

## SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Material Name:** PLA Orange Filament  
**Use:** 3D Printing and Modeling  
**Company Identification:** MakeShaper Inc.  
P.O. BOX 192  
Sanford North Carolina 27331  
  
**Emergency Telephone Number:** 1-919-770-7984 or 1-919-770-6019  
**General Information Telephone Number:** 1-919-776-6925  
**Email Address:**  
**Revision Date:** 2/16/2015

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the Substance or Mixture:

The product is not classified as hazardous according to the Globally Harmonized System (GHS).

### Classification According to Directive, Directive 67/548/EEC or Directive 1999/45/EC:

Void

### Classification System:

The product does not have to be labelled due to the calculation procedure of the "General Classification guidelines for preparations of the EU" in the latest version.

### Label Elements

**GHS Label Elements:** Void  
**Hazard Pictograms:** Void  
**Signal Word:** Void  
**Hazard Statements:** Void

### Potential Health Effects

**Skin Contact:** Substance may cause slight skin irritation.  
**Eye Contact:** Dust may cause mechanical irritation to eye.  
**Heated Polymer:** Eye contact can cause serious thermal burns.  
Vapors formed when polymer is heated may be irritating to the eye.  
  
**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.  
  
**Ingestion:** No harmful effects have been reported upon ingestion.

### Primary Routes of Exposure

**For Hot Material:** Skin contact. Eye contact. Inhalation.

**Test Organs:** Not applicable

**Carcinogenicity:** Not listed by NTP, IARC, ACGIH, or OSHA as a carcinogen.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Component / Substance	CAS No.	Concentration [%]
Polyactide Resin	9051-89-2	>98
Colorant	Proprietary	<10

## SECTION 4 FIRST AID MEASURES

### First Aid Procedures

**Inhalation:** Remove individual to fresh air and keep calm. In the event of symptoms, consult a physician and show this data sheet.  
  
**Eye Contact:** Flush eye(s) for 15 minutes or more; if irritation persists, consult a physician (preferably an eye specialist) and show SDS  
Wash with soap and water.  
  
**Skin Contact:** After contact with molten product, cool rapidly with cold water. Do not pull solidified product away from skin.  
Consult a physician immediately.  
  
**Ingestion:** Rinse out mouth and then drink plenty of water. If symptoms persist consult doctor.  
  
**General Advice:** Remove contaminated clothing.

## SECTION 5 FIRE FIGHTING MEASURES

<b>Hazardous Combustion Products:</b>	Smoke, Carbon monoxide, Carbon dioxide, Hydrocabons, and Hydrogen cyanide (HCN).
<b>Hazardous Decomposition Products:</b>	None with proper storage and handling.
<b>Extinguishing Media:</b>	Water spray, Foam, Dry chemical powder
<b>Extinguishing Media Which Must Not be Used for Safety Reasons:</b>	Carbon dioxide Lack of cooling capacity may permit re-ignition.
<b>Special Protective Equipment for Fire-Fighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.
<b>OSHA Flammable Class:</b>	N/A

## SECTION 6 ACCIDENTAL RELEASE MEASURES

<b>Spill / Leak Procedures</b>	
<b>Small Spills:</b>	Use personal protective equipment. Do not allow to enter drains or waterways. Do not breathe dust. Pick up mechanically

## SECTION 7 HANDLING AND STORAGE

<b>Handling:</b>	Prevent from fire around handling area. Maintain good housekeeping standards to prevent accumulation of dust. To avoid dust explosion resulting from existence of powder, electrostatics eliminator and grounding should be fixed to such equipment as air transferring pipes, bag filters and hoppers. Use electrically conductive filters for bag filters.
<b>Storage Requirements:</b>	Keep container in a well-ventilated place Keep container tightly closed Storage: cool and dry Protect from heat

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Personal Protective Equipment (PPE)</b>	
<b>Hygiene Measures:</b>	No smoking, eating or drinking allowed when using this product. Wash hands before breaks and at end of work shifts.
<b>Hand Protection:</b>	Necessary for handling melted resin.
<b>Respiratory Protection:</b>	In case of insufficient ventilation, respiratory protective equipment: Cartridge for organic gases and vapors.
<b>Eye Protection:</b>	Safety Goggles recommended for use
<b>Protective Clothing:</b>	Impermeable protective clothing is recommended
<b>Engineering Controls:</b>	Good general (mechanical) ventilation should be sufficient to control airborne levels.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>		<b>Water Solubility:</b>	Insoluble
<b>Form:</b>	Solid	<b>Boiling Point:</b>	N/A
<b>Color:</b>	Orange	<b>Melting Point:</b>	> 100°C
<b>Odor:</b>	Sweet	<b>pH:</b>	delivered form not applicable
<b>Vapor Pressure:</b>	N/A	<b>Viscosity, dynamic</b>	N/A
<b>Specific Gravity:</b>	1.24 g/cm <sup>3</sup>		

## SECTION 10 CHEMICAL STABILITY AND REACTIVITY INFORMATION

<b>Flammability:</b>	Yes
<b>Flash Point:</b>	N/A
<b>Auto-Ignition Temperature:</b>	388 °C
<b>Reactivity with Water:</b>	No
<b>Stability:</b>	Stable and non-reactive under normal handling and storage condition.
<b>Dust Explosion:</b>	Possible if powder exists. Explosion data for powder (<145 mesh) Lower explosion limit 45 g/m <sup>3</sup> Minimum ignition energy 3.6 mJ Maximum explosion pressure $7 \times 10^5$ Pa Maximum pressure increase rate $3.2 \times 10^7$ Pa/S
<b>Thermal Decomposition Gases:</b>	CO, HCN, AN, SM and NO
<b>Combustion Energy:</b>	$3.53 \times 10^7$ J/kg (8424 Kcal/kg)

## SECTION 11 TOXICOLOGICAL INFORMATION

<b>Irritation:</b>	Fumes or vapors generated from decomposing resin may be irritant to eyes.
<b>Acute Oral Toxicity (LD50):</b>	Not determined
<b>Mutagenicity:</b>	Not determined

## SECTION 12 ECOLOGICAL INFORMATION

To avoid being taken by ocean species or birds, disposal of the waste to the ocean and water sources is inhibited.

## SECTION 13 DISPOSAL CONSIDERATIONS

<b>General Information:</b>	Dispose of spilled or waste product in accordance with all local, state, and federal regulations.
<b>Disposal Methods:</b>	In accordance with local authority regulations, take to special waste incineration plant
<b>Contaminated Packaging:</b>	If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

## SECTION 14 TRANSPORTATION INFORMATION

<b>Sea Transport</b>	<b>Air Transport</b>	<b>DOT (Department of Transportation)</b>	<b>CANADA Transport of Dangerous Goods</b>
<b>IMDG:</b> Not Regulated	<b>ICAO/IATA:</b> Not Regulated	<b>CFR Road:</b> Not Regulated <b>CFR Rail:</b> Not Regulated	<b>TDG Road:</b> Not Regulated <b>TDG Rail:</b> Not Regulated

**SECTION 15 REGULATORY INFORMATION****United States**

SARA Section 311/312:	Fire: No Pressure generating: No Reactivity: No Acute: Yes Chronic: No
SARA Sections:	SECTION 313 Notification : No This product contains no SARA Title III, Section 313 listed chemicals.
SARA Sections:	SARA EHS Notification : No
Notification Status:	TSCA Notification : Yes
California Proposition 65 Statement:	Notification : No This product does not contain any substance(s) which are defined by the state of California to cause cancer, birth defects, or other reproductive effects.

**Canada**

Canada:	WHMIS CLASSIFICATION Void
Notification Status:	Canadian Environmental Protection Act DSL Notification : Yes All intentional ingredients are listed on the DSL (Domestic Substance List) or have been notified pursuant to the NSN regulations.

**SECTION 16 OTHER INFORMATION****Labeling According to EU Directive 67/548/EEC**

R&S Phrases:	Not Required
Hazard Symbol:	Not Required

Issue Date: 2/16/2015

NFPA Ratings:	Health:	1
	Flammability:	1
	Reactivity:	0

THE INFORMATION IN THIS SDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.