



# Safety Data Sheet(SDS)

## According to GHS

**Product name:** PLA PLUS/PLA+ filament      **Prepared by** GB/T 16483 and GB/T 17951  
**Revision Date:** 2017.8.29      **SDS Number:** YS3D115001  
**Initial date:** 2015.8.15      **Version:** 3.1

### Section 1 - Identification of the substance/preparation and of the company/undertaking

#### Product identifier

**Product name:** PLA PLUS/PLA+ filament



#### Relevant identified uses of the substance or mixture and uses advised against

#### Details of the supplier of the safety data sheet

**Manufacture/Supplier :** Shenzhen Esun Industrial Co., Ltd.  
**Address:** Wuhan University Building A403-I, No.6 Yuexing2Road,Nanshan District,  
Shenzhen, China  
**Tel:** 135 3064 5059  
**Emergency number :** 135 3064 5059  
**E-mail :** cdm@brightcn.net  
**Fax :** 2603 1982

**Further information obtainable from:**Shenzhen Esun Industrial Co.,Ltd

### Section 2 - Hazards Identification

	Min	Max
Flammability	1 	0=Minimum
Toxicity	0	1=Low
Body Contact	0	2=Moderate
Reactivit	1 	3=High
Chronic	0	4=Extreme

#### GHS classification

Not Applicable

#### Label elements:

#### GHS label elements

Not Applicable

#### SIGNAL WORD:

Not Applicable

### Section 3 –Composition/Information on Ingredients

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<b>Ingredient Name</b>	<b>CAS No.</b>	<b>EC No.</b>	<b>Content (%)</b>
Poly lactide resin	9051-89-2	618-575-7	98
Calcium carbonate	471-34-1	207-439-9	2

#### **Section 4 - First Aid Measures**

##### **INGESTION**

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

##### **EYE**

If this product comes in contact with eyes:

- Wash out immediately with water.
- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

##### **SKIN**

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

##### **Inhalation**

- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

##### **Indication of any immediate medical attention and special treatment needed**

- Treat symptomatically.

#### **Section 5 - Firefighting Measures**

##### **EXTINGUISHING MEDIA**

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

##### **FIRE FIGHTING**

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use water delivered as a fine spray to control fire and cool adjacent area.

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### **FIRE/EXPLOSION HAZARD**

- Combustible solid which burns but propagates flame with difficulty.
- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions).

### **FIRE INCOMPATIBILITY**

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc.as ignition may result

### **Section 6 –Accidental Release Measures**

#### **MINOR SPILLS**

- Generally not applicable

#### **MAJOR SPILLS**

- Generally not applicable

Personal Protective Equipment advice is contained in Section 8 of the SDS.

### **Section 7 - Handling and Storage**

#### **PROCEDURE FOR HANDLING**

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with incompatible materials.
- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.

#### **SUITABLE CONTAINER**

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.
- Packing as recommended by manufacturer.

#### **STORAGE INCOMPATIBILITY**

Avoid contamination of water, foodstuffs, feed or seed.

- Avoid reaction with oxidising agents

### **Section 8 - Exposure Controls, Personal Protection**

## **EXPOSURE CONTROLS**

### **Appropriate engineering controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

### **Personal protection**



#### **Eye and face protection**

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

#### **Skin protection**

See Hand protection below

#### **Hands/feet protection**

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage.

#### **Body protection**

See Other protection below

#### **Other protection**

- Overalls.
- P.V.C. apron.

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- Barrier cream.

## **Section 9 - Physical and Chemical Properties**

### **Information on basic physical and chemical properties**

<b>Odour</b>	<b>Odorlessness</b>
<b>Form</b>	Solid
<b>Melting Range (°C)</b>	No data
<b>Boiling Range (°C)</b>	No data
<b>Flash Point (°C)</b>	No data
<b>Decomposition Temp (°C)</b>	No data
<b>Autoignition Temp (°C)</b>	No data
<b>Upper Explosive Limit (%)</b>	No data
<b>Lower Explosive Limit (%)</b>	No data
<b>Volatile Component (%vol)</b>	No data
<b>Solubility in water (g/L)</b>	Insoluble in water
<b>p H (1% solution)</b>	No data
<b>p H (as supplied)</b>	No data
<b>Print Temp (°C)</b>	205-225
<b>Bed Temp(°C)</b>	25-70
<b>Density(g/cm<sup>3</sup>)</b>	1.24
<b>Heat Distortion Temp (°C,0.45MPa)</b>	52
<b>Melt Flow Index (g/10min)</b>	2 (190°C/2.16kg)
<b>Tensile Strength (MPa)</b>	60
<b>Elongation at Break (%)</b>	29
<b>Flexural Strength (MPa)</b>	87
<b>Flexural Modulus (MPa)</b>	3642
<b>IZOD Impact Strength (kJ/m<sup>2</sup>)</b>	7

## **Section 10 - Stability and Reactivity**

### **Reactivity**

See section 7

### **Chemical stability**

- Unstable in the presence of incompatible materials.
- Product is considered stable.

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- Hazardous polymerisation will not occur.

## **Section 11 - Toxicological Information**

### **Information on toxicological affects**

#### **Acute Toxicity**

#### **LD/LC50 values relevant for classification**

No data.

#### **Primary irritant effect**

##### **On the skin**

No data.

##### **On the eyes**

No data.

##### **Inhaled**

No data.

**Sensitization:** No data.

## **Section 12 - Ecological Information**

<b>Ingredient</b>	<b>Persistence:Water/Soil</b>	<b>Persistence: Air</b>	<b>Bioaccumulation</b>	<b>Mobility</b>
Poly lactide resin	No Data available	No Data available	No Data available	No Data available
Calcium carbonate	LOW	LOW	LOW	LOW

## **Section 13 - Disposal Considerations**

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

## **Section 14 - Transport Information**

### **Labels Required**

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Marine Pollutant: NO

**NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADR, IATA, IMDG,ADN**

### **Section 15 - Regulatory Information**

#### **REGULATIONS**

The product needs to follow local regulations.

### **Section 16 - Other Information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

\*\*\*End \*\*\*