

ABS ESD Filament

1 Chemical product and company information

a Article name	ABS ESD-R
b Usage	Industrial use, Professional use, Consumer use.
c Uses advised against	No additional information available
d Company information	3D4Makers BV, Waarderweg 56, 2031 BP Haarlem, The Netherlands
e Telephone number	+ 31 (0) 238200584

2 Hazards identification

Not applicable	To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.
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3 Composition/information on ingredients

a Mixture	Modified acrylonitrile butadiene styrene copolymer
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4 First aid measures

a Description of first aid measures

First-aid measures general	Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	If you feel unwell, seek medical advice. Assure fresh air breathing
First-aid measures after skin contact	Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. Gently wash with plenty of soap and water.
First-aid measures after eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after	Do not induce vomiting. Obtain emergency medical attention. Rinse mouth out with water.

b Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after eye contact	Dust from this product may cause eye irritation.

c Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5 Firefighting measures

a Extinguishing media

Suitable extinguishing media **Foam. Carbon dioxide. Water spray. Dry powder.**

b Special hazards arising from the article

Fire hazard **In case of fire and/or explosion do not breathe fumes.**
 Explosion hazard **Avoid raising powdered material due to explosion hazard.**

c Advice for firefighters

Precautionary measures fire **Minimize generation of dust which may be combustible. Evacuate area.**
 Firefighting instructions **Use water spray or fog for cooling exposed containers. Do not enter fire area without proper protective equipment, including respiratory protection. Do not use a solid water stream as it may scatter and spread fire.**
 Protection during firefighting **Use self-contained breathing apparatus and chemically protective clothing.**

6 Accidental release measures

a Personal precautions, protective equipment and emergency procedures

General measures **Remove ignition sources. Avoid contact with skin and eyes.**

b For non-emergency personnel

Protective equipment **Wear recommended personal protective equipment.**
 Emergency procedures **Evacuate unnecessary personnel. Do not get in eyes, on skin, or on clothing.**

c For emergency responders

Protective equipment **Breathing apparatus. Use personal protective equipment as required.**
 Emergency procedures **Evacuate unnecessary personnel. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.**

d Environmental precautions

Avoid release to the environment. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

e Methods and material for containment and cleaning up

For containment **Collect spillage.**
 Methods for cleaning up **Mechanically recover the product. Minimize generation of dust. Clean up immediately by sweeping or vacuum.**

f Reference to other sections

No additional information available

7 Handling and storage

a Precautions for safe handling

Additional hazards when processed	Dust may form flammable and explosive mixture with air.
Precautions for safe handling	Eliminate all ignition sources if safe to do so. Provide good ventilation in process area to prevent formation of vapour. Take precautionary measures against static discharge. Keep only in original container. Do not get in eyes, on skin, or on clothing.
Hygiene measures	Do not eat, drink or smoke when using this product.

b Conditions for safe storage, including any incompatibilities

Technical measures	Keep in a cool, well-ventilated place away from heat. Take precautionary measures against static discharge.
Storage conditions	Store in original container. Keep cool. Protect from sunlight. Store in a well-ventilated place. Store in a dry place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from ignition sources. Protect from moisture.
Storage area	Store in a well-ventilated place. Store away from heat.

c Specific end use(s)

No additional information available

8 Exposure controls/personal protection

a Control parameters

No information available

b Exposure controls

Appropriate engineering controls	Provide adequate ventilation to minimize dust concentrations.
Hand protection	Protective gloves
Eye protection	In case of dust production: protective goggles
Skin and body protection	Wear suitable protective clothing. Long sleeved protective clothing
Respiratory protection	No respiratory protection needed under normal use conditions. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended
Other information	Do not eat, drink or smoke when using this product.

9 Physical and chemical properties

a Information on basic physical and chemical properties

Physical state	Solid
Colour	Black.
Odour	Odorless.
Odour threshold	No data available.
pH	No data available.
Relative evaporation rate (butylacetate=1)	No data available.
Melting point	No data available.
Freezing point	No data available.

Boiling point	No data available.
Flash point	No data available.
Auto-ignition temperature	350 °C.
Decomposition temperature	300 °C.
Flammability (solid, gas)	No data available.
Vapour pressure	No data available.
Relative vapour density at 20 °C	No data available.
Relative density	No data available.
Density	0.99 - 1.97 g/cm ³ .
Solubility	not soluble in water.
Log Pow	No data available.
Viscosity, kinematic	No data available.
Viscosity, dynamic	No data available.
Explosive properties	No data available.
Oxidising properties	No data available.
Explosive limits	No data available.

b Other information No additional information available

10 Stability and reactivity

a Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Combustion produces toxic gases.

b Chemical stability

Stable under normal conditions.

c Possibility of hazardous reactions

Stable under normal conditions of use.

d Conditions to avoid

Avoid dust formation. No naked flames, sparks, and do not smoke. Above a temperature of 300°C

e Incompatible materials

No additional information available

f Hazardous decomposition products

Fume. Corrosive vapours. Acrolein. Hydrocyanic acid. Acetaldehyde. Styrene. Toluene. Acrylonitrile.

11 Toxicological information

No additional information available

12 Ecological information

No additional information available

13 Disposal considerations

a Waste treatment methods

Waste treatment methods

Ecology - waste materials

Dispose in a safe manner in accordance with local/national regulations. Avoid discharge to the environment. Avoid release to the environment.

14 Transport information

Not applicable.

15 Regulatory information

No additional information available.

16 Other information

No additional information available.

Disclaimer: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product