
Material Safety Data Sheet –PLA+ filament

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: PLA PLUS/PLA+ filament

Supplier: Shenzhen Esun Industrial Co., Ltd.

Address: Wuhan University Building A403-I, No.6 Yuexing 2 Road,
Nanshan District, Shenzhen, China

TEL (086)-0755-26031978

FAX (086)-0755-26031982

2. HAZARDS IDENTIFICATION

Health effects

Limited evidence of a carcinogenic effect

Prolonged and/or repeated contacts: risk of skin sensitization

When handled at high temperatures, can cause serious burns

Physical and chemical

Dust can form explosive mixture with air

Hazards

At high temperature thermal decomposition giving flammable and harmful products, formation of toxic products through combustion

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: colorful filament

Physical state: Solid

Odor: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Material</u>	<u>CAS#</u>	<u>Hazard</u>
Poly (L- lactide)	9051-89-2	none known
Toughening agent	Confidential	none known
Other additives	Confidential	none known

4. FIRST AID MEASURES

Inhalation

Inhalation of vapors due to thermal decomposition: remove to fresh air, oxygen or artificial respiration if needed

Treat symptomatically.

Skin Contact

In case of pellets or powder, wash with water.

In case of melt, wash affected skin area and clothing with plenty of (soap and) water. Seek medical advice.

Eye Contact

In case of pellets or powder, flush with plenty of water for at least 15 minutes. Seek medical advice if any dust particles still remain.

In case of gases evolving from melted resin of high temperature, flush with plenty of water for at least 15 minutes. Seek medical advice if necessary.

Ingestion

Induce vomiting. Rinse mouth with water. Seek medical advice if necessary.

5. FIRE FIGHTING MEASURES

Extinguishing media: Foam. Water. Carbon dioxide (CO₂). Dry power, Foam.

Hazardous decomposition products: Burning produces obnoxious and toxic fumes. Aldehydes. Carbon monoxide (CO). carbon dioxide (CO₂).

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.

Under fire conditions: Cool containers / tanks with spray water. Water mist may be used to cool closed containers.

Other information: The material will burn if exposed to sufficient heat and an ignition source. Avoid dispersion of dust in the air to reduce dust explosion hazard potential.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use 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 hazard.

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

Methods for cleaning up: Shovel into suitable container for disposal.

7. HANDLING AND STORAGE

Safe handling advice: 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 personal protective equipment. See Section 8.

Storage:

Store in cool dry place. Keep at temperatures below 122°F (50 °C).

No special restrictions on storage with other products

Precautions: No special precautions required

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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.

Control parameters: None

PERSONAL PROTECTIVE EQUIPMENT:

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

Skin and body

protection: Impervious clothing.

Respiratory protection:

Respirator must be worn if exposed to dust. Wear respirator with dust filter.

Respiratory protection is needed if any of the exposure limits in Section 3 are exceeded. 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 airpurifying respirators may not provide adequate protection. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Hand protection: Preventive skin protection.

Hygiene measures: Avoid contact with skin, eyes and clothing.

Exposure limits: No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorful filament.

Physical state: Solid

Odor: None

Odor threshold: No data available

pH: Not applicable

Vapor pressure: Not determined

Vapor density: Not determined

Evaporation rate: No data available

Density: 1.24 g/cc

Decomposition temperature: > 482°F (250°C)

Flash point: Not determined

Autoignition temperature: Not determined

Melting point/range: Not determined

Water solubility: Insoluble

Solubility in other solvents: None known

10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions

Conditions to avoid: Temperatures above 122°F (50 °C).

Materials to avoid: Oxidizing agents. Strong bases.

Hazardous decomposition products: Burning produces obnoxious and toxic fumes. Aldehydes. Carbon monoxide (CO). carbon dioxide (CO₂).

Polymerization: Not applicable

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: No data is available on the product itself.

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

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

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

Further information: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity effects : No data available.

Mobility: No data available.

Bioaccumulation: Does not bioaccumulate. Inherently biodegradable.

13. DISPOSAL CONSIDERATIONS

Controlled incineration or landfill according to local, state or national laws and regulations concerning health and pollution.

Inadequate incineration may generate toxic gases such as Aldehydes. Carbon monoxide (CO). Carbon dioxide (CO₂). etc.

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT):

Proper shipping name: None

Hazard class: Not regulated.

UN-No: None

Packing group: None

Hazardous substances (RQ): None

IMDG:

Proper shipping name: None

Hazard class: Not regulated.

UN/Id No.: None

Packing group: None

ICAO/IATA:

Proper shipping name: None

Hazard Class: Not regulated.

UN-No.: None

Packing group: None

.

15. REGULATORY INFORMATION

Product name: ESUN **PLA+** filament

.

16. OTHER INFORMATION

Label information: ESUN **PLA+** filament

Reason for revision: Not applicable

Revision date: 10/10/2015
