** Non-reactive under normal ambient and recommended processing conditions.

- **Chemical stability:** Stable under normal conditions.
- **Possibility of hazardous reactions:** Can react with strong oxidizing agents.
- **Conditions to avoid:** Excessive heating above processing temperatures; contamination with tobacco.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:** Hydrogen fluoride, carbonyl difluoride, carbon monoxide, carbon dioxide, toxic fluorocarbon particulates.

SECTION 11. TOXICOLOGICAL INFORMATION

- **Acute toxicity:** Not classified based on available data.
- **Skin corrosion/irritation:** Non-irritating to intact skin.
- **Serious eye damage/irritation:** Mechanical irritation possible from dust.
- **Sensitization:** Not known to cause skin or respiratory sensitization.
- **Carcinogenicity:** Not classified as a carcinogen by IARC, NTP, or OSHA.
- **Reproductive toxicity / Mutagenicity:** Not classified.
- **STOT - Single/Repeated Exposure:** Inhalation of decomposition products causes polymer fume fever.

SECTION 12. ECOLOGICAL INFORMATION

- **Ecotoxicity:** No adverse ecological effects known. Non-toxic solid polymer.
- **Persistence and degradability:** Biologically non-degradable; persistent plastic material.
- **Bioaccumulative potential:** Not expected to bioaccumulate due to high molecular weight.
- **Mobility in soil:** Immobile in soil.

SECTION 13. DISPOSAL CONSIDERATIONS

- **Disposal methods:** Dispose of in accordance with applicable federal, state, and local environmental regulations. Recycle wherever plastic recovery facilities exist. Do not dispose of waste into sewer systems or waterways.

SECTION 14. TRANSPORT INFORMATION

- **DOT (US 49 CFR):** Not regulated as dangerous goods.
- **IMDG (Maritime):** Not regulated as dangerous goods.
- **IATA (Air):** Not regulated as dangerous goods.

SECTION 15. REGULATORY INFORMATION

- **TSCA:** All components are listed or exempted.
- **SARA 302/304:** No extremely hazardous substances.
- **SARA 311/312:** No SARA Hazards.

- **SARA 313:** Contains no toxic chemicals exceeding the De Minimis threshold.
- **California Prop. 65:** WARNING: Thermal processing of fluorinated materials at high temperatures may produce trace impurities or carbon monoxide known to cause reproductive harm or cancer.

SECTION 16. OTHER INFORMATION

- **NFPA 704:** Health: 0 | Flammability: 1 | Instability: 0 | Special: None
- **HMIS IV:** Health: 0 | Flammability: 1 | Physical Hazard: 0
- **Disclaimer:** The information provided in this SDS is based on our current knowledge. It is the user's responsibility to satisfy themselves as to the suitability of such information for their own particular use.