



Yousu Silk PLA 3D FILMAENT
Guangzhou Yousu 3D Technology Co., Ltd

Revision Date: 22/04/2023
Version: 1.0

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product name : YOUSU PLA+ 3D FILMAENT
Product code YS-PLA+

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet Guangzhou Yousu 3D Technology Co. Ltd. 4th Floor, Building B, Chuangtian Industrial Park, Lanshan Village, Xiancun Town, ZengCheng District, Guangzhou, Guangdong, China	Emergency telephone number +86-20-32093406 Website http://www.ysfilament.com Email sales@ysfilament.com
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Identified use : Biodegradable thermoplastics which can be used for 3D printing

2. HAZARD 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.

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)	>98	None	None

4. FIRST AID MEASURES

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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Foam, Water, Carbon dioxide (CO ₂), 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 ₂).
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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Avoid contact with skin 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.

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.

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/m³ for total dust and 5 mg/m³ for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) TLV/TWA for PNOC is 10 mg/m³ for inhalable particulates and 3 mg/m³ 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.
Hygiene measures : Observe good industrial hygiene practices. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Solid
Odour	: None
Diameter	: 1.75mm
pH	: Not applicable
Glass Transition Temperature	: 53°C
Boiling point/boiling range	: Not determined
Flash point	: Not applicable
Evaporation rate	: Not determined
Flammability (solid, gas)	: Not determined
Decomposition temperature	: 200°C~230°C
Density	: 1.23g/cm ³
Water solubility	: Insoluble
Solubility in other solvents	: None known
Partition coefficient: n-octanol/water	: No data available

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.
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 ₂).

11. TOXICOLOGICAL INFORMATION

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

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

13. DISPOSAL CONSIDERATIONS



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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 containers should be transported/delivered using a registered waste carrier to local recyclers for disposal.

14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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U.S. DOT - ROAD

Not dangerous goods

U.S. DOT - RAIL

Not dangerous goods

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
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15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards



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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.

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), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

16. OTHER INFORMATION

Further information

Revision Date: 22/04/2023

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.