Section 1. Identification

1.1 Product name:
IC3D Standard Polylactic Acid (PLA)

1.2 Supplier details:
IC3D, Inc
1697 Westbelt Drive
Columbus, OH 43228
614-344-0414

1.3 Recommended use of the chemical and restrictions on use
Recommended use: General use – cosmetic, structural elements, models, molding, and tooling
Restrictions on use: None known

Section 2. Hazards Identification

2.1 Classification of the substance
GHS classification in accordance with 29 CFR 1910.1200: Combustible dust

2.2 Label Elements
GHS label elements - Signal Word: Warning
Hazard Statements: If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.
Precautionary Statements:
Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.
Other hazards: None known.
NFPA 704:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Special hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS® IV:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>/</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The “*” represents a chronic hazard, while the “/” represents the absence of a chronic hazard.

Section 3. Composition/Information on Ingredients Components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS – No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
</table>

https://ic3dprinters.com/
Section 4. First Aid Measures

4.1 Description of first aid measures

If inhaled: Move to fresh air. Call a physician immediately.

In case of 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.

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

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.

4.2 Information for physician

Most important symptoms and effects, both acute and delayed: The molten product can cause serious burns. Treat symptomatically.

Section 5. Firefighting Measures

5.1 Extinguishing media

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.

Unsuitable extinguishing media: None known.

5.2 Specific hazards during firefighting: 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.

Hazardous combustion products: Autoignition temperature 388°C.

5.3 Advice for firefighters:

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.

Section 6. Accidental Release Measures

Polylactide Resin | 9051-89-2 | >98
6.1 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.

6.2 Environment 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: Clean up promptly by scoop or vacuum. Sweep up and shovel into suitable containers for disposal.

Section 7. Handling and Storage

7.1 Advice on protection against fire and explosion: Minimize dust generation and accumulation.

7.2 Advice on safe handling: Wash thoroughly after handling. Use only in areas provided with appropriate exhaust ventilation. Protect skin from the possibility of contact with molten material.

7.3 Conditions for safe storage: Store at temperatures not exceeding 50°C/122°F. Keep cool. No special restrictions on storage with other products.

Section 8. Exposure Controls/Personal Protection

8.1 Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Engineering measures
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

8.3 Personal protective equipment
Respiratory protection: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Wear respiratory protection when its use is identified for certain contributing scenarios.

8.4 Hand protection
Remarks: Wear suitable gloves. When handling hot material, use heat resistant gloves.
Eye protection: Safety glasses with side-shields.
Skin and body protection: Wear suitable protective clothing.
**Protective measures:** Ensure that eye flushing systems and safety showers are located close to the working place.

**Hygiene measures:** Avoid contact with skin, eyes, and clothing.

### Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td><strong>Color</strong> Clear, translucent</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Sweet</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Melting Point</strong></td>
<td>302-356°F / 150-180°C</td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>Not applicable, combustible solid</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>May form combustible dust concentrations in air during processing, handling, or other means.</td>
</tr>
<tr>
<td><strong>Self-ignition</strong></td>
<td>730°F / 388°C</td>
</tr>
<tr>
<td><strong>Upper explosion limit/ Upper flammability limit</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Lower explosion limit/ Lower flammability limit</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Relative vapor density</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>1.25</td>
</tr>
<tr>
<td><strong>Solubilities: Water Solubility</strong></td>
<td>Insoluble</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>482°F / 250°C</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td><strong>Dynamic</strong> Not determined</td>
</tr>
<tr>
<td><strong>Kinematic</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>No data available</td>
</tr>
</tbody>
</table>

### Section 10. Stability and Reactivity

**10.1 Reactivity:** None expected under conditions of normal use.

**10.2 Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** Stable

**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: Strong oxidizing agents, strong bases
Hazardous decomposition products: Carbon monoxide, carbon dioxide (CO₂), Aldehydes

Section 11. Toxicological Information

**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.

**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.

**Mutagenic effects:**
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.

**Target organ effects**
There were no target organ effects noted following ingestion or dermal exposure in animal studies.

**Skin**
LD₅₀/dermal/rabbit > 2000 mg/kg

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

Section 12. Ecological Information
12.1 Ecotoxicity
EC50/72h/algae > 1100 mg/L

12.2 Persistence and degradability
Inherently biodegradable under industrial composting conditions

12.3 Bioaccumulative potential
Not expected to bioconcentrate or bioaccumulate.

12.4 Mobility in soil
No data available

12.5 Other adverse effects
No data available

Section 13. Disposal Considerations

13.1 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.

Section 14. Transport Information

14.1 International Regulations
IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

14.2 Domestic regulation
U.S. Department of Transportation (DOT)
Not regulated as a dangerous good

Section 15. Regulatory Information

15.1 U.S. Regulations
Sara 313 Title 3: Not listed
TSCA Inventory List: Listed

15.2 California Proposition 65
Not listed.
15.3 The ingredients of this product are reported in the following inventories:

- **Canada (DSL):** Listed
- **Australia (AICS):** Listed
- **Reach/EU EINCS:** On the inventory, or in compliance with the inventory
- **Japan (ECL):** Listed
- **Korean chemical inventory (KECI):** Listed
- **Philippines (PICCS):** Contact manufacturer for more information.
- **China inventory of existing chemical substances list:** Listed

### Section 16. Additional Information

**Reason for revision:** Updated information compliant with OSHA (GHS) standard.