Safety Data Sheet

Fortis 3D Corp. *SDS Revision date: November 16, 2021*

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	FORTIS3D™ Filaments: FF5010
Recommended Use:	3D printing/additive manufacturing via filament extrusion
Uses Recommended Against:	Grinding, Burning
Manufacturer:	Fortis 3D Corp. 565 Greenwich Street Brantford, Ontario N3T 5M2
Telephone:	+1-833-296-1500
Emergency Phone Number:	+1-833-296-1500

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Chemical Name	CAS No.	Concentration
Polylactic acid*	Polylactic acid	6100-51-6	>85%

*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

SECTION 4. FIRST AID MEASURES

General advice	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.
If inhaled	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.
In case of skin contact	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.
In case of eye contact	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
If swallowed	Adverse health effects due to ingestion are not anticipated.
Symptoms	Thermal burns. Respiratory irritation. Mechanical irritation.
Treatment	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

Fire Fighting Measures:	Standard procedure for chemical fires.
Suitable Extinguishing Media:	Water spray, dry powder, foam, carbon dioxide.
Fire Fighting Equipment:	Wear self-contained breathing apparatus and protective suit.
Fire Fighting Procedures:	Keep upwind, and evacuate surrounding area. Fight fire from maximum distance.
Specific hazards arising from the chemical:	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

Personal protective equipment and precautions:	Do not handle molten materials bare-handed. Use heat-protective gloves if required.
Cleanup Instructions:	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.
Environmental precautions:	Material should not be released into the environment.

SECTION 7. HANDLING AND STORAGE

Handling: 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

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).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Dust (Total)	**OSHA** TWA: 15 mg/m^3.

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.

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

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

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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

Ingestion:	No adverse effects due to ingestion are expected
Inhalation:	Respiratory irritation
Skin Contact:	Mechanical irritation. Thermal burns.
Eye contact:	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

SECTION 12. ECOLOGICAL INFORMATION

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

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

Not regulated for transport.

SECTION 15. REGULATORY INFORMATION

TSCA: On or in compliance with the inventory

DSL: On or in compliance with the inventory

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.