

Material Safety Data Sheet

In accordance with 29 CFR 1910.1200, ANSI Z400.1-2004, and ISO 11014-1: 1994.

1. IDENTIFICATION

Product name: ABS 3D Printer Filament

Product Use: For use in 3D printing machines

Supplier: Toner Plastics Inc., 35 Industrial Drive, East Longmeadow, MA 01028

Emergency telephone numbers (24 hours a day): (413) 525-2369

2. HAZARDS IDENTIFICATION

Most Important Hazards: None

Adverse Human Health Effects: None

Environmental Effects: None

Physical and Chemical: None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance or Preparation: Substance

Chemical Name: Acrylonitrile-Butadiene-Styrene Copolymer

Content:

- CAS No. 9003-56-9: > 98% Styrene-acrylonitrile-butadiene copolymer
- CAS No. 100-42-5: < 0.1% Styrene

Additional information: Does not contain dangerous substances above limits that need to be mentioned in this section according to applicable legislation.

4. FIRST AID MEASURES

Inhalation: In case of gases evolving from melted filament, move subject to fresh air. Treat symptomatically.

Skin Contact: Wash with water. In case of melted filament, wash affected skin area and clothing with plenty of (soap and) water. Seek medical advice.

Eye Contact: In case of small particles, flush with plenty of water for at least 15 minutes. Seek medical advice if any small particles still remain. In case of gases evolving from melted filament of high temperature, flush with plenty of water for at least 15 minutes. Seek medical advice if necessary.

Ingestion: Induce vomiting. Rinse mouth with water. Seek medical advice if necessary.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Water, Foam, Dry chemical powder

Special Fire-Fighting Procedure: Self-contained breathing apparatus

Fire and Explosion Hazards: None

6. ACCIDENTAL RELEASE MEASURES

Methods for Cleaning up: Recovery if not contaminated or disposal

Personal Precautions: Strands/string remaining on ground may cause slipping; provide adequate ventilation.

Environmental Precautions: Gather small particles thoroughly to avoid birds or fish taking from draining water.

7. HANDLING AND STORAGE

Handling: Prevent fire around handling area. Maintain good housekeeping standards to prevent accumulation of dust.

Storage: Keep the materials in a cool dry place. Protect from direct sunlight, rain and violent temperature fluctuation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
100-42-5	Styrene	OSHA: Ceiling USA: ACGIH: STEL USA: ACGIH: TWA USA: NIOSH: STEL USA: NIOSH: TWA USA: OSHA: TWA	200 ppm 170 mg/m ³ , 40 ppm 85 mg/m ³ , 20 ppm 425 mg/m ³ , 100 ppm 215 mg/m ³ , 50 ppm 100 ppm

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
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100-42-5	Styrene	USA: ACGIH-BEI, blood	0.2 mg/L	Styrene in venous blood	End of exposure or end of shift
		USA: ACGIH-BEI, urine	400 mg/g creatinine	Mandelic acid + phenylglyoxylic acid	End of exposure or end of shift

Ventilation: Necessary for fumes and gases when melting.

Personal Protection Eyes: Wear safety glasses or chemical goggles for general purpose.

Respiratory: Wear appropriate respiratory masks as needed.

Gloves: Necessary for handling melted material.

Note: It is the responsibility of the user to determine the adequacy of any protection or safety measures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: String/strand/coil of plastic

Odor: Weak, characteristic

Color: Varies

Melting point: >212°F

Flammability: Not highly flammable

Flash point: >752°F

Auto-ignition Temperature: N/A

Water solubility: Not soluble

Specific Gravity: at 68°F approx. 1.04 g/cm³

10. STABILITY AND REACTIVITY

Reactivity: N/A

Stability: Stable under recommended storage conditions.

Explosive properties: In case of fine dust formation, danger of dust explosion.

Thermal Decomposition: Approximately 572°F, to avoid thermal decomposition do not overheat.

Conditions to avoid: Protect from excessive heat. Keep away from sources of ignition and heat. Avoid dust formation.

11. TOXICOLOGICAL INFORMATION

Acute toxicity (oral): Lack of data. No evidence of acute toxicity.

Acute toxicity (dermal): Lack of data. No evidence of acute toxicity.

Acute toxicity (inhalation): Lack of data. No evidence of acute toxicity.

Skin corrosion/irritation: Lack of data.

Dust: Can cause skin, eye and respiratory tract irritation.

Processing, thermal hazards: Vapors: Can cause skin, eye and respiratory tract irritation.

Eye damage/irritation: Lack of data.

Dust: Can cause skin, eye and respiratory tract irritation.

Processing, thermal hazards: Vapors: Can cause skin, eye and respiratory tract irritation.

Sensitization to the respiratory tract: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.

Skin sensitization: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.

Carcinogenicity: Based on available data, the classification criteria are not met. No indications of human carcinogenicity exist.

Reproductive toxicity: Based on available data, the classification criteria are not met. The chemical structure of the polymer does not suggest a specific alert for such an effect.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Dust: Can cause skin, eye and respiratory tract irritation.

Processing, thermal hazards: Vapors: Can cause skin, eye and respiratory tract irritation.

Specific target organ toxicity (repeated exposure): Lack of data. Chronic toxic effects are not expected. The product has not been tested. The statement is derived from products of similar structure or composition.

Aspiration hazard: Lack of data.

Other information: When handled appropriately, even after long years of experience with this product, no adverse health effects are known.

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

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

Aquatic toxicity: No evidence of aquatic toxicity.

Effects in sewage plants: In sewage treatment plants it may be separated mechanically.

Mobility in soil

No data available

Persistence and degradability

Biodegradation: Product is not readily biodegradable, the product is likely to persist in the environment.

Additional ecological information

General information: Do not allow to enter into ground-water, surface water or drains.

13. DISPOSAL CONSIDERATIONS

Controlled incineration or landfill according to local, state or national laws and regulations concerning health and pollution. Inadequate incineration may generate toxic gases such as CO, HCN, AN and SM.

14. TRANSPORT INFORMATION

Not classified as a dangerous good under transport regulations.

15. REGULATORY INFORMATION

Not available

16. OTHER INFORMATION

Product name: ABS 3D Printer Filament

Reason for revision: Created
Revision date: 10/6/2015
Recommended restrictions: None
Prepared by: Toner Plastics, Inc.

The information herein is given in Good faith, but no warranty, express or implied, is made. Consult the company for further information.

NOTICE REGARDING MEDICAL 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.