



SAFETY DATA SHEET

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PLA 3D Printer Filament

PLA (polylactide) biopolymer · Product code CX02

1. Identification

Product identifier	PLA 3D Printer Filament
Product code	CX02
Recommended use	3D printing (FFF/FDM) filament, thermoplastic
Restrictions on use	Not specified
Supplier	COEX LLC, 1228 Elizabeth St, Green Bay, WI 54302, USA
Telephone	(920) 757-1055
Emergency telephone	(920) 757-1055 (business hours)
Website	www.coex3d.com

2. Hazard identification

Classification	This product is NOT classified according to 29 CFR 1910.1200 Hazard Communication Standard 2012.
Label elements	Signal word: None. Hazard Statements: None. Precautionary Statements: None.
Hazards not otherwise classified	May form combustible dust concentrations in air if small particles are generated during further processing, handling or by other means. Refer to protective measures listed in Sections 7 and 8.
Other information	Potential health effects: See Section 11 for more information. Environmental precautions: See Section 12 for more information.

3. Composition / information on ingredients

Chemical name	CAS No.	Weight %
Polylactide resin	9051-89-2	> 98

OSHA exposure limits: None. ACGIH exposure limits: None. All ingredients in quantities > 1.0% (0.1% for carcinogens) that are potentially hazardous per OSHA definitions. 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.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician immediately.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
Skin contact	Adverse effects are not expected from accidental skin contact following occupational exposure. After contact with skin, wash immediately with plenty of water. If skin irritation persists, call a physician. Cool skin rapidly with cold water after contact with hot polymer. DO NOT attempt to remove hot polymer from skin or contaminated clothing as skin may be easily damaged. Call a physician immediately.
Ingestion	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.
Most important symptoms	No data available
Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	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. Unsuitable extinguishing media: None known.
Special hazards	Under fire conditions: Cool containers / tanks with water spray. Water mist may be used to cool closed containers. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Flammability: Autoignition temperature: 388 °C. Flammable limits in air - lower (%): Not applicable. Flammable limits in air - upper (%): Not applicable.
Protective equipment	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Further information	Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions	Spilled filament or pieces may cause a slipping hazard. Ensure adequate ventilation.
Environmental precautions	Do not flush into surface water or sanitary sewer system. Keep out of waterways.
Cleaning up	Pick up or sweep up and place in a suitable container for disposal.

7. Handling and storage

Safe handling	Use personal protective equipment as required. 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. May form combustible dust concentrations in air if small particles are generated during further processing, handling or by other means.
Fire and explosion	Dust from grinding or sanding can form an explosive mixture with air. Take precautionary measures against static discharges.
Storage	Store at temperatures not exceeding 50 °C / 122 °F. Keep cool. No special restrictions on storage with other products.
Incompatibilities	Oxidizing agents, Strong bases

8. Exposure controls / personal protection

Exposure limits	Not 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 ³ for total dust and 5 mg/m ³ for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) TLV/TWA for PNOC is 10 mg/m ³ for inhalable particulates and 3 mg/m ³ for respirable particulates.
Engineering controls	Provide exhaust ventilation if dust or fumes are generated during processing.
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. 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 air-purifying 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. Special hazard: Workers should be protected from the possibility of contact with molten material during fabrication.
Hygiene	Do not eat or drink while working. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Solid; pellets, clear, translucent, opaque (Color: Clear, Translucent, Opaque)
Odor	Sweet
Odor threshold	Not applicable
pH	Not applicable
Melting temperature	150-180 °C (302-356 °F)
Freezing point	No data available
Boiling point	Decomposes; not determined
Flash point	Not determined
Evaporation rate	Not applicable (solid)
Flammability	Fine dust dispersed in air may ignite
Explosive limits	No data available
Vapor pressure / vapor density	No data available
Density	1.24 g/cc
Solubility in water	Water solubility: Insoluble. Solubility in other solvents: Not determined.
Partition coefficient	No data available
Auto-ignition temperature	388 °C
Decomposition temperature	482 °F (250 °C)
Viscosity	Not applicable (solid)
Oxidizing properties	No data available

10. Stability and reactivity

Reactivity	None under normal use conditions.
Chemical stability	Stable under recommended storage conditions.
Hazardous reactions	None under normal use conditions.
Conditions to avoid	Temperatures above 446 °F (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

Routes of exposure	Inhalation, ingestion, eye or skin contact.
Acute toxicity	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. Skin: LD50/dermal/rabbit > 2000 mg/kg. Ingestion: Oral LD50 (rat) > 5000 mg/kg.
Inhalation	Not inhalable in the form supplied.
Irritation	Local effects: Product dust may be irritating to eyes, skin and respiratory system. Resin particles, like other inert materials, are mechanically irritating to eyes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Specific effects: May cause skin irritation and/or dermatitis. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Burning produces irritant fumes.
Sensitization, repeated dose, mutagenicity, carcinogenicity, reproductive toxicity	Long term toxicity: Did not cause skin allergic reactions in skin sensitization studies using guinea pigs. Mutagenic effects: Not mutagenic in AMES Test. Reproductive toxicity: No data is available on the product itself. Carcinogenic effects: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. Target organ effects: There were no target organ effects noted following ingestion or dermal exposure in animal studies.
Aspiration hazard	None expected.

12. Ecological information

Aquatic toxicity	Ecotoxicity effects: EC50/72h/algae > 1100 mg/L. Mobility: No data available.
Persistence and degradability	Inherently biodegradable under industrial composting conditions
Bioaccumulation	Not expected to bioconcentrate or bioaccumulate.

13. Disposal considerations

Product	Dispose of in accordance with local, state and federal regulations. Check for recycling options. Do not release into the environment.
Packaging	Empty spools and packaging can be recycled if not contaminated.

14. Transport information**US DOT, IMDG, IATA/ICAO**

U.S. DOT: Proper shipping name: None. Hazard class: Not regulated. 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**U.S. TSCA**

TSCA Inventory List: Listed

SARA 313

Sara 313 title III: Not Listed

16. Other information**NFPA hazard codes**

No data available

HMIS III rating

No data available

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Prepared by

COEX LLC

This data is based on the current state of our information and experience.

www.coex3d.com

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