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

**Product Name:** PolyMax™ PLA 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*

1. Hazards identification

**Emergency Overview**

Not likely to be an irritant in the solid form. Burning produces obnoxious and toxic fumes. Avoid prolonged contact with skin and contact with eyes. 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. Aerosols generated during printing may cause shortness of breath, tightness of the chest, a sore throat and cough.

**Eye:** Direct contact with eyes may cause irritation.

**Skin:** May cause slight skin irritation.

**Ingestion:** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**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

1. Composition/information on ingredients

| Chemical Name | CAS No. | Weight % | Exposure Limits |
| --- | --- | --- | --- |
| Poly(lactic acid) resin | 9051-89-2 | 70-100% | None |
| Acrylic polymer(s) | - | 0-30% | None |

1. First aid measures

**Inhalation:** Move to fresh air and keep at rest in a position comfortable for breathing. 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 omitting without medical advice. Call a physician immediately.

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

1. 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:** Foam. Water. Carbon dioxide (CO₂). Dry chemical. Alcohol resistant foams are preferred if available. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

**Products of Combustion:** Burning produces obnoxious and toxic fumes, aldehydes, carbon monoxide (CO), and carbon dioxide (CO₂).

**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.

1. 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.

1. 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. Keep at temperatures below 122F (50 °C). No special restrictions on storage with other products.

1. 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.

1. Physical and chemical properties

**Appearance:** Filament, Solid

**Color:** Various

**Odour:** Odorless

**pH:** Not applicable

**Melting point:** > 140 °C

**Boiling point:** Not applicable

**Density:** 1.20 - 1.25 g/cm3

**Vapor pressure:** Not applicable

**Partition coefficient (n -octanol/water):** Not applicable

**Solubility(ies):** Not determined

**Flash point:** Not determined

**Auto-ignition temperature:** > 350 °C

1. Stability and Reactivity

**Stability:** Stable under recommended storage conditions

**Polymerization:** Not applicable

**Dangerous Decomposition Products:** Burning produces obnoxious and toxic fumes. Aldehydes.

Carbon monoxide (CO). carbon dioxide (CO2).

**Conditions to avoid:** Temperatures above 446F (230 °C).

**Materials to avoid:** Oxidizing agents. Strong bases.

1. Toxicological information

**Routes of entry**: N.A.

**Acute toxicity**: Not likely to cause targeted organ effects or skin allergic reactions.

1. Ecological information

**Mobility**: No data available

**Bioaccumulation**: The main resin is biodegradable.

**Ecotoxicity effects**: Data not available.

1. 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.

1. Transport information

No a DOT controlled material (United States)

**Proper Shipping Name**: Not regulated

**Hazzard Class**: Not regulated

**UN. NO**.: Not regulated

**Packing Group**: Not regulated

**IMDG EMS**: Not regulated

1. 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.

1. Other information

Revision information

Date of this revision: June 12 2014

**Declare to reader**

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