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

1.1 Trade name	Acrylonitrile-co-butadiene-co-styrene (ABS)
1.2 Use of the product	3D-Printer filament
1.3 Supplier	Ultimaker (Watermolenweg 2 4191PN Geldermalsen The Netherlands)
Emergency phone number	+31 (0) 345 712 017

2. HAZARDS INDENTIFICATION ACCORDING TO 1272/2008/EC

2.1 Classification of the substance or mixture	No risk exists to the health of users if the product is handled and processed properly
2.2 Label elements	
Labelling (Regulation 1272/2008/EC)	Not applicable
2.3 Other hazards	Not known

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Composition	Not applicable
3.2 Mixture	Acrylonitrile-co-butadiene-co-styrene Polyethylene terephthalate Polycarbonate

4. FIRST AID MEASURES

4.1 Description of first aid measures	General advice: If you feel unwell, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person
Inhalation	In case of inhalation of gases released from molten filament, move person into fresh air
Skin contact	Wash with soap and water. Seek medical attention if symptoms occur. If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water and see a physician for removal of adhering material and treatment of burn. Seek medical attention
Eye contact	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Seek medical attention if symptoms persist. If molten material contacts the eye, immediately flush with plenty of water for at least 15 minutes. Seek medical attention immediately
Ingestion	Not probable. Seek medical advice in case ingestion occurs
Note to physician	Treat symptomatically
4.2 Most important symptoms and effects, both acute and delayed	Burns should be treated as thermal burns. The material will come off as healing occurs; therefore immediate removal from skin is not necessary
4.3 Indication of any immediate medical attention and special treatment needed	No data available

5. FIREFIGHTING MEASURES

Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures

5.1 Extinguishing media	Foam, carbon dioxide (CO_2), water spray, dry chemical
5.2 Special hazards arising from the substance or mixture	Unsuitable extinguishing media: full water spray
5.3 Advice for firefighters	Burning produces obnoxious and toxic fumes: aldehydes, carbon oxides (CO_x) Use self-contained breathing apparatus and full protective clothing

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	Avoid breathing gases released from molten filament. Ensure adequate ventilation, especially in confined areas
6.2 Environmental precautions	No data available
6.3 Methods and materials for containment and cleaning up	Allow to solidify molten material. Dispose like general garbage
6.4 Reference to other sections	

7. HANDLING AND STORAGE

7.1 Precautions for safe handling	Avoid contact with molten material
7.2 Conditions for safe storage, including any incompatibilities	Product should be stored in a dry and cool place at temperatures between 15 to 25 °C. Avoid direct sunlight. Minimize moisture uptake by leaving it in a sealed package together with the supplied dessicant
7.3 Specific end use(s)	Filament for 3D printing

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters	None
DNEL:	No data available
PNEC:	No data available
8.2 Exposure controls	
Eye protection	Use safety glasses for prolongated stare at printing
Skin and body protection	It is a good industrial hygiene practice to minimize skin contact. When material is heated, wear gloves to protect against thermal burns
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (when applicable) or to an acceptable level (in countries where exposure limits have not been established) an approved respirator must be worn. Respirator type: air-purifying respirator with an appropriate government approved (where applicable) air purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information
Hand protection	Follow good industrial hygiene practices
Hygiene measures	Follow good industrial hygiene practices
Engineering measures	Good general ventilation (typically 10 air changes per hour) is recommended. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls that maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Filament
Color	Various
Odor	Slight
Odor Threshold	-
Flash point	-
Ignition temperature	-
Thermal decomposition	> 280 °C
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Explosive properties	-
Flammability	-
Oxidizing properties	-
Auto-ignition temperature	-
Burning number	-
Molecular Weight	-
pH	-
Melting point/range	225 - 245 °C
Vapor pressure	-
Density	1.1 g/cm^3
Bulk density	-
Water solubility	Insoluble
Solubility in other solvents	Acetone smoothable
Viscosity, dynamic	-
Viscosity, kinematic	-
Evaporation rate	-

9.2 Other information -

10. STABILITY

Stable under recommended storage conditions

10.1 Reactivity — No data available

10.2 Chemical stability — Chemically stable

10.3 Possibility of hazardous reactions — No decomposition or hazardous reactions if stored and applied as directed

10.4 Conditions to avoid — Print temperatures above 260 °C (at standard printing speeds)

10.5 Incompatible materials — Strong oxidizing agents

10.6 Hazardous decomposition products — See 5.2

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Principle routes of exposure	Eye contact, skin contact, inhalation, ingestion
Acute toxicity	No data available
Skin corrosion/irritation	Not irritating
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No sensitization
Reproductive toxicity	No data available
Carcinogenicity	No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity	No data available
12.2 Persistence and degradability	Difficult to degrade
12.3 Bio accumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Results of PBT and vPvB assessment	No data available
12.6 Other adverse effects	No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	In accordance with local and national regulations

14. TRANSPORT INFORMATION

ADR	Not regulated
RID	Not regulated
IATA	Not regulated
IMDG	Not regulated
Special precautions for user	Not regulated

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US Regulations
- Sara 313 title III
- TSCA Inventory List

(State Regulations)
- California Proposition 65

Other Inventories
- Canada DSL Inventory List
- REACH/EU EINIECS
- Japan (ECL/MITI)
- Australia (AICS)
- Korean chemical inventory
- Philippines (PICCS) inventory
- Chinese Chemical Inventory (IECSC)

15.2 Chemical Safety Assessment	No data available

16. OTHER INFORMATION

The information provided in this Safety Data Sheet (SDS) is based on current knowledge and experience. This information is provided without warranty. This information should help to make an independent determination of the methods to ensure proper and safe use and disposal of the filament

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