

PLA + Safety Data Sheet

In accordance with 29 CFR 1910.1200:2012
In accordance with ANSI Z400.1-2010
In accordance with WHMIS 2015
In accordance with ISO 11014-1: 2009
Regulation (EC) No. 1907/2006 COMMISSION REGULATION (EU) No. 830/2015
Regulation EU 1272/2008 or with Directive 67/548/EC or 1999/45/EC as amended

Section 1. Chemical Product and Company identification

Product Name	KODAK 3D Printing Filament PLA +
Importer	Smart International Inc. 2035 Sunset Lake Road Newark, Delaware 19702 USA. Email: support@smart3d.tech USA Emergency Poison Control Hot Line (24/7): 1 (800) 222-1222 or call your LOCAL POISON CONTROL CENTER

Section 2. Hazards Identification

GHS Classification	Not classified
GHS label elements Hazard symbols	None
Signal word	None
Hazard statement	None
Potential health effects	See section 11
Precautionary statements	None

Section 3. Composition

Chemical name	Poly lactide resin	
Product Use	Monofilament for FFF 3D Printing	
CAS No.	9051-89-2	
Contents (%)	ACGIH Exposure Limits	OSHA Exposure Limits
>98	-	-

Section 4. First-Aid Measures

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.
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.
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.
Notice to Physician	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	No information available
Indication of any immediate medical attention and special treatment needed	No information available



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Section 5. Fire-fighting Measures

Flammability	Autoignition temperature: 388°C		
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 arising from the substance or mixture	Burning produces obnoxious and toxic fumes Aldehydes, Carbon monoxide (CO), carbon dioxide (CO ₂)		
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 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.		
Flammable limits in air - lower (%)	N/A	Flammable limits in air - upper (%)	N/A

Section 6. Accidental Release Measures

Personal Precautions	Use personal protective equipment. Avoid contact with skin and eyes. Avoid dust formation. Remove all sources of ignition. Sweep up to prevent slipping hazard.
Methods for cleaning up	Clean up promptly by scoop or vacuum. Sweep up and shovel into suitable containers for disposal.
Environmental Precautions	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Section 7. Handling and Storage

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. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form.
Storage	Store at temperatures not exceeding 50 °C/ 122 °F. Keep cool. No special restrictions on storage with other products.
Precautions	No special precautions required.

Section 8. Exposure Controls / Personal Protection

Exposure Control - 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.
Exposure Control - 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 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.
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 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.



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Section 9. Physical & Chemical Properties

Appearance	Monofilament, spool
Physical State	Solid
Odor	Sweet
pH	N/A
Melting point	50-180C (302- 356F)
Glass Transition Temperature	55-60C (131-140F)
Autoignition temperature	388 °C
Decomposition temperature	482°F (250°C)
Flammability (solid, gas)	Fine dust dispersed in air may ignite
Upper/Lower Flammability or explosive limits	Not available
Vapour pressure	Not available
Water Solubility	Insoluble
Vapour density (Air=1)	Not available
Relative density	1.25
Solubility in other solvents	Not available
Flammability Limits in Air	Not available
Flash point	Not available
Freezing point °C	Not available
Evaporation rate	Not available

Section 10. Stability & Reactivity

Reactivity	None expected under conditions of normal use.
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reaction	None expected under conditions of normal use.
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.
Materials to Avoid	Oxidizing agents, Strong bases
Hazardous Decomposition Products	Burning produces obnoxious and toxic fumes, Aldehydes, Carbon monoxide (CO), carbon dioxide (CO2)

Section 14. Transport Information

US DOT Information	
UN/NA number	Not regulated for transport of dangerous goods
Proper shipping name	None
Hazard class	Not applicable
Packing group	None

Section 11. Toxicological Information

Acute toxicity	There were no target organ effects noted following ingestion or dermal exposure in animal studies.
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.
Long term toxicity	Did not cause skin allergic reactions in skin sensitization studies using guinea pigs.
Ingestion	LD50/ oral/ rat > 5000 mg/kg
Skin	LD50/dermal/rabbit > 2000 mg/kg

Section 12. Ecological Information

Ecotoxicity effects	EC50/72h/algae > 1100 mg/L
Persistence and degradability	No data available.
Bioaccumulation	Not expected to bioconcentrate or bioaccumulate.
Persistence and degradability	No data available.

Section 13. Disposal Considerations

Waste from residues / unused products	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.

IMDG:	
UN/Id No.:	Not regulated for transport of dangerous goods
Proper shipping name	None
Hazard class	Not applicable
Packing group	None



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ICAO/IATA	
UN-No.	Not regulated for transport of dangerous goods
Proper shipping name	None
Hazard class	Not applicable
Packing group	None

Section 15. Regulatory Information

TSCA Inventory List	Listed
California Proposition 65	Not listed
Sara 313 title III	Not listed
Canada DSL Inventory List	Listed
REACH/EU EINECS List	Components are in compliance with and/or are listed.
Japanese inventory (ENCS)	Listed
Australia (AICS)	Listed
Korean chemical inventory	Listed
China inventory of existing chemical substances list	Listed
Taiwan Chemical Substance inventory (TCSI)	Listed

NFPA Ratings	
Health	0
Fire	1
Reactivity	0
Hazard Scale	0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe
Issue date	2017. 10. 28

Disclaimer:

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