

## 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

<b>Product Name</b>	KODAK 3D Printing Filament PLA
<b>Importer</b>	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

<b>Classification</b>	This product is NOT classified according to 29 CFR 1910.1200 Hazard Communication Standard 2012
<b>Hazard statement</b>	None
<b>Precautionary statements</b>	None
<b>Signal word</b>	None
<b>Symbols/Pictograms</b>	None
<b>Potential health effects</b>	See section 11
<b>Environmental precautions</b>	See section 12
<b>Other Hazards</b>	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.

### Section 3. Composition

<b>Chemical name</b>	Polylactide resin 9051-89-2	
<b>Product Use</b>	Monofilament for FFF 3D Printing	
<b>Weight (%)</b>	<b>ACGIH Exposure Limits</b>	<b>OSHA Exposure Limits</b>
>98	-	-

All ingredients in quantities > 1.0% (0.1% for carcinogens) that are potentially hazardous per OSHA definitions.

<b>Other standards</b>	This material can generate Particulates Not Otherwise Classifiable (PNOC). The Occupational Safety and Health Administration (OSHA) PEL/TWA for PNOC is 15 mg/m <sup>3</sup> for total dust and 5 mg/m <sup>3</sup> for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) TLV/TWA for PNOC is 10 mg/m <sup>3</sup> for inhalable particulates and 3 mg/m <sup>3</sup> for respirable particulates.
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### Section 4. First-Aid Measures

<b>Skin Contact</b>	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.
<b>Inhalation</b>	Move to fresh air. Call a physician immediately.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
<b>Ingestion</b>	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.
<b>Notice to Physician</b>	Treat symptomatically.



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### Section 5. Fire-fighting Measures

<b>Flammability</b>	Autoignition temperature: 388°C		
<b>Suitable extinguishing media</b>	Foam, Water, Carbon dioxide (CO <sub>2</sub> ), Dry chemical, Alcohol resistant foams are preferred if available. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.		
<b>Unsuitable extinguishing media</b>	None known		
<b>Special protective equipment for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.		
<b>Under fire conditions</b>	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.		
<b>Flammable limits in air - lower (%)</b>	N/A	<b>Flammable limits in air - upper (%)</b>	N/A

### Section 6. Accidental Release Measures

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

### Section 7. Handling and Storage

<b>Safe handling advice</b>	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.
<b>Storage</b>	Store at temperatures not exceeding 50 °C/ 122 °F. Keep cool. No special restrictions on storage with other products.
<b>Precautions</b>	No special precautions required.

### Section 8. Exposure Controls / Personal Protection

<b>Exposure Control - Engineering measures</b>	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.
<b>Exposure Control - Exposure limits</b>	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 <sup>3</sup> for total dust and 5 mg/m <sup>3</sup> for the respirable fraction. The American Conference of Governmental Industrial Hygienists (ACGIH) TLV/TWA for PNOC is 10 mg/m <sup>3</sup> for inhalable particulates and 3 mg/m <sup>3</sup> for respirable particulates.
<b>Personal protective equipment</b>	
<b>Eye protection</b>	Safety glasses with side-shields. Goggles
<b>Skin and body protection</b>	Impervious clothing
<b>Respiratory protection</b>	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.
<b>Hand protection</b>	Preventive skin protection.
<b>Hygiene measures</b>	Avoid contact with skin, eyes and clothing.
<b>Special hazard</b>	Workers should be protected from the possibility of contact with molten material during fabrication.



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### Section 9. Physical & Chemical Properties

<b>Appearance</b>	Monofilament, spool
<b>Physical State</b>	Solid
<b>Odor</b>	Sweet
<b>pH</b>	N/A
<b>Vapour pressure</b>	Not determined
<b>Vapour density (Air=1)</b>	Not determined
<b>Evaporation rate</b>	Not determined
<b>Partition Coefficient (n-octanol/water)</b>	Not determined
<b>Relative density</b>	1.25
<b>Decomposition temperature</b>	482°F (250°C)
<b>Boiling point</b>	Not applicable
<b>Melting point</b>	150-180C (302- 356F)
<b>Glass Transition Temperature</b>	55-60C (131-140F)
<b>Autoignition temperature</b>	388 °C
<b>Freezing point °C</b>	Not determined
<b>Flash point</b>	Not determined
<b>Flammability (solid, gas)</b>	Fine dust dispersed in air may ignite
<b>Flammability Limits in Air</b>	Not available
<b>Water Solubility</b>	Insoluble
<b>Solubility in other solvents</b>	Not determined
<b>Solubility</b>	Not determined

### Section 10. Stability & Reactivity

<b>Reactivity</b>	None expected under conditions of normal use.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reaction</b>	None expected under conditions of normal use.
<b>Conditions to Avoid</b>	Temperatures above 446F (230 °C). Avoid keeping resin molten for excessive periods of time at elevated temperatures. Prolonged exposure will cause polymer degradation.
<b>Materials to Avoid</b>	Oxidizing agents, Strong bases
<b>Hazardous Decomposition Products</b>	Burning produces obnoxious and toxic fumes, Aldehydes, Carbon monoxide (CO), carbon dioxide (CO2)

### Section 14. Transport Information

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

### Section 11. Toxicological Information

<b>Acute toxicity</b>	There were no target organ effects noted following ingestion or dermal exposure in animal studies.
<b>Local effects</b>	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.
<b>Specific effects</b>	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.
<b>Long term toxicity</b>	Did not cause skin allergic reactions in skin sensitization studies using guinea pigs.
<b>Mutagenic effects</b>	Not mutagenic in AMES Test
<b>Reproductive toxicity</b>	No data is available on the product itself
<b>Carcinogenic effects</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP
<b>Target organ effects</b>	There were no target organ effects noted following ingestion or dermal exposure in animal studies
<b>Ingestion</b>	LD50/ oral/ rat > 5000 mg/kg
<b>Skin</b>	LD50/dermal/rabbit > 2000 mg/kg

### Section 12. Ecological Information

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

### Section 13. Disposal Considerations

<b>Waste from residues / unused products</b>	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.
<b>Contaminated packaging</b>	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.

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



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

## Section 15. Regulatory Information

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

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

### Disclaimer:

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