

# Material Safety Data Sheet -PLA Filament

## Section 1: Identification

**Product Name:** ZYLtech Engineering 3D Printer Filament 1.75 PLA - Various Colors

**Chemical Name/Synonyms:** Polylactide, Polylactic Acid - PLA

**Company:** ZYLtech Engineering, LLC

**In an emergency call 911.**

**For information about this SDS, use this department contact phone#:**

## Section 2: Hazard(s) Identification

**EMERGENCY OVERVIEW CAUTION! May cause eye/skin irritation. Burning produces obnoxious and toxic fumes. Avoid contact with skin and eyes. Avoid formation of dust and aerosols.**

**Appearance:** Clear, translucent, opaque, pellets.

**Physical state:** Solid

**Odor:** Sweet

### **Potential health effects:**

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

**Skin contact:** Substance may cause slight skin irritation.

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

**Inhalation:** Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Low hazard for usual industrial or commercial handling.

**Target organ effects:** There were no target organ effects noted following ingestion or dermal exposure in animal studies.

**Specific hazards:** No information available

**Flammability:** Fine dust dispersed in air may ignite.

**Environmental precautions:** Not determined

### **NFPA rating:**

**Health:** 1

**Flamm:** 1

**Reactivity:** 0

**Special:** Not determined

**HMIS classification:**

## Section 3: Composition/ Information on Ingredients

Chemical Name	Synonym	CAS#	Conc.
Poly lactide resin	PLA	9051-89-2	

**Solubility in water:** React very slowly with water to become soluble.

**Appearance:** Solid filament.

polymer:

Residual monomer - < 0.5%

Residual solvent - < 0.05%

Residual catalyst - < 200ppm

Heavy Metal - < 10ppm

Water Content -  $\leq$  0.5%

#### Section 4: First-Aid Measures

**After skin contact:** Rinse immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Cool skin rapidly with cold water after contact with hot polymer.

**After eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

**After inhalation:** Move to fresh air. Call a physician immediately.

**After swallowing:** 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.

#### Section 5: Fire-Fighting Measures

**Suitable extinguishing agents:** Foam. Water. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Alcohol resistant foams are preferred if available. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

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

#### Section 6: Accidental Release Measures

**Personal precautions:** Use with proper personal protective equipment (see Section 8). Remove all sources of ignition. Avoid dust formation. Avoid contact with skin and eyes. Sweep-up to prevent slipping hazards.

**Measures for environmental protection:** Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate groundwater system.

**Measures for cleaning/collecting:** Shovel into suitable container for disposal.

### Section 7: Handling and Storage

**Handling:** Avoid contact with skin and eyes. Avoid dust formation. Workers should be protected from the possibility of contact with molten material during fabrication. Low hazard for usual industrial or commercial handling. Use with proper personal protective equipment (see Section 8).

**Storage:** Store in a cool place. Keep at temperatures below 122F (50 °C). No special restrictions on storage with other products

### Section 8: Exposure Controls/Personal Protection

Chemical Name	OSHA PEL	OSHA PEL (ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Poly lactide resin				

**General protective and hygienic measures:** Wear prescribed PPE and wash exposed areas after use.

**Breathing equipment:** Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Provide appropriate exhaust ventilation at places where dust is formed.

**Protection of hands:** Impervious clothing.

**Eye protection:** Safety glasses with side shields/goggles.

### Section 9: Physical and Chemical Properties

**Appearance:** Clear, translucent, opaque, pellets.

**Physical state:** Solid

**Odor:** Sweet

**Odor threshold:** No data available

**pH:** Not applicable

**Vapor pressure:** Not applicable

**Vapor density:** Not applicable

**Evaporation rate:** Not applicable

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

**Density:** 1.25

**Decomposition temperature:** 482F (250C)

**Melting point/range:** crystalline melting point: 302- 356F (150-180C), Tg (glass transition temperature): 131-149F (55-65C)

**Water solubility:** Insoluble

**Solubility in other solvents:** None known

**Viscosity, kinematic (centistokes) @ 20 c:** Not applicable

### Section 10: Stability and Reactivity

**Stability:** Stable under recommended storage conditions.

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

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

**Hazardous decomposition products:** Burning produces obnoxious and toxic fumes. Aldehydes. Carbon monoxide. carbon dioxide (CO<sub>2</sub>).

### Section 11: Toxicological Information

**Principle Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Acute toxicity:** There were no target organ effects noted following ingestion or dermal exposure in animal studies.

**Local effects:** May cause eye/skin irritation. Product dust may be irritating to eyes, skin and respiratory system. Caused mild to moderate conjunctival irritation in eye irritation studies using rabbits. Caused very mild redness in dermal irritation studies using rabbits (slightly irritating). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**Long term toxicity:** Did not cause skin allergic reactions in skin sensitization studies using guinea pigs.

**Specific effects:** May cause skin irritation and/or dermatitis. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Burning produces irritant fumes.

**Mutagenic effects:** No data is available on the product itself. Reproductive toxicity: No data is available on the product itself.

**Carcinogenic effects:** None of the components of this product listed in Section 2 are classified as carcinogens by IARC, OSHA, or the NTP.

**Target organ effects:** There were no target organ effects noted following ingestion or dermal exposure in animal studies.

**Medical conditions aggravated by exposure:** None known

**Skin:** LD50/dermal/rabbit > 2000 mg/kg

**Ingestion:** LD50/oral/rat > 5000 mg/kg.

**Further information:** No information available

### Section 12: Ecological Information (non-mandatory)

**Mobility:** No data available

**Bioaccumulation:** Does not bioaccumulate. Inherently biodegradable.

**Ecotoxicity effects:** EC50/72h/algae > 1100 mg/L

### Section 13: Disposal Considerations (non-mandatory)

**Waste from residues / unused products:**

In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used containers. Contact manufacturer.

ZYLTECH ENGINEERING, LLC HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

**Contaminated packaging:** Empty remaining contents. Do not re-use empty containers. Empty containers should be transported/delivered using a registered waste carrier to local recyclers for disposal.

### Section 14: Transport Information (non-mandatory)

**U.S. Department of Transportation (DOT):**

**Proper shipping name:** None

**Hazard class:** Not regulated

**UN-No:** None

**Packing group:** None

**Hazardous substances:** None  
(RQ):

**IMDG:**

**Proper shipping name:** None

**Hazard class:** Not regulated.

**UN-No:** None

**Packing group:** None

**ICAO/IATA:**

**Proper shipping name:** None

**Hazard class:** Not regulated.

**UN-No:** None

**Packing group:** None

### Section 15: Regulatory Information (non-mandatory)

**(Not meant to be all inclusive--selected regulations represented)**

**NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.**

**U.S. REGULATIONS**

**Sara 313 title III:** Not Listed

**TSCA Inventory List** - Listed

**STATE REGULATIONS**

**Proposition 65 listed material:** Not Listed

**INTERNATIONAL INVENTORIES**

**Canada DSL Inventory List** - Listed

**Canada NDSL Inventory List** - Listed

**EU EINECS List** - The components of this product listed in Section 2 are listed.

**Japan (ENCS)** - Listed

**Australia (AICS):** Listed

**Korean chemical inventory:** Not Listed

**Philippines (PICCS) inventory:** Not Listed

**China inventory of existing chemical substances list -:** Not Listed

**Section 16: Other Information**

**SDS date of preparation/update:** March 2021