

Issuing Date 18-Jun-2019

Revision Date 18-Jun-2019

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product identifier****Product Name** PETG**Other means of identification****Product Code(s)** SDS-PETG EN A NAT**Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** 3D Printing**Uses advised against** Do not use in printers where temperatures exceed 230°C**Details of the supplier of the safety data sheet****Manufacturer Address**MakerBot Industries LLC
One MetroTech Center, 21st Floor
Brooklyn, NY 11201
USA
1 347 334 6800**Emergency telephone number****Company Phone Number** 1 347 334 6800**Emergency Telephone**

- +44 1865 407333 - Global – English Language response
- +44 1235 239670 - Europe - Multi lingual response
- +1 215 207 0061 - USA – Multi-lingual response
- +65 3158 1074 - Asia Pacific - Multi lingual response
- +61 2 8014 4558 - Australia - English Language response
- +86 512 8090 3042 - China - Chinese response
- +64 0800 446 881 - New Zealand - English Language response

E-mail address RegulatoryCompliance@MakerBot.com**2. HAZARDS IDENTIFICATION****Classification**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

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

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. If small particles are generated during further processing, handling, or by other means, combustible dust concentrations in air may form. See section 7 for more information. See section 8 for more information.

Unknown acute toxicity 100 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	CAS No.	Weight-%	Proprietary
1,4 Benzenedicarboxylic acid, polymer with 1,4-cyclohexanedimethanol and 1,2-ethanediol	25038-91-9	80- 100	*

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

4. FIRST AID MEASURES

Description of first aid measures

Inhalation	No hazards which require special first aid measures. Move to fresh air in case of accidental inhalation of vapors or decomposition products. Get medical attention.
Eye contact	No hazards which require special first aid measures. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.
Skin contact	No hazards which require special first aid measures. If skin irritation or rash occurs: Get medical advice/attention.
Ingestion	IF SWALLOWED. Rinse mouth thoroughly with water. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed

Symptoms Molten material may cause thermal burns.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Explosion data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Handle in accordance with good industrial hygiene and safety practice.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Handle in accordance with good industrial hygiene and safety practice.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Note: No hazards are expected under normal use. Avoid generation of dust particles.

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or

level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection When handling hot material, use heat resistant gloves.

Respiratory protection Minimize dust generation and accumulation. Wear respiratory protection.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid
Appearance Monofilament
Odor No data available
Color Characteristic
Odor threshold No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Insoluble in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	454 °C / 849 °F	
Decomposition temperature	>250	
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point No information available
Molecular weight No information available
VOC Content (%) No information available

Liquid Density No information available
Bulk density No information available

10. STABILITY AND REACTIVITY

Reactivity Stable under recommended storage conditions.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Temperatures above 230°C / 446°F.

Incompatible materials Oxidizing agent. Strong bases.

Hazardous decomposition products Burning produces obnoxious and toxic fumes. Aldehydes. Carbon monoxide. Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause irritation of respiratory tract. Vapors may be irritating to eyes, nose, throat, and lungs.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Information on toxicological effects

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

Unknown acute toxicity 100 % of the mixture consists of ingredient(s) of unknown toxicity

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity	The product contains no substances known to be hazardous to health in concentrations which need to be taken into account.
STOT - single exposure	None known.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	The environmental impact of this product has not been fully investigated
Persistence and degradability	No information available.
Bioaccumulation	Not likely to bioaccumulate.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Not applicable.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO (air)</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	No information available
DSL/NDSL	Complies
EINECS/ELINCS	No information available
ENCS	Complies
IECSC	Complies
KECL	No information available
PICCS	No information available
AICS	Complies

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AICS** - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations

This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<u>NFPA</u>	Health hazards 0	Flammability 1	Instability 0	Physical and chemical properties -
<u>HMIS</u>	Health hazards 0	Flammability 1	Physical hazards 0	Personal protection X

Revision Date 18-Jun-2019

Revision Note No information available.

Disclaimer

The information provided in this Safety Data Sheet derives from a third party source. Whilst we believe that the information is correct as at the date of its publication, we do not make any representations or warranties regarding the accuracy or completeness of the information nor the quality or specification of any materials, substances or mixtures referred to herein (collectively, "Materials"). The information is being provided solely as a guideline for the safe handling, use, consumption, processing, storage, transportation, disposal and release of the Materials. The information may not be sufficient for such purposes and the user should not place any reliance on the information provided. The information may not be applicable to Materials that are combined with any materials or in any process other than as expressly stated herein. We shall not be liable for any kind of liability including, without limitation, damages, losses or expenses, arising out of or as a result of any reliance on the information contained in this Safety Data Sheet. This Safety Data Sheet remains our exclusive property and should not be reproduced, modified or distributed without our prior written consent.

End of Safety Data Sheet