FibreTuff

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Emergency Telephone Number: (419) 346-8728

SAFETY DATA SHEET

SECTION I: MATERIAL IDENTIFICATION

Product Name:	FibreTuff I Natural	Product Description: Cellulosic Fiber composite
Product Use:	3D printable / extrusion	Chemical Family: Cellulose fiber filled Polyamide and Polypropylene composition
Synonyms:	Plastic	Chemical Formula: Mixture

SECTION II: HAZARD(S) IDENTIFICATION

Classification: Solid

Signal word: Warning this compound contains ingredients with unknown toxicity. Please note this is a total percentage of the mixture and not tied to the individual ingredients

SECTION III: COMPOSITION / INFORMATION ON INGREDIENTS

The breakdown of components listed below is for informational purposes only. The pelletized product is composed of a dispersion of the non-polymer components encapsulated in polypropylene with polyamide.

	Chemical Name/Description	CAS #	Concentration (%)	OSHA	
1.	Polypropylene		15-20	Not regulated	
2	Cellulosic Fiber		10-15	Total dust: 15 mg/ m3 (particulate NOC)	
3.	Modified Polyamide	Proprietary	75-80	Not Determined	

SECTION IV: FIRST AID MEASURES

Emergency and First Aid Procedures: Some individuals with specific sensitivities may exhibit eye, nose, throat, or dermal irritation if overexposed to processing fumes. Eye irritation: Flush eyes thoroughly with clean, low-pressure water. If a loose pellet should get into eyes, treat as one would a foreign contaminant and seek medical attention. In case of ingestion, give lots of water and seek medical attention, product in marketed form has minimal toxicity. Skin irritation: wash affected areas with soap and water. Respiratory Irritation: Leave the exposure area and obtain fresh air. Provide appropriate protection before allowing re-entry. A physician should be contacted if irritation persists. Molten resin can cause severe thermal burns, cool quickly with water and seek immediate expert medical attention. Do not peel off solidified material.

SECTION V: FIRE FIGHTING MEASURES

Special Fire and Explosion Hazards: No unusual hazards, however, dust generated during handling and storage can form explosive mixtures with air. Combustion products may be hazardous.

Special Fire fighting Procedures: Polypropylene is a slow burning plastic that generates a thick black smoke. Firefighters must wear self contained breathing apparatus. Garments for protection against thermal burns are recommended. Eye protection is strongly recommended.

Extinguishing Media: CO₂, Dry Chemical Fog, Water Spray

SECTION VI: ACCIDENTAL RELEASE MEASURES

Steps to Be Taken in Case Material Is Released Or Spilled: Use appropriate personal protection equipment. If released or spilled, sweep and place in labeled container. Loose pellets may present a slipping hazard, clean immediately. If spilled in water, advise proper authorities and prevent entry into sewer if possible. If public is likely to be affected, notify proper authorities.

Waste Disposal Method: Reprocessing, recycling, incineration, or landfill in accordance with Local, State, and Federal regulations.

EPA Hazard Substance	Catego	ry()X	()A	()B ()	C ()D	(X) N/A
(40 CFR 116-117)	()1	() 2	()3	()4	()5	(X) 6

SECTION VII: HANDLING AND STORAGE

Use appropriate personal protection equipment. Store in cool dry place, avoid excessive exposure to fumes released during processing. Avoid processing temperatures exceeding 230°C. Material can accumulate static charges that can cause incendiary electrical discharge. Keep away from sources of ignition and heat. The interior of molten polymer masses may remain hot for some time because of low thermal conductivity, use caution in handling.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

Route of Entry: Skin contact, eye contact, and inhalation

Effects of Acute Exposure: This material has the potential to cause irritation to the mucus membranes of the eyes, nose, mouth, and lungs during certain uses or processes. Molten polymer may cause severe burns.

Effects of overexposure: Prolonged or repeated exposure to vapors or smoke resulting from thermal processing may result in irritation of the upper respiratory tract. Respiratory reactions were observed in laboratory rats exposed to general purpose polypropylene resin at 700F

Effect on Eyes:	() No effect () Transie	ent (X) Possible Irrita	tion () Severe Irritation () Corrosive	
Effect on Skin:	() No effect () Defatting	(X) Possible Irritation	() Severe Irritation () Corrosive	
In vitro tests (Ame	() Potential sensitizer es Test, etc) Test: N/A	() Known sensitizer Result: N/A	() Absorption through skin	
	Test: N/A	Result: N/A		
Chronic Effects:	N/A			

Respiratory Protection: Respiratory protection approved by NIOSH/MSHA for protection against organic fumes and excessive airborne contaminants.

Appropriate respirator depends on type and magnitude of exposure.

Ventilation: (X) Local Exhaust: Required above hot plastic processing areas

(X) Mechanical (general): Preferred to control general fumes

Protective Gloves: () No (X) Yes Specify: Gloves resistant to thermal burns.

Other Protective Equipment: Safety glasses recommended, emergency eye wash stations should be available in the work areas. Garments for protection against thermal burns to prevent contact with molten polymer must be worn.

Other Precautions: Wash contaminated clothing before reuse. Wash hands with soap and water prior to food consumption. Respiratory protection for precaution against dust generated during regrinding must be worn.

Section IX: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Appearance and Odor: Natural color with no odor at recommended processing temperatures of 230C to 260C Specific Gravity, (H₂0 = 1): 1.06 to 1.09 g/cc Melting Point: 165°C (322°F) Boiling Point: Not Applicable Vapor Pressure at 23°C: Negligible Percent Volatile by Volume: Negligible Vapor Density, (air = 1): Not Applicable Evaporation Rate at 23°C: Not Applicable Odor Threshold: Not Available Solubility in Water at 23°C: Insoluble Coefficient of Oil / Water Distribution: Not Available pH: Not Applicable Flash Point (method used): N/A (X)TCC ()TOC()COC()PMCC()Seta Flammable Limits: LEL: N/A UEL: N/A Ignition Temperature: N/A Decomposition Temperature: 265 C to 280C Ignition Temperatures: 350C to 360C Viscosity: N/A

SECTION X: STABILITY AND REACTIVITY

Stability: (X) Stable () Unstable Conditions to Avoid: None Determined
Incompatibility (Materials to Avoid): Potassium Permanganate, Liquid Chlorine and other strong oxidizers.
Hazardous Decomposition Products: CO, CO₂, and Organic Oxidation Products
Hazardous Polymerization: (X) No () Yes
Conditions to Avoid: Do not leave material in extruder for extended period without operating at recommended processing temperatures. Offensive odors could be realized. Material can start to decompose at 265C

SECTION XI TOXICOLOGY INFORMATION

Toxicological and health effects data are not available. Ingredients used are not listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA

SECTION XII: ECOLOGICAL INFORMATION

SECTION XIII: DISPOSAL INFORMATION

SECTION XIII: TRANSPORTATION INFORMATION

DOT labeling information Proper Shipping Name: FibreTuff Hazard Classification: N/A Labels(s) required: N/A UN or NA Identification Number: N/A RECRA Information () Hazardous Water Number(s): N/A Hazard Code(s): N/A

SECTION XV: REGULATORY INFORMATION

The components of this product are either on the TSCA Inventory or exempt. All components in this product are listed on the Canadian Domestic Source List, DSL.

SECTION XIV: OTHER INFORMATION

The data in this Material Safety Data Sheet applies only to the specific material designated herein and does not relate to use in combination with any other material or process.

Information on this form is furnished solely for the purpose of compliance with OSHA's Hazardous Communication Standard, 29 CFR 1910.1200, and the Canadian Environmental Protection Act, 1999, and shall not be used for any other purpose. Material Safety Data Sheet (Similar to OSHA form 174) Date: June 11, 2019