

# *Advanced Engineered Filaments*

## *Technical Data Sheet*

Original release date: October 21, 2016

## *Purge Filament*

Revision date: January 18, 2017

### Description:

This purge filament, available in 1.75 mm and 2.95 mm diameter is specifically engineered to work in all 3-D Printers to clean, purge and lubricate the extruder head and nozzle. The purge filament is also designed to work with all plastic filaments including high temperature materials such as ULTEM and PEK.

## *HD Polyethylene Copolymer Purge Filament*

<i>Property</i>	<i>Nominal Value (English)</i>	<i>Nominal Value (SI)</i>	<i>Test Method</i>
Density		0.953g/cc	ASTM D4883
Melt Index		190°C / 2,160g	ASTM D1238
Tensile Strength (yield)	3,900 psi	26.9 MPa	ASTM D638
Tensile Elongation (break)	<600%	<600%	ASTM D638
Flexural Modulus (Tangent Method)	185,000 psi	1,276 MPa	ASTM D790
Notched Izod Impact Strength	1.1 ft lb./in.	58 J/m	ASTM D256
Hardness	65 Shore D	65 Shore D	ASTM 2240
Vicat Softening Point	262°F	128°C	ASTM D1525
Brittleness Temperature	< -105°F	< -76°C	ASTM D746
Deflection Temperature @66 psi	171°F	77°C	ASTM D648

These test results are based on reliable procedures. Due to variable conditions of fitness for a particular or methods of processing no guarantees or warranties are expected or implied including warranty of fitness for a particular purpose. These are not product specifications, nor manufacturing minimums. Each user of the material should make appropriate tests to determine the suitability of the material for use.

# *Advanced Engineered Filaments*

## *Safety Data Sheet*

Original release date: October 10, 2016  
Revised January 18, 2017

### *Purge Filament*

#### **Section 1 Product and Company Identification**

**Product name:** Purge Filament

**Description:** Thermoplastic

**Revision date:** January 18, 2017.

#### **Contact for Information/Manufacturer identification:**

Advanced Engineered Filaments  
2755 Lauzon Parkway  
Windsor, Ontario,  
N8T 3H5

Ph. (519) 944-9200 Ext. 1047

#### **Section 2 Hazards Identification**

##### **2.1 Emergency Overview**

**HMOIS (US only):** Health 1, Fire Hazard 1, Reactivity 0

**NFPA:** Health 0, Flammability 0, Reactivity 0

##### **2.2 OSHA Regulatory Status**

All Ingredients are encapsulated by the polymer and there not considered hazardous by the OSHA Hazards Communication Standard (29 CFR 1910.1200)

##### **2.3 Potential Health Effects**

Routes of entry for solids include eye and skin contact, ingestion and inhalation.

Refer to section 4 for First Aid Measures

##### **2.4 Potential Environmental Effects**

None Known.

#### **Section 3 Composition/Information on Ingredients**

This product does not contain chemicals that are considered Hazardous under OSHA 29 CFR 1910.1200

#### **Section 4 First Aid Measures**

**Eyes:** Flush with water. If irritation persists seek medical attention.

**Skin:** For thermal burns, immediately flush with cold water. Do not attempt to remove polymer from skin. Seek medical attention.

**Inhalation:** Leave exposed area and seek fresh air. If irritation persists seek medical attention.

**Ingestion:** Do not induce vomiting. Seek medical attention.

- Section 5 Fire Fighting Measures**  
Wear protective clothing and use self-contained breathing equipment. Extinguishing media to include water, foam, CO2 and dry chemical.
- Section 6 Accidental Release Measures**  
Spilled material may cause a slip hazard. Vacuum or sweep material and place in a disposal container.
- Section 7 Handling and Storage**  
**Handling:** See 8.3 personal Protective Equipment  
**Storage:** Keep container closed to prevent contamination.
- Section 8 Exposure Guidelines**  
**8.1** This product does not contain chemicals that are considered hazardous under OSHA 29 CFR 1910.1200  
**Special characteristics or information:** No special characteristics listed for this product.
- 8.2 Engineered Controls**  
Localized ventilation is recommended.
- 8.3 Personal Protective Equipment**  
**Eyes:** Safety Glasses  
**Hands:** Cotton gloves for handling molten plastic.  
**Skin:** Protective clothing for contact with molten plastic.  
**Respirator:** NIOSH approved respirator for dust generation from normal processing operations.  
**Hygiene:** Wash thoroughly after handling and before eating or drinking.
- Section 9 Physical and Chemical Properties**  
Physical condition: Solid Pellets  
Odor: Odorless at ambient temperature. Characteristic plastic odor during heating.  
Melting Point Temp: 374°F (190°C)  
Flash Point Temp: 400°F (340°C)  
Auto Ignition Temp: 716°F (380°C)  
Flammability (solid,gaseous) Not reasonably applicable.  
Min Limit of Explosion Not reasonably applicable.  
Max limit of Explosion Not reasonably applicable.  
Vapor pressure: Not reasonably applicable.  
Relative density: 0.5 – 1.5 g / ml.  
Bulk density: No data available.  
pH Value: Not reasonably applicable.  
VOC Content: Less than 5 parts per million.  
Off-gassing: Does not occur until temperatures in excess of 572°F (300°C) are reached. Well beyond typical processing conditions.
- Section 10 Stability and Reactivity**  
This product is stable and non-reactive. Hazardous decomposition of products can occur if overheated beyond 572°F (380C) or ignited.
- Section 11 Toxicology Information**  
Based on our experience and the information available, no adverse health effected are expected if handled as recommended with suitable precautions for designated uses.

**Section 12 Ecological Information**

Refer to Section 6.

**Section 13 Disposal Considerations**

Preferred options for disposal are (1) recycling, (2) incineration with energy recovery, (3) landfill. Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

**Section 14 Transportation Information**

This product is *not* regulated under the following regulations:

- United State Department of Transportation (DOT)
- United States Coast Guard regulations.
- International Maritime Organization (IMO) regulations.
- International Civil Aviation Organization (ICAO) regulations.
- International Air Reports Association (IATA) regulations.
- Canadian Transportation of Dangerous Goods (TDG) regulations.
- European Agreement Concerning the International Carriage of Dangerous Good by Road (ADR) regulations.
- European Agreement Concerning the International Carriage of Dangerous Good by Rail (RID) regulations.
- Australian Dangerous Goods (ADG) regulations.

**Section 15 Regulatory Information**

Reference Section 3

All components of this product are on or exempt from listing on the US TSCA inventory and on Canadian DSL inventory.

SARA Title III reporting: Not Required.

**Section 16 Other Information**

Definitions

CAS = Chemical Abstract Number

DSL = Domestic Substance List

OSHA = Occupational Safety and Health Act.

PEL = Permissible Exposure Limit

TSCA = Toxic Substance Control Act

SARA = Superfund Amendments & Reclamation Act

VOC = Volatile Organic Chemical

N/E = Not Established.

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