Raise3D Standard PLA Safety Data Sheet

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Identification of the material

Raise3D Standard PLA 3D Printing Filament

1.2 Identified uses

For fused deposition modeling (FFF)

1.3 Supplier information

Supplier:

Raise 3D Technologies, Inc.

Address:

43 Tesla, Irvine, CA 92618

Emergency phone number: In case of toxicological emergency, contact your doctor.

Section 2: HAZARDS IDENTIFICATION

2.1 GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.3 Other hazards

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form. See section 7 for more information. See section 8 for more information.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical Name	CAS No.	Weight (%)	Exposure Limits
Poly (lactic acid) resin	9051-89-2	>90%	None

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

4.1.1 Inhalation

Move to fresh air. Call a physician immediately if irritation persists.

4.1.2 Skin contact

Rinse immediately with plenty of water. If skin irritation persists, call a physician. Cool skin rapidly with cold water after contact with hot polymer.

4.1.3 Eye contact

Rinse immediately with plenty of water. Call a physician immediately.

4.1.4 Ingestion

Drink water as a precaution. Never give anything by mouth to an unconscious person. Do not induce omitting without medical advice. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Burns resulted from contacting or handling heated/molten materials

4.3 Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Foam. Water. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foams are preferred if available. General-purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

5.2 Special hazards arising from the substance or mixture

No specific hazard.

5.3 Advice for fire fighters

Follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Lab coat. Impervious gloves. Safety glasses with side shields.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Shovel into suitable container for disposal.

Section 7: HANDING AND STORAGE

7.1 Precautions for safe handling

Avoid prolonged contact with skin and eyes. Avoid dust formation. Workers should be protected from the possibility of contact with molten material. Low hazard for usual industrial or commercial handling.

7.2 Conditions for safe storage

Store in a cool, dry, well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Avoid moisture contamination. Transferring dry pellets or granules between containers or charging into solvents can cause a build-up of static electricity which can be sufficient to cause fires and/or explosions in the presence of flammable materials. Equipment should provide a means of dissipating any charges that may develop.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Consult local authorities for acceptable exposure limits.

Biological limit values: No biological exposure limits noted for the ingredient(s)

Recommended monitoring procedures: Not available

Derived no-effect level (DNEL): Not available

Predicted no effect concentrations (PNECs): Not available

8.2 Engineering controls

Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.

8.3 Personal protective equipment

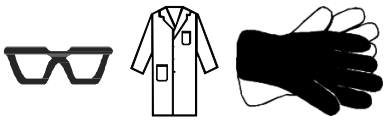
Eyes: Safety glasses with side-shields

Skin: Lab coat

Respiratory: Wear appropriate respirator when ventilation is inadequate.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Personal protective: Equipment (Pictograms)



Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance: Solid

Color: Various

Odor: Almost Odorless

Odor threshold: Not available

pH: Not applicable

Melting point/freezing point: 150 ˚C

Softening temperature: 63°C

Boiling point: Not applicable

Flash point: Not applicable

Evaporation rate: Not applicable

Flammability: Not available

Upper/lower flammability or explosive limits: Not available

Vapor pressure: Not applicable

Vapor density: Not applicable

Relative density: 1.25 g/cm^3

Solubility: No available

Partition coefficient (n-octanol/water): No available

Auto-ignition temperature: >350˚C

Decomposition temperature: No available

Viscosity: Not applicable

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity

The product is stable.

10.2 Chemical stability

The material is stable under normal conditions.

10.3 Possibility of hazardous reactions

Burning produces obnoxious and toxic fumes. Aldehydes.

Carbon monoxide (CO). Carbon dioxide (CO2).

10.4 Conditions to avoid

Temperatures above 446F (230 °C).

10.5 Incompatible materials

Not available.

10.6 Hazardous decomposition products

Unlikely under normal industrial use. If the product is heated to temperatures excessively higher than those recommended on the technical data sheet, thermal decomposition is possible. Combustion products may include: carbon oxides (CO, CO2), nitrogen oxides (NO, NO2 etc.), hydrocarbons, HCN

Section 11: TOXICOLOGICAL INFORMATION

11.1 Likely routes of exposure

Inhalation: Non-irritating to the respiratory system.

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

Eye contact: May cause physical abrasion in contact with eyes. Molten polymer will cause serious burns to the eyes.

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

11.2 Symptoms

Dust may irritate throat and respiratory system and cause coughing. Direct contact with eyes may cause temporary irritation.

11.3 Information on toxicological effects

Acute toxicity: Dusts may irritate the respiratory tract, skin and eyes.
Skin corrosion/irritation: Dust may irritate skin.
Serious eye damage/eye irritation: Dust may irritate the eyes. Exposed may experience eye tearing, redness, and discomfort.
Respiratory sensitization: Not classified.
Skin sensitization: Not a skin sensitizer.
Germ cell mutagenicity: Not expected to be mutagenic.
Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.
Reproductive toxicity: Not classified.
Specific target organ toxicity - single exposure: No data available
Specific target organ toxicity - repeated exposure: No data available
Aspiration hazard: Due to the physical form of the product it is not an aspiration hazard.
Mixture versus substance information: Not applicable.
Other information: Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

Does not bioaccumulate. Inherently biodegradable.

12.4 Mobility in soil

No data available.

12.5 Other adverse effects

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. Contact manufacturer if needed.

Section 14: TRANSPORT INFORMATION

ADR: Not regulated as dangerous goods.
RID: Not regulated as dangerous goods.
AND: Not regulated as dangerous goods.
IATA: Not regulated as dangerous goods.
IMDG: Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
This substance/mixture is not intended to be transported in bulk.

Section 15: REGULATORY INFORMATION

15.1 International Inventories

TSCA: Complies
DSL/NDSL: Complies
EINECS/ELINCS: Complies
ENCS: Complies
IECSC: Complies
KECL: Complies
PICCS: Complies
AICS: Complies

15.2 Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified
Chemical Substances ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.3 US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No
Chronic Health Hazard: No
Fire hazard: No
Sudden release of pressure hazard: No
Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

15.4 US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

Section 16: OTHER INFORMATION

Revision information

Date of this revision: April 4, 2019

Declare to reader

The information above is believed to be accurate and represents the best information currently available to us.

However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.

This shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.