

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Name: 60A TPU MakeShaper Black Filament
Use: Used for 3D Printing and Modeling
Company Identification: MakeShaper Inc.
 P.O. BOX 192
 Sanford North Carolina 27331

Emergency Telephone Number: 1-919-770-7984 or 1-919-770-6019
General Information Telephone Number: 1-919-776-6925
Email Address:
Revision Date: 3/6/2017

SECTION 2 HAZARDS IDENTIFICATION
Classification of the Substance or Mixture:

The product is not classified as hazardous according to the Globally Harmonized System (GHS).

Classification According to Regulation (EC) NO. 1272/2008:

The product is not classified according to the CLP regulation.

Classification System:

The product does not have to be labelled due to the calculation procedure of the "General Classification guidelines for preparations of the EU" in the latest version.

Label Elements

GHS Label Elements: Void
Hazard Pictograms: Void
Signal Word: Void
Hazard Statements: Void

Potential Health Effects

Skin Contact: No known acute effects of this product resulting from skin contact at room temperature. No unusual dermatitis hazard from routine handling
Eye Contact: Dust may cause mechanical irritation to eye.
Heated Polymer: Eye contact can cause serious thermal burns.
 Vapors formed when polymer is heated may be irritating to the eye.
Inhalation: Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Low hazard for usual industrial or commercial handling.
Ingestion: No harmful effects have been reported upon ingestion. Ingestion is not an applicable route of entry for intended use.

Primary Routes of Exposure

For Hot Material: Skin contact. Eye contact. Inhalation.

Test Organs: Not applicable

Carcinogenicity: Not listed by NTP, IARC, ACGIH, or OSHA as a carcinogen.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Component / Substance	CAS No.	Concentration [%]
Thermoplastic Urethane	Proprietary	<75
Propanol, oxybis-,dibenzoate	27138-31-4	>=25 - <50
Colorant	Proprietary	<=2

SECTION 4 FIRST AID MEASURES
First Aid Procedures

Inhalation: Remove individual to fresh air and keep calm. In the event of symptoms, consult a physician and show this data sheet.
Eye Contact: Flush eye(s) for 15 minutes or more; if irritation persists, consult a physician (preferably an eye specialist) and show SDS
Skin Contact: Wash with soap and water.
 After contact with molten product, cool rapidly with cold water. Do not pull solidified product away from skin. Consult a physician immediately.
Ingestion: Rinse out mouth and then drink plenty of water. Do not induce vomiting. If symptoms persist consult doctor.
General Advice: Remove contaminated clothing.

SECTION 5 FIRE FIGHTING MEASURES

Hazardous Decomposition Products:	None with proper storage and handling.
Extinguishing Media:	Water spray, Foam, Dry chemical powder
Extinguishing Media Which Must Not be Used for Safety Reasons:	Carbon dioxide Lack of cooling capacity may permit re-ignition.
Special Protective Equipment for Fire-Fighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.
Further Information:	In case of fire and/or explosion don not breathe fumes

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill / Leak Procedures	
Small Spills:	Use personal protective equipment. If molten, allow material to cool and place into an appropriate marked container for disposal. Sweep up and shovel into suitable containers for disposal. No Special Environmental precautions necessary.

SECTION 7 HANDLING AND STORAGE

Handling:	Handling/Storage Precautions Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Avoid breathing dust. Containers should be kept tightly closed to prevent contamination.
Storage Requirements:	Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4301 (V2) Further information on storage conditions: Avoid extreme heat. Avoid deposition of dust. Protect from heat Conditions for safe storage, including any incompatibilities Segregate from foods and animal feeds. Storage stability: Protect against moisture.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Personal Protective Equipment (PPE)**

Hygiene Measures:	No smoking, eating or drinking allowed when using this product. Wash hands before breaks and at end of work shifts.
Hand Protection:	Wear gloves to prevent contact during mechanical processing and/or hot melt conditions.
Respiratory Protection:	Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed.
Eye Protection:	Wear splash goggles to protect from hot molten substance/product.
Protective Clothing:	Impermeable protective clothing is recommended
Engineering Controls:	Provide local exhaust ventilation to control dust.
Additional Protective Measures:	Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES
Physical State

Form:	Solid	Water Solubility:	Insoluble
Color:	Black	Boiling Point:	N/A
Odor:	Faint Odor	Melting Point:	> 150 °C - 130 °C
Vapor Pressure:	N/A	pH:	N/A
Flash Point:	>300 °C	Freezing/Melting Pt:	220 °C (482 °F)
Specific Gravity:	1.14 - 1.16 g/cm ³ (20°C)	Viscosity, dynamic	N/A
Auto-ignition Temp:	N/A		

SECTION 10 CHEMICAL STABILITY AND REACTIVITY INFORMATION

Reactivity: Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Not an oxidizer.

Chemical Stability: The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is chemically stable.
No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
No conditions known that should be avoided.

Incompatible materials
No substances known that should be avoided.
No substances known that should be avoided.

Hazardous Decomposition: carbon monoxide, carbon dioxide, hydrogen cyanide

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.
> 230 °C
Thermal decomposition above the indicated temperature is possible.
Prolonged thermal loading can result in products of degradation being given off.

SECTION 11 TOXICOLOGICAL INFORMATION
Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Inhalation of particulates may cause respiratory tract irritation. Ingestion may cause gastrointestinal disturbances. Contact with molten product may cause thermal burns. The resin in pelleted form poses a low hazard.

Oral
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg

Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion
Assessment of irritating effects: Not irritating to the eyes. Not irritating to the skin.

Sensitization
Assessment of sensitization: The chemical structure does not suggest a sensitizing effect.

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No known chronic effects.
Repeated exposure to the substance by dermal administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by inhalative administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure.

Genetic toxicity
Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity
Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect.

Teratogenicity
Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect.

Other Information
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., No significant reaction of the human body to the product known.

Medical conditions aggravated by overexposure
Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product.

SECTION 12 ECOLOGICAL INFORMATION**Toxicity**

No data available for this product.
The components in this product are either non-hazardous or do not have any ecotoxicity data associated with them.

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

Toxicity to fish
No data available.

Aquatic invertebrates
No data available.

Aquatic plants
No data available.

Aquatic toxicity
Information on: Propanol, oxybis-, dibenzoate

Persistence and degradability

Assessment biodegradation and elimination (H₂O)
Poorly biodegradable.

Elimination information

Poorly biodegradable.

Mobility in soil

Assessment transport between environmental compartments
Due to the product characteristics the test is impossible.

Additional information
Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

Other ecotoxicological advice:
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

SECTION 13 DISPOSAL CONSIDERATIONS

General Information:

Dispose of spilled or waste product in accordance with all local, state, and federal regulations.

Disposal Methods:

In accordance with local authority regulations, take to special waste incineration plant

SECTION 14 TRANSPORTATION INFORMATION

Sea Transport

IMDG:
Not Regulated

Air Transport

ICAO/IATA:
Not Regulated

DOT (Department of Transportation)

CFR Road:
Not Regulated
CFR Rail:
Not Regulated

CANADA Transport of Dangerous Goods

TDG Road:
Not Regulated
TDG Rail:
Not Regulated

SECTION 15 REGULATORY INFORMATION

United States

SARA Section 311/312:	Not Hazardous
EPCRA 311/312:	Not Hazardous
NFPA Sections:	Health: 1 Fire: 0 Reactivity: 0
Notification Status:	TSCA Notification : Yes
California Proposition 65 Statement:	Notification : No This product does not contain any substance(s) which are defined by the state of California to cause cancer, birth defects, or other reproductive effects.

SECTION 16 OTHER INFORMATION

Labeling According to EU Directive Regulation (EC) NO. 1272/2008:

R&S Phrases:	Not Required	
Hazard Symbol:	Not Required	
Issue Date:	3/6/2017	
NFPA Ratings:	Health:	1
	Flammability:	0
	Reactivity:	0

THE INFORMATION IN THIS SDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.