

FUSION 
FILAMENTS
MATERIAL SAFETY DATA SHEET
ABS 2.0

SECTION ONE: IDENTIFICATION

1.1. Product identifier

Product name: ABS 2.0 By Fusion Filaments

1.2. Relevant identified uses of the substance or mixture and uses advised against

Product Use:

A thermoplastic resin. For industrial conversion as a raw material for manufacture of articles or goods.

SECTION TWO: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification - REGULATION (EC) No 1272/2008

This product is not classified as dangerous according to EC criteria.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

This product is not classified as dangerous according to EC criteria.

2.2. Label elements

Labeling - REGULATION (EC) No 1272/2008

This product is not classified as dangerous according to EC criteria.

2.3. Other hazards

No information available

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SECTION THREE: COMPOSITION AND INFORMATION

3.1. Chemical Name and CAS

Chemical name: Acrylonitrile Butadiene Styrene

CAS: 9003-56-9

Weight: >= 99.0%

SECTION FOUR: FIRST AID MEASURES

4.1. Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin Contact: Wash skin with plenty of water. Seek first aid or medical attention as needed. If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage. Seek medical attention immediately. Suitable emergency safety shower facility should be immediately available.

Eye Contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: If swallowed, seek medical attention. May cause gastrointestinal blockage. Do not give laxatives. Do not induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

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SECTION FOUR: COMPOSITION AND INFORMATION CONT.

4.3. Indication of immediate medical attention and special treatment needed

If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION FIVE: FIRE FIGHTING MEASURES

5.1. Extinguishing Media

- Water fog or fine spray
- Dry chemical fire extinguishers
- Carbon dioxide fire extinguishers
- Foam

5.2. Special hazards arising from the substance or mixture

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. Combustion products may include trace amounts of: Styrene. Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

5.3. Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. If material is molten, do not apply direct water stream. Use fine water spray or foam. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

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SECTION SIX: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2. Environmental precautions:

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information

6.3. Methods and material for containment and cleaning up

Contain spilled material if possible. Sweep up. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

SECTION SEVEN: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

General Handling: No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes. Use with adequate ventilation. When appropriate, unique handling information for containers can be found on the product label. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Store in accordance with good manufacturing practices.

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SECTION EIGHT: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits:

- None established.

8.2. Exposure controls

Personal Protection

Eye/Face Protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.

Skin Protection: No precautions other than clean body-covering clothing should be needed.

Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves with insulation for thermal protection (EN 407), when needed. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. Use an approved air-purifying respirator when vapors are generated at increased temperatures or when dust or mist is present. Use the following CE approved air-purifying respirator: When dust/mist are present use a/an Particulate filter, type P2. When combinations of vapors, acids, or dusts/mists are present use a/an Organic vapor cartridge with a particulate pre-filter, type AP2.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

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SECTION NINE: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State:	Solid
Appearance:	Granules.
Color:	White
Odor:	Odorless
Odor Threshold:	No test data available
pH:	Not Applicable
Vapor Pressure:	Not Applicable
Vapor Density:	Not Applicable
Evaporation Rate:	No test data available
Density:	Not Determined
Boiling Point/Range:	Not Applicable
Specific Gravity (H₂O = 1)	1.05 - 1.07 Literature
Autoignition Temp:	No test data available
Flammability:	No
Flammability Limits in Air:	Not applicable
Solubility in water (by weight)	Negligible
Partition coefficient, n-octanol/water (log Pow)	No data available for this product
Decomposition Temp:	No test data available
Kinematic Viscosity:	Not applicable
Explosive properties:	No test data available
Oxidizing properties:	No test data available
Other Standards:	See section 8 for more information

9.2. Other information

Molecular Weight No test data available

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SECTION TEN: STABILITY AND REACTIVITY

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Polymerization will not occur.

10.4. Conditions to avoid: Avoid temperatures above 300°C. Exposure to elevated temperatures can cause product to decompose.

10.5. Incompatible materials: None known.

10.6. Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating.

SECTION ELEVEN: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Ingestion

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. May cause choking if swallowed

Single dose oral LD50 has not been determined.

Typical for this family of materials. Estimated LD50, rat > 5,000 mg/kg

Aspiration hazard

Based on physical properties, not likely to be an aspiration hazard.

Dermal

No adverse effects anticipated by skin absorption

The dermal LD50 has not been determined.

Typical for this family of materials. Estimated. LD50, rabbit > 2,000 mg/kg

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SECTION ELEVEN: TOXICOLOGICAL INFORMATION CONT.

Inhalation

No adverse effects are anticipated from single exposure to dust. Vapors released during thermal processing may cause respiratory irritation.

The LC50 has not been determined.

Eye damage/eye irritation

Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

Skin corrosion/irritation

Prolonged contact is essentially nonirritating to skin. Mechanical injury only. Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.

Sensitization

Skin

No relevant data found.

Respiratory

No relevant data found

Repeated Dose Toxicity

Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Chronic Toxicity and Carcinogenicity

No relevant data found.

Developmental Toxicity

No relevant data found.

Reproductive Toxicity

No relevant data found.

Genetic Toxicology

In vitro genetic toxicity studies were negative.

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SECTION TWELVE: ECOLOGICAL INFORMATION

12.1. Toxicity

Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

12.2. Persistence and Degradability

This water-insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

12.3. Bioaccumulative potential

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

12.4. Mobility in soil

Mobility in soil: In the terrestrial environment, material is expected to remain in the soil., In the aquatic environment, material will sink and remain in the sediment.

12.5. Results of PBT and vPvB assessment

This mixture has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6. Other adverse effects

No relevant data found.

SECTION THIRTEEN: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

For uncontaminated material the disposal options include mechanical and chemical recycling or energy recovery. In some countries landfill is also allowed. For contaminated material the options remain the same, although additional evaluation is required. For all countries the disposal methods must be in compliance with national and provincial laws and any municipal or local by-laws. All disposal methods must be in compliance with the EU framework Directives 2008/98/EC and their subsequent adaptations, as implemented in National Laws and Regulations, as well as EU Directives dealing with priority waste streams. Transboundary shipment of wastes must be in compliance with Regulation (EC) No 1013/2006 and subsequent modifications.

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SECTION FOURTEEN: TRANSPORT INFORMATION

ADR/RID

14.1. UN number

Not applicable

14.2. UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3. Transport hazard class(es)

Not applicable

14.4. Packing Group

Not applicable

14.5. Environmental hazards

Not considered environmentally hazardous based on available data

14.6. Special precautions for user

Special Provisions: no data available

Hazard identification No: no data available

ADNR / ADN

14.1. UN number

Not applicable

14.2. UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3. Transport hazard class(es)

Not applicable

14.4. Packing Group

Not applicable

14.5. Environmental hazards

Not considered environmentally hazardous based on available data

14.6. Special precautions for user

no data available

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SECTION FOURTEEN: TRANSPORT INFORMATION CONT.

IMDG

14.1. UN number

Not applicable

14.2. UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3. Transport hazard class(es)

Not applicable

14.4. Packing Group

Not applicable

14.5. Environmental hazards

Not considered environmentally hazardous based on available data

14.6. Special precautions for user

EMS Number: Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

ICAO/IATA

14.1. UN number

Not applicable

14.2. UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3. Transport hazard class(es)

Not applicable

14.4. Packing Group

Not applicable

14.5. Environmental hazards

Not considered environmentally hazardous based on available data

14.6. Special precautions for user

No data available

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SECTION FIFTEEN: REGULATORY INFORMATION

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

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

15.2 Chemical Safety Assessment

Not applicable.

SECTION SIXTEEN: OTHER INFORMATION

Hazard statement in the composition section

Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

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