



# Safety Data Sheet

Fortis 3D Corp.

SDS Revision date: November 16, 2021

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## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: FORTIS3D™ Filaments: FF5020  
Recommended Use: 3D printing/additive manufacturing via filament extrusion  
Uses Recommended Against: Grinding, Burning  
Manufacturer: Ingenia Polymers Group  
565 Greenwich Street  
Brantford, Ontario N3T 5M2  
Telephone: +1-833-296-1500  
Emergency Phone Number: +1-833-296-1500

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## SECTION 2. HAZARDS IDENTIFICATION

### Hazard Classification

#### Physical Hazards

Combustible dust, Category 1.

### Label Elements

**Signal Word:** Warning!

**Hazard Statements:** *If dust is formed during handling or processing, May form combustible concentrations in air*

**Precautionary Statements:**  
P260 – Do not breathe dust  
P285 – In case of inadequate ventilation wear respiratory protection  
P501 – Dispose of contents/containers in accordance with local regulations

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Chemical Name	CAS No.	Concentration
Polylactic acid*	Polylactic acid	6100-51-6	>45%

\*Classified as non-hazardous. Disclosed to indicate major component.

**Composition Comments:** There are no other ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section

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## SECTION 4. FIRST AID MEASURES

<b>General advice</b>	If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.
<b>If inhaled</b>	If large amounts of vapors released during processing are inhaled, remove victim to fresh air. If victim is not breathing, provide artificial respiration, preferably mouth to mouth. If victim has difficulty breathing, provide oxygen and call a physician.
<b>In case of skin contact</b>	If molten polymer gets on skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical treatment for thermal burn.
<b>In case of eye contact</b>	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
<b>If swallowed</b>	Adverse health effects due to ingestion are not anticipated.
<b>Symptoms</b>	Thermal burns. Respiratory irritation. Mechanical irritation.
<b>Treatment</b>	After adequate first aid, no further treatment is required unless symptoms reappear. Burns should be treated as thermal burns. Molten resin will come off as healing occurs; therefore, immediate removal from the skin is not necessary.

## SECTION 5. FIRE FIGHTING MEASURES

<b>Fire Fighting Measures:</b>	Standard procedure for chemical fires.
<b>Suitable Extinguishing Media:</b>	Water spray, dry powder, foam, carbon dioxide.
<b>Fire Fighting Equipment:</b>	Wear self-contained breathing apparatus and protective suit.
<b>Fire Fighting Procedures:</b>	Keep upwind, and evacuate surrounding area. Fight fire from maximum distance.
<b>Specific hazards arising from the chemical:</b>	Burning may emit various oligomers, waxes and oxygenated hydrocarbons as well as carbon dioxide, carbon monoxide and small amounts of other organic vapours. Powdered material may form explosive dust-air mixtures.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>Personal protective equipment and precautions:</b>	Do not handle molten materials bare-handed. Use heat-protective gloves if required.
<b>Cleanup Instructions:</b>	Sweep up and shovel into suitable containers for disposal. Use non sparking metal tools and natural bristle broom. Avoid allowing spilled material to get wet or using water to clean up spillages or residues, unless the quantity remaining is very small.
<b>Environmental precautions:</b>	Material should not be released into the environment.

## SECTION 7. HANDLING AND STORAGE

<b>Handling:</b>	Do not handle molten materials bare-handed. Use heat-protective gloves if handling hot materials is required. Avoid eye, skin, and clothing contact. Do not inhale. Do not taste or swallow. Use only with adequate ventilation. After
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handling, wash hand thoroughly with soap and water.  
To minimize dust explosion hazards, do not grind the material. If generating dust, ensure adequate ventilation and avoid dust accumulation in air or on surfaces, and prevent buildup of static.

**Storage:** Keep containers tightly closed in a cool and well-ventilated place.

#### Dust Explosion Risk

	Class 1 (Kst-value <200 bar·m/s) (St 1).
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## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

Dust (Total)	<b>OSHA</b> TWA: 15 mg/m <sup>3</sup> .
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### Personal Protective Equipment

**Eye/Face Protection:** Wear safety glasses or goggles to protect against dust particles.  
**Skin Protection:** Wear chemical resistant gloves and protective clothing.  
**Respiratory Protection:** Use NIOSH approved respirator as needed to mitigate exposure.  
**Engineering Controls:** Ensure good ventilation in area of work.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical Form:** Pellets  
**Color:** Various, depending on subgrade  
**Odor:** Not available  
**Odor threshold:** Not available  
**pH:** Not applicable  
**Freezing/Melting Point:** 150-160 °C  
**Boiling Point:** Not applicable  
**Flash point:** Not applicable  
**Evaporation Rate:** Not applicable  
**Vapor Density:** Not applicable  
**Vapor Pressure:** Not applicable  
**Specific Gravity:** Not available  
**Solubility in water:** Not available  
**Partition Coefficient (Octanol/Water):** Not available  
**Autoignition Temperature:** Not available  
**Decomposition Temperature:** Not available  
**Viscosity:** Not applicable

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## SECTION 10. STABILITY AND REACTIVITY

**Reactivity:** Under normal conditions of storage and use, hazardous reactions will not occur  
**Chemical Stability:** Stable under recommended storage conditions.  
**Conditions to Avoid:** Avoid static discharge. Avoid contact with strong oxidizers, excessive heat, sparks or open flame.  
**Hazardous Decomposition Products:** No decomposition expected under normal storage conditions.

**Possibility of Hazardous Reactions:** None expected  
**Incompatible Materials** Strong acids, strong bases, oxidizing agents, fluorine

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Ingestion:</b>	Ingestion of this product is not a likely route of exposure
<b>Inhalation:</b>	During processing, thermal fumes and inhalation of fine particles may cause respiratory irritation.
<b>Skin Contact:</b>	During processing, contact with powder or fines may cause mechanical irritation. Molten material will produce thermal burns.
<b>Eye contact:</b>	During processing, contact with powder or fines may cause mechanical irritation. Molten material will produce thermal burns.

### Symptoms related to the physical, chemical, and toxicological characteristics

<b>Ingestion:</b>	No adverse effects due to ingestion are expected
<b>Inhalation:</b>	Respiratory irritation
<b>Skin Contact:</b>	Mechanical irritation. Thermal burns.
<b>Eye contact:</b>	Mechanical irritation. Thermal burns. May cause mild, short-lasting discomfort to the eyes.

### Acute toxicity

**Oral:** LD: >5000 mg/kg (estimated)  
**Dermal:** Not classified  
**Inhalation:** Not classified

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## SECTION 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	Based on data available for the component substances, the mixture does not meet the criteria for classification.
<b>Persistence and degradability:</b>	Insufficient data for classification. Some component substances are known to be non-biodegradable.
<b>Bioaccumulative potential:</b>	No data available.
<b>Mobility in soil:</b>	No data available.
<b>Other adverse effects:</b>	No data available.

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## SECTION 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state, provincial and federal regulations.

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## SECTION 14. TRANSPORT INFORMATION

Not regulated for transport.

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## **SECTION 15. REGULATORY INFORMATION**

**TSCA:** On or in compliance with the inventory

**DSL:** On or in compliance with the inventory

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## **SECTION 16. OTHER INFORMATION**

**Revision Date:** 2021/11/16

**Contact Information - Safety, Regulatory and Environmental:** +1-833-296-1500

**Disclaimer:** The information contained herein is based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to such data or information. The user is responsible for determining whether the product is suitable for its intended conditions of use.