

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 1
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

Product name : PLA 3D Printer Filament  
 Chemical name&color Poly lactide resin, Various(Red, white, black, yellow, etc)

### Recommended use of the chemical and restrictions on use

<b>Details of the supplier of the safety data sheet</b> Dongguan Zhehan plastic & metal Manufactory Co.,Ltd Shuibian industrial park, Hengli Town, Dongguan City, Guangdong, 523000 China	<b>Emergency telephone number</b> +86-769-22017486 or contact your local emergency center  <b>Website</b> www.cnzhehan.com  <b>E-mail</b> zhehansj@163.com
---	---

Identified use : 3D printing

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

### GHS label elements

Hazard Statement: None required  
 Precautionary Statement: None  
 Signal word: None  
 Pictogram: None

### Other hazards

If small particles are generated during further processing, handling, or by other means,combustible dust concentrations in air may form. See Section 7 and 8 for additional information.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous components

Chemical name and CAS	Content %	OSHA Exposure Limits:	ACGIH Exposure Limits:
Poly lactide resin ( CAS No.: 9051-89-2)	>99	None	None
Colorant	<1%	None	None

## SECTION 4. FIRST AID MEASURES

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 2
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

- If inhaled : Essentially no fumes will be released from heated material, if respiratory irritation occurred immediately remove a person to fresh air and consult a doctor.
- In case of skin contact : Contact with heated material, rinse the skin with water and soap for at least 15 minutes. If symptoms persist, consult a doctor.
- In case of eye contact : Contact with material, rinse opened eye for at least 15 minutes with plenty of water. If symptoms persist, consult a doctor.
- If swallowed : 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 to physician : Treat symptomatically.

---

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : 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.
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Burning produces obnoxious and toxic fumes aldehydes, carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>).
- Specific extinguishing methods : Product is compatible with standard fire-fighting agents. Remove the flammability.
- Under fire conditions : Cool containers / tanks with water spray. Water mist may be used to cool closed containers. Fine dust dispersed in air may ignite. Risks of ignition followed by flame propagation or secondary explosions shall be prevented by avoiding accumulation of dust, e.g. on floors and ledges.
- 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.
- Auto-ignition temperature : 388° C
- Flammable limits in air - lower (%) : Not applicable
- Flammable limits in air - upper (%) : Not applicable

---

## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, : Use personal protective equipment. Avoid contact with skin

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 3
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

protective equipment and emergency procedures

and eyes. Avoid dust formation. Remove all sources of ignition. Sweep up to prevent slipping hazard.

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

Methods and materials for containment and cleaning up : Clean up promptly by scoop or vacuum. Sweep up and shovel into suitable containers for disposal.

## SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Use personal protective equipment. Avoid contact with skin and eyes. Low hazard for usual industrial or commercial handling. Workers should be protected from the possibility of contact with molten material during fabrication. Avoid dust formation. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form.

Conditions for safe storage : Store at temperatures not exceeding 50°C/ 122°F. Keep cool. No special restrictions on storage with other products.

Materials to avoid : No special precautions required.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure limits:

None established. This material can generate Particulates Not Otherwise Classifiable (PNOC). The Occupational Safety and Health Administration (OSHA) PEL/TWA for PNOC is 15 mg/m<sup>3</sup> for total dust and 5 mg/m<sup>3</sup> for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) TLV/TWA for PNOC is 10 mg/m<sup>3</sup> for inhalable particulates and 3 mg/m<sup>3</sup> for respirable particulates.

**Engineering measures** : 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.

### Personal protective equipment

**Respiratory protection** : Respirator must be worn if exposed to dust. Wear respirator with dust filter. Consult an industrial hygiene professional prior to respirator selection and use. Use a positive-pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

**Eye protection** : Safety glasses with side-shields. Goggles.

**Skin and body protection** : Impervious clothing.

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 4
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

Hygiene measures : Observe good industrial hygiene practices.  
Avoid contact with skin, eyes and clothing.

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Solid, filament

Odour : Sweet

Color : Various(Red, white, black, yellow, etc)

pH : No data available

Glass Transition Temperature : 57.8°C

Boiling point/boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : Non-flammable

Decomposition temperature : 230°C

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : No data available

Density : No data available

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Thermal decomposition : No data available

---

## SECTION 10. STABILITY AND REACTIVITY

Reactivity : None expected under conditions of normal use.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 5
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

Conditions to avoid : Temperatures above 446F (230 °C). Avoid keeping resin molten for excessive periods of time at elevated temperatures. Prolonged exposure will cause polymer degradation

Incompatible materials : Oxidizing agents, Strong bases

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

## SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion

### Acute toxicity

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

### Skin corrosion/irritation/

Product dust may be irritating to eyes, skin and respiratory system.

### Serious eye damage/eye irritation

Product dust may be irritating to eyes, skin and respiratory system. Resin particles, like other inert materials, are mechanically irritating to eyes..

### Respiratory or skin sensitisation

Product dust may be irritating to eyes, skin and respiratory system.

### Germ cell mutagenicity

Not mutagenic in AMES Test..

### Carcinogenicity

None of the components of this product are listed as carcinogens by IARC, NTP, or OSHA.

### Reproductive toxicity

No data is available on the product itself.

### STOT - single exposure

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

### STOT - repeated exposure

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

### Aspiration toxicity

Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

Burning produces irritant fumes.

### Further information

#### Carcinogenicity:

##### IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

##### OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

##### NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 6
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Ecotoxicology Assessment

Acute aquatic toxicity : EC50/72h/algae > 1100 mg/L

### Persistence and degradability

Inherently biodegradable under industrial composting conditions

### Bioaccumulative potential

Not expected to bioconcentrate or bioaccumulate.

### Mobility in soil

No data available

### Other adverse effects

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

General advice : In accordance with local and national regulations. Should not be released into the environment. Do not contaminate ponds, waterways or ditches with chemical or used container. Contact manufacturer.

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

### International transport regulations

#### REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

### U.S. DOT - ROAD

Not dangerous goods

### U.S. DOT - RAIL

Not dangerous goods

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 7
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods

**TRANSPORT CANADA - ROAD**

Not dangerous goods

**TRANSPORT CANADA - RAIL**

Not dangerous goods

**TRANSPORT CANADA - INLAND WATERWAYS**

Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

Not dangerous goods

**MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES**

Not dangerous goods

\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant		no
------------------	--	----

**SECTION 15. REGULATORY INFORMATION**

**SARA 311/312 Hazards** : No SARA Hazards

**SARA 313 Component(s)SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

<b>MATERIAL SAFETY DATA SHEET</b>		Page: 8
		Revision Date: 04/25/2016
PLA 3D Printer Filament		SDS Number: RF179
		Version: 1.0

**California Prop 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**The components of this product are reported in the following inventories:**

- TSCA : On TSCA Inventory
- DSL : All components of this product are on the Canadian DSL
- AUSTR : On the inventory, or in compliance with the inventory
- ENCS : On the inventory, or in compliance with the inventory
- KECL : On the inventory, or in compliance with the inventory
- PHIL : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECL (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

**Further information**

Revision Date: 04/25/2016

**Further information**

To the best of our knowledge, the information herein is accurate, However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein. All material may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.