

FLEX 98 · Safety Data Sheet

In accordance with paragraph (d) of 29 CFR 1910.1200:2012 Regulation (EU) No. 1907/2006

Section 1. Chemical Product and Company identification

Product Name	KODAK 3D Printing Filament ABS
Importer	Smart International Inc. 2035 Sunset Lake Road Newark, Delaware 19702 USA. Email: support@smart3d.tech USA Emergency Poison Control Hot Line (24/7): 1 (800) 222-1222 or call your LOCAL POISON CONTROL CENTER

Section 2. Hazards Identification

GHS Classification	Not applicable	Precautionary statements	
GHS label elements Hazard symbols	None needed	Prevention	None needed
Signal word	None needed	Response	None needed
Hazard statement	None needed	Storage	None needed

EU Classification	
Classification of substance or mixture	REGULATION (EC) No 1272/2008 - This product is not classified as dangerous according to EC criteria.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulation.
OSHA Regulatory Status	This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Other hazards	NFPA rating: (0-4 steps) Health=1, Flammability=0, Reactivity=0

Section 3. Composition

Chemical name	Thermoplastic Polyurethane (TPU)
Chemical Family	Polymer, thermoplastic copolymer
Product Use	Monofilament for FFF 3D Printing

Chemical name	CAS n./ECL n./EINECS n.	Contents (%)
Aromatic Polyether-based Thermoplastic	75701-44-9	>98

Section 4. First-Aid Measures

Inhalation	No data available. Not expected to be harmful. Dust may cause irritation of the upper respiratory tract. Epsilon-caprolactam solid: LD50/ inhalative/ rat > 8.16 mg/kg.
Eye / Skin	There were no target organ effects noted following dermal exposure in animal studies Did not cause skin allergic reactions in skin sensitization studies using guinea pigs. Molten material may cause burns. Epsilon-caprolactam solid: LD50/ dermal/ rabbit > 2000 mg/kg.
Ingestion	There were no target organ effects noted following ingestion in animal studies. Polyamide 6: LD50/ oral/ rat > 3200 mg/kg. Epsilon-caprolactam solid: LD50/ oral/ rat > 1475-1876 mg/kg.
Notice to Physician	It is unlikely that first aid shall be needed if the product is used under ordinary conditions. Treat symptomatically according to victim's conditions and specifics of incident
Antidote	None known. Treat symptomatically and supportively.
Genotoxicity	Not mutagenic in AMES Test (rat).



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Section 5. Fire-fighting Measures

Flammability	Autoignition temperature: No data available
Suitable extinguishing media	Water, foam, regular dry chemical, carbon dioxide
Unsuitable extinguishing media	None known
Specific hazards arising from the chemical	Avoid generating dust. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Hazardous Combustion Products	CCarbon monoxide, Carbon dioxide, Nitrogen oxides (NOx), Sulphur oxides (SOx) Levels of fire hazard: Not available
Fire fighting procedures and equipment	Wear appropriate personal protective equipment (see section 9. EXPOSURE CONTROLS/PERSONAL PROTECTION). Avoid inhalation of smoke or gas when fire fighting. Use self contained breathing apparatus (SCBA) for protection against possible exposure. Isolate hazard area and deny entry. Stay upwind and keep out of low areas. Move container from fire area if it can be done without risk. Cool containers with water until well after fire is out.
Special Protective Equipment and Precautions for Firefighters	Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency procedures	Perform in accordance with section 9. EXPOSURE CONTROLS/PERSONAL PROTECTION. Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.
Methods and Materials for Containment and Cleaning Up	Where possible allow leak of molten material to solidify before disposal in an appropriate container. Dispose in accordance with all applicable regulations.
Environmental Precautions	Avoid dispersal of spilt material and runoff and contact with waterways, drains, sewers and basements or confined areas. If large spills, advise emergency services. Comply with all applicable regulations on spill and release reporting.

Section 7. Handling and Storage

Handling	Keep away from the molten plastic while printing in case of being burned.
Storage	Store at temperatures not exceeding 50°C/122°F. Keep cool. Avoid heat, flames, sparks and other sources of ignition. Keep away from incompatible materials.
Incompatible Materials	Oxidizing agents

Section 8. Exposure Controls / Personal Protection

Exposure limit under ISHL	Not applicable	EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health	
ACGIH	Not applicable		
Biological exposure limits	Not applicable		
Personal Protective Equipment		Surveillance Measures	There are no biological limit values for any of this product's components
Respiratory Protection	No respirator is required under normal conditions of use. Under conditions of frequent use or heavy exposure, Respiratory protection may be needed	Engineering Controls	A system of local and/or general exhaust ventilation system is recommended to keep exposure below the Exposure Limits. Local exhaust ventilation is considered sufficient to effectively remove emissions (dusts and fumes) of the contaminant at its source, preventing dispersion during handling or thermal processing.
Eye/face/skin Protection	None during normal use. Protect against molten solid by wearing protective gloves.		



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Section 9. Physical & Chemical Properties

Appearance	Monofilament, spool
Physical State	Solid
Odor	Odorless, plastic
pH	Not available
Melting point	Not available
Initial Boiling Point/Boiling Ranges	Not available
Evapourating Rate	Not available
Flammability (solid, gas)	Not available
Upper/Lower Flammability or explosive limits	Not available
Vapour pressure	Not available
Solubility	Insoluble
Vapour density (Air=1)	Not available
Relative density	1-1.1
Partition coefficient of n-octanol/water	Not available
Autoignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available
Molecular weight	Not available

Section 10. Stability & Reactivity

Reactivity/Stability	This product is chemical stable under recommended storage, handling, use and temperature conditions.
Possibility of Hazardous Reaction	Will not polymerize.
Conditions to Avoid	Avoid contact with heat, sparks, flame or other ignition sources
Materials to Avoid	Strong oxidizing agents such as liquid chlorine and concentrated oxygen.
Hazardous Decomposition Products	Gas/steam, oxides of carbon, oxides of nitrogen, HCN, acrylonitrile, styrene monomer.

Section 11. Toxicological Information

Information on the likely routes of exposure	
Inhalation	No data available. Not expected to be harmful. Dust may cause Irritation of the upper respiratory tract.
Ingestion	No data available. Not expected to be harmful.
Eye/Skin	No data available. Not expected to be harmful. Molten material may cause burns.
Genotoxicity	No data available. Not expected to be harmful.
Medical Conditions Aggravated by Exposure	No data available.

Section 12. Ecological Information

Ecotoxicity	No data available.
Persistence and Degradability	No data available.
Bioaccumulative Potential	No data available.

Section 13. Disposal Considerations

Disposal methods	Dispose of contents/container in accordance with applicable local, regional, national, and/or international laws and regulations. Avoid release to the environment. Incineration should be done in accordance with prevailing municipal, state, and federal laws and standards from local environmental agencies.
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Section 14. Transport Information

US DOT Information	
UN/NA number	Not regulated for transport of dangerous goods
Proper shipping name	None
Hazard class	Not applicable
Packing group	None

ICAO/IATA	
UN-No.	Not regulated for transport of dangerous goods
Proper shipping name	None
Hazard class	Not applicable
Packing group	None

IMDG:	
UN/Id No.:	Not regulated for transport of dangerous goods
Proper shipping name	None
Hazard class	Not applicable
Packing group	None



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Section 15. Regulatory Information

U.S. Federal Regulations	
OSHA (29CFR 1910.1200):	Not listed
SARA 313	Not listed
EC Classification:	Not listed.
Issue date: 2017. 10. 28	

Disclaimer:

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