

## 1. Identification of the substance/mixture and of the company/undertaking

**Product Name:** PolyFlex™ 3D Printing Filament

**CAS No.:** See Section 3

**Identified Uses:** for fused deposition modeling (FDM) or fused filament fabrication (FFF) based additive manufacturing and 3D printing processes

**Manufacturer:** JF Polymers (Suzhou) Co. Ltd.

**Address:** 11 Sihai Rd, Unit 2, Suite 502, Changshu, Jiangsu Province 215513, China

**Tel/Fax:** +86-512-52096516 / +86-512-52096512

**Emergency telephone number:** +86-512-52096516; *or call LOCAL POISON CONTROL CENTER*

## 2. Hazards identification

### Emergency Overview

Not likely to be an irritant in the solid form. Burning produces obnoxious and toxic fumes. Not likely to form a dust in the solid filament form.

### Potential Acute Health Effects

**Inhalation:** Not likely to form an inhalable dust in the solid filament form and for the intended use.

Thermal decomposition may result in release of toxic airborne contaminants.

**Sensitization:** Not likely to result in a sensitizing effect under the intended use.

### Potential Chronic Health Effects

**Carcinogenic Effects:** No known carcinogenic effects

**Mutagenic Effects:** No known mutagenic effects

**Teratogenic Effects:** No known teratogenic effects

**Developmental Toxicity:** No known developmental toxicity

## 3. Composition/information on ingredients

Chemical Name	CAS No.	Weight %	Exposure Limits
Thermoplastic polyurethane	Proprietary	> 90%	None

## 4. First aid measures

**Inhalation:** Move to fresh air. Call a physician immediately if irritation persists.

**Skin contact:** Rinse immediately with plenty of water. If skin irritation persists, call a physician.

Cool skin rapidly with cold water after contact with hot polymer.

**Eye contact:** Rinse immediately with plenty of water. Call a physician immediately.

**Ingestion:** Drink water as a precaution. Never give anything by mouth to an unconscious person.

Do not induce vomiting without medical advice. Call a physician immediately.

**Notes for the doctor:** Treat symptomatically.

## 5. Fire-fighting measures

**General Information:** As in any fire, wear self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**Suitable Extinguishing Agents:** Dry chemical, carbon dioxide, water spray or regular foam. For large fires, use water spray, fog or regular foam.

**Products of Combustion:** Burning produces obnoxious and toxic fumes, carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, isocyanate.

**Special Fire Fighting Procedures:** Firefighters should wear self-contained breathing apparatus and full fire-fighting turn-out gear (bunker gear). Keep personnel removed and upwind of fire. Water should be used to keep fire-exposed containers cool.

**Special Remarks on Fire and Explosion Hazards:** Toxic gases/vapors/fumes may emit in a fire.

## 6. Accidental release measures

**General:** Wear gloves when handling hot melt of the material.

**Environmental precautions:** Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

**Methods and material for containment and cleaning up:** Shovel into suitable container for disposal.

## 7. Handling and storage

**Precautions:** No special precautions required.

**Handling:** Wear gloves when handling molten material. Low hazard for usual industrial or commercial handling.

**Storage:** Store in cool place. Avoid excessive heat and direct sunlight. No special restrictions on storage with other products.

## 8. Exposure controls/personal protection

**Ventilation protection:** Provide good ventilation during 3D printing processes.

**Skin protection:** avoid direct contact to the hot melt of material or wear gloves.

**Eye and face protection:** Safety glasses if necessary.

**General:** Wear protective clothing to prevent contact with hot melt materials.

## 9. Physical and chemical properties

**Appearance:** Filament, Solid  
**Color:** Various  
**Odour:** Odorless  
**pH:** Not applicable  
**Melting point:** Not determined  
**Boiling point:** Not applicable  
**Density:** 1.18 – 1.23 g/cm<sup>3</sup>  
**Vapor pressure:** Not applicable  
**Partition coefficient (n -octanol/water):** Not applicable  
**Solubility(ies):** Not determined  
**Flash point:** Not determined  
**Auto-ignition temperature:** Not determined

## 10. Stability and Reactivity

**Stability:** Stable under recommended storage conditions  
**Polymerization:** Not applicable  
**Dangerous Decomposition Products:** Burning produces obnoxious and toxic fumes, carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, isocyanate.  
**Conditions to avoid:** No data available  
**Materials to avoid:** Oxidizing agents. Strong bases.

## 11. Toxicological information

**Routes of entry:** N.A.  
**Acute toxicity:** Data not available

## 12. Ecological information

**Mobility:** No data available  
**Bioaccumulation:** Poorly biodegradable  
**Ecotoxicity effects:** Data not available.

## 13. Disposal considerations

**Waste Disposal Methods:** In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. Contact manufacturer if needed.

## 14. Transport information

No a DOT controlled material (United States)

**Proper Shipping Name:** Not regulated

**Hazard Class:** Not regulated

**UN. NO.:** Not regulated

**Packing Group:** Not regulated

**IMDG EMS:** Not regulated

## 15. Regulatory information

### European/International Regulations

This product is on the European Inventory of Existing Commercial Chemical Substances.

### European Labeling in Accordance with EC Directives

**Hazard Symbols:** N/A

**Risk phrases:** N/A

**Safety phrases:** N/A

### HMIS (U.S.A.):

**Health Hazard:** 0

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:**

### National Fire Protection Association(U.S.A.):

**Health:** 0

**Flammability:** 1

**Reactivity:** 0

**Specific Hazard:**

### Federal and State Regulations:

TSCA 8(b) inventory: Listed

### Canada–WHMIS:

Not controlled

For details regulations you should contact the appropriate agency in your country.

## 16. Other information

Revision information

Date of this revision: June 14 2014

### Declare to reader

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