

MATERIAL SAFETY DATA SHEET (MSDS)

ABS ESD Filament (Electrostatic Discharge Safe)

1. Product Identification

Product Name: ABS ESD Filament

Material Type: Acrylonitrile Butadiene Styrene – Electrostatic Dissipative Grade

Recommended Use: 3D printing filament for industrial, electronic, and ESD-sensitive applications

Supplier Information:

Company Name: Fabbxible Technology

11A, Jalan IKS Bukit Tengah

Taman IKS Bukit Tengah

14000 Bukit Mertajam, Pulau Pinang, Malaysia

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2. Hazard Identification

Classification (According to GHS)

This product is classified as **not hazardous** in solid filament form under normal handling conditions.

Potential Hazards:

- **Inhalation:** Fumes may be generated during melting/printing. Vapors may cause irritation to respiratory tract.
- **Skin Contact:** Molten material may cause burns.
- **Eye Contact:** Dust or fumes may cause irritation.
- **Ingestion:** Not expected to be hazardous but not intended for consumption.

GHS Label Elements:

- No hazard pictogram required for solid filament.
 - Signal Word: Not applicable (solid state)
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3. Composition / Information on Ingredients

Component	CAS Number	Approximate %
Acrylonitrile Butadiene Styrene (ABS)	9003-56-9	85 – 95%
Conductive Carbon Additives (for ESD property)	Proprietary	5 – 15%

Note: Exact formulation may vary.

4. First Aid Measures**Inhalation:**

Move person to fresh air. Seek medical attention if irritation persists.

Skin Contact:

For molten material contact, cool immediately with cold water. Do not remove solidified material from skin. Seek medical attention.

Eye Contact:

Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical attention if irritation continues.

Ingestion:

Rinse mouth. Seek medical advice if discomfort occurs.

5. Fire-Fighting Measures**Suitable Extinguishing Media:**

Dry chemical, carbon dioxide (CO₂), foam, or water spray.

Hazardous Combustion Products:

Carbon monoxide (CO)

Carbon dioxide (CO₂)
Hydrogen cyanide (trace amounts)
Styrene vapors

Protective Equipment:

Firefighters should wear self-contained breathing apparatus (SCBA).

6. Accidental Release Measures

Solid filament:

- No special environmental hazard.
 - Collect and reuse or dispose of properly.
 - Avoid creating dust from grinding or cutting.
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7. Handling and Storage

Handling:

- Use in well-ventilated area during printing.
- Avoid inhalation of fumes.
- Avoid contact with molten material.

Storage:

- Store in dry, cool area.
 - Keep away from heat sources.
 - Keep in sealed packaging to prevent moisture absorption.
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8. Exposure Controls / Personal Protection

Engineering Controls:

- Ensure adequate ventilation during 3D printing.
- Local exhaust ventilation recommended for enclosed printing environments.

Personal Protective Equipment (PPE):

- Respiratory Protection: Not normally required. Use mask if fumes are excessive.
 - Hand Protection: Heat-resistant gloves when handling hot parts.
 - Eye Protection: Safety glasses recommended.
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9. Physical and Chemical Properties

Property	Value
Appearance	Solid filament
Color	Black (ESD Grade)
Odor	Slight plastic odor when heated
Density	~1.04 g/cm ³
Melting Temperature	220 – 260°C (processing range)
Flash Point	Not applicable (solid)
Solubility	Insoluble in water

10. Stability and Reactivity

Chemical Stability: Stable under normal conditions.

Conditions to Avoid:

Excessive heat (>300°C), open flame.

Incompatible Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

CO, CO₂, styrene, hydrogen cyanide (during combustion).

11. Toxicological Information

- No known chronic toxicity under normal usage.
 - Fumes from overheating may cause respiratory irritation.
 - Carbon black exposure in dust form should be minimized.
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12. Ecological Information

- Not biodegradable.
 - Not expected to be toxic to aquatic life in solid form.
 - Avoid environmental littering.
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13. Disposal Considerations

Dispose in accordance with local regulations.

Can be recycled where facilities exist.

Do not incinerate in open environment.

14. Transport Information

Not classified as dangerous goods under:

- ADR
- IMDG
- IATA

No special transport requirements.

15. Regulatory Information

- RoHS Compliant
 - REACH Compliant
 - Conforms to general ESD material standards (application dependent)
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16. Other Information

This information is based on current knowledge and intended to describe the product for health, safety, and environmental requirements only. It should not be considered as a guarantee of specific properties.