

# MakerGear LLC Safety Data Sheet

**Product name:**

ABS 3D Printer Filament

**Product code:**

ABS 3D Printer Filament

**Revision:** 2**Number:****Revision date:**

8-21-2020

**Print date:**

8-21-2020

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## SAFETY DATA SHEET

In accordance with 29 CFR 1910.1200:2012, ANSI Z400.1-2010, and ISO 11014-1: 2009.

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product name:** ABS 3D Printer Filament**Product code:** ABS 3D Printer Filament (Natural, White, Black, Red, Blue)**Product Use:** A biopolymer used for additive manufacturing.**Supplier:**MakerGear LLC  
23632 Mercantile Road  
Suite L  
Beachwood, Ohio 44122  
[support@makergear.com](mailto:support@makergear.com)  
216-765-0030**Emergency telephone numbers (During normal opening times):** 216-765-0030

### 2. HAZARDS IDENTIFICATION

**Classification:**

This product is NOT classified according to 29 CFR 1910.1200 Hazard Communication Standard 2012

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Appearance** Monofilament**Physical state** Solid**Odor** No data available**Hazard Statement:** None**Precautionary Statement:** None**Signal word:** None**Pictogram:** None**Potential health effects:** See Section 11 for more information**Environmental precautions:** See Section 12 for more information.**Other Hazards:** Danger of burns in contact with hot polymer

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**Impurities Contributing to Hazard** None

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Composition of the substance/ preparation

CAS	Name	content
9003-56-9	Acrylonitrile-Butadiene-Styrene copolymer	>98 %
-	Additives	≤2 %

Impurities Contributing to Hazard None

### 3.2 Additional information: Reach Info:

	Pre-registration No.	Registration No.
Acrylonitrile	05-2117149456-38-0000	01-2119474195-34-0045
Styrene	05-2117149462-45-0000	01-2119457861-32-0006 01-2119457861-32-0007 01-2119457861-32-0057 01-2119457861-32-0065 01-2119457861-32-0081
Buta-1,3-diene	05-2117149467-35-0000	01-2119471988-16-0044

### 3.3 For full text of R- and H-phrases: see section 16

**Mixture**

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

Some of the chemicals have dust hazards. These hazards are not germane, as the chemicals are encapsulated in a fully reacted polymer

## 4. FIRST AID MEASURES

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

**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. Call a physician immediately.

**Inhalation:** Move to fresh air. Call a physician immediately.

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**Ingestion:** 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.

**Notes to physician:** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Foam, Water, Carbon dioxide (CO<sub>2</sub>), 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

**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.

**Under fire conditions:** 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.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid contact with skin and eyes. Avoid dust formation. Remove all sources of ignition. Sweep up to prevent slipping hazard.

**Environmental precautions:** Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

**Methods for cleaning up:** Clean up promptly by scoop or vacuum. Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

**Safe handling advice:** Use personal protective equipment. Avoid contact with skin and eyes. Low hazard for usual industrial or commercial handling. Workers should be protected from the possibility of contact with molten material during fabrication. Avoid dust formation. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form.

**Storage:** Store at temperatures not exceeding 50°C/ 122°F. Keep cool. No special restrictions on storage with other products.

**Precautions:** No special precautions required.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters****Exposure Limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Appropriate engineering controls****Engineering controls**

If dust is generated during further processing provide exhaust ventilation.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Goggles. Safety glasses with side-shields.

**Skin and body protection**

Impervious clothing.

**Respiratory protection**

Minimize dust generation and accumulation. Wear respiratory protection.

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

**Hand protection:** Preventive skin protection.

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

**Special hazard:** Workers should be protected from the possibility of contact with molten material during fabrication.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

Appearance	Physical state: solid, monofilament
Odour	Odourless or negligible
Colour	Natural or off-white
Odour threshold	None
pH	Not applicable
Melting point / freezing point	not determined
Initial boiling point and boiling range	Not applicable
Flash point	404 °C
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available
Upper/lower flammability or explosive limits	45 g/m <sup>3</sup> (open cup, powder)
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density (H <sub>2</sub> O=1)	1.03 - 1.10 g/cm <sup>3</sup>
Bulk density	Not available
Solubility(ies)	Not soluble

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Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	466 °C
Decomposition temperature	> 300 °C
Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	Not oxidizing

**9.2 Other safety information: -**

## 10. STABILITY AND REACTIVITY

**Reactivity:** None expected under conditions of normal use.**Chemical stability:** Stable under recommended storage conditions.**Conditions to avoid:** Avoid keeping resin molten for excessive periods of time at elevated temperatures. Prolonged exposure will cause polymer degradation**Materials to avoid:** not applicable**Hazardous decomposition products:** Burning produces obnoxious and toxic fumes**Possibility of hazardous reactions:** None expected under conditions of normal use

## 11. TOXICOLOGICAL INFORMATION

Toxicological effects:

- Acute toxicity (oral): Lack of data.
- Acute toxicity (dermal): Lack of data.
- Acute toxicity (inhalative): Lack of data.
- Skin corrosion/irritation: Lack of data. May cause irritations.
- Eye damage/irritation: Lack of data. May cause irritations.
- Sensitisation to the respiratory tract: Lack of data. Not to be expected
- Skin sensitisation: Lack of data. Not to be expected
- Germ cell mutagenicity/Genotoxicity: Lack of data. Not to be expected
- Carcinogenicity: Lack of data. Not to be expected - Reproductive toxicity: Lack of data. Not to be expected - Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): Lack of data.
- Dusts: Irritating to eyes, respiratory system and skin.
- Specific target organ toxicity (repeated exposure): Lack of data.

Other information Styrene:

- Harmful if inhaled. Causes damage to organs through prolonged or repeated exposure.
- lung damages
- May be fatal if swallowed and enters airways.
- Causes serious eye irritation. Causes skin irritation.

Acrylonitrile:

- Toxic by inhalation, in contact with skin and if swallowed.

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- May cause cancer. Suspected of damaging the unborn child.
- Causes skin irritation. May cause an allergic skin reaction. Causes serious eye - damage.

**1,3-Butadiene:**

- May cause cancer. May cause genetic defects.

**Symptoms**

- Dust: Can cause skin, eye and respiratory tract irritation.
- The melted product can cause severe burns.
- Thermal treatment, Processing:
- Irritating to eyes, respiratory system and skin.
- In case of ingestion: Swallowing may cause gastrointestinal irritation and pain of guts.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects:** No data available**Persistence and degradability:** No data available**Bioaccumulation:** No data available**Mobility:** No data available

## 13. DISPOSAL CONSIDERATIONS

**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.**Contaminated packaging:** Empty remaining contents. Do not re-use empty containers. Empty containers should be transported/delivered using a registered waste carrier to local recyclers for disposal.

## 14. TRANSPORT INFORMATION

**U.S. Department of Transportation (DOT): Proper shipping****name:** None **Hazard class:** Not regulated.**Packing group:** None**Hazardous substances (RQ):** None**IMDG:****Proper shipping name:** None**Hazard class:** Not regulated.**UN/Id No.:** None**Packing group:** None**ICAO/IATA:****Proper shipping name:** None**Hazard Class:** Not regulated.**UN-No.:** None**Packing group:** None

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## 15. REGULATORY INFORMATION

### U.S. REGULATIONS

Sara 313 title III: Not Listed

TSCA Inventory List: Listed

### STATE REGULATIONS

California Proposition 65:

**WARNING: This product can expose you to styrene, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).**

### INTERNATIONAL INVENTORIES

Canada DSL Inventory List : Listed

REACH/EU EINECS List : Components are in compliance with and/or are listed.

Japan (ECL) : Listed

Australia (AICS): Listed

Korean chemical inventory: Listed

China inventory of existing chemical substances list : Listed

## 16. OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

<u>NFPA</u>	Health hazards 0	Flammability 0	Instability 0	Physical and chemical properties -
<u>HMIS</u>	Health hazards 0	Flammability 0	Physical hazards 0	Personal protection X

Revision Date 9-20-2018

Revision Note No information available.

### Disclaimer

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**NOTICE REGARDING APPLICATION RESTRICTIONS:**

The company does not recommend any of its products, including samples, for use: (A) in any application which is intended for any internal contact with human body fluids or body tissues (B) as a critical component in any medical device that supports or sustains human life; and (C) specifically pregnant women or in any applications designed specifically to promote or interfere with human reproduction. Components of products intended for human or animal consumption.

**End of Safety Data Sheet**