

SECTION 1:

Identification of the product and of the company

1.1 Identification of the product and of the company

| | |
|----------------------|--------------------------------|
| Trade name | ABS Fusion |
| Chemical name | Acetonitrile Butadiene Styrene |
| Chemical family | Thermoplastic Copolymer |
| Use | Monofilament for 3D-printing |
| Company | Innofil3D BV |
| Street address | Eerste Bokslootweg 17 |
| Postal code and city | 7821 AT Emmen |
| Country | The Netherlands |
| Telephone number | +31 (0) 591820389 |

SECTION 2:

Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP):
This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP): Not required.

2.3 Other hazards

Under the recommended processing conditions small amounts of emitted substance (e.g. residual monomers, residual solvents, decomposition products) may be discharged. In succession of overheating during the melting process potentially substances are released, which are considered as harmful and carcinogen.

Results of PBT and vPvB assessment:

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3:**Composition / information on ingredients****3.1 Substances**

Not relevant (mixture).

3.2 Mixtures

The product does not contain any (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the substance and hence require reporting in this section.

SECTION 4:**First-aid measures****4.1 Description of first aid measures****General notes**

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered.

Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Eye contact

Remove contact lenses, if present and easy to do. Continue rinsing.

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.

Skin contact

Brush off loose particles from skin. Rinse skin with water/shower.

Inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

4.2 Symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any Immediate medical attention and special treatment needed

None.

SECTION 5:

Fire-fighting measures

5.1 Extinguishing media

1. Suitable extinguishing media

Water, Foam, Dry extinguishing powder, ABC-powder.

2. Unsuitable media

Water jet.

5.2 Special hazards arising from the substance or mixture

Deposited combustible dust has considerable explosion potential. Vapours and fumes, released at elevated processing temperatures, may be irritating for the eyes, nose, throat and respiratory system. In case of overexposure they can cause nausea and headache.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal pre cautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

SECTION 6:

Accidental release measures

6.1 Personal precautions

For non-emergency personnel

Remove persons to safety. Ventilate affected area. Control of dust.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering drains. Take up mechanically.

Advices on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7:

Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion. Spilled material creates extremely slippery conditions.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feeding stuffs.

7.2 Conditions for safe storage, including any incompatibilities**Explosive atmospheres**

Removal of dust deposits.

Flammability hazards

Keep away from sources of ignition. No smoking. Take precautionary measures against static discharge.

Incompatible substances or mixtures

Observe hints for combined storage. Keep away from alkalis, oxidising substances, acids.

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

Ventilation requirements

Use local and general ventilation.

7.3 Specific end use(s)

There is no additional information.

SECTION 8:

Exposure Controls/Personal Protection

8.1 Control parameters

No data available.

8.2 Exposure controls and Personal protective equipment

Appropriate engineering controls

Provide mechanical ventilation; in general such ventilation should be provided at compounding/converting areas and at fabricating/ filling work stations where the material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in handling the molten material. Emissions from ventilation or work process equipment should be checked to ensure they comply with the legal requirements.

Eye protection

Use safety goggle with side protection.

Skin and body protection

Protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. P2 (filters at least 94 % of airborne particles, colour code: White).

Hand protection

Chemical protection gloves are suitable, which are tested according to EN 374. Use heat resistant gloves when handling molten product.

Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ ointments) is recommended. Wash hands thoroughly after handling.

Environmental exposure controls

Keep away from drains, surface and ground water. Emissions from ventilation or work process equipment should be checked to ensure they comply with the legal requirements.

SECTION 9:

Physical and chemical properties

| | |
|--------------------------------------|---------------------------|
| Appearance | Filament |
| Color | Natural |
| Physical state | Solid at room temperature |
| Odor | Weak |
| Melting point /range | Not available |
| Boiling point /range | Not available |
| Decomposition temperature | No data available. |
| Density | Not determined |
| pH | Not applicable |
| Vapor pressure | Not applicable |
| Vapor density | Not available |
| Evaporation rate | Not applicable |
| Water solubility | Insoluble |
| Solubility in other solvents | Not available |

SECTION 10:

Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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10.4 Conditions to avoid

Avoid prolonged exposure to heat or UV light since this may influence material properties. Material will burn when exposed to continuing source of ignition. When heated above decomposition temperature toxic fumes may be released.

Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.5 Incompatible materials

Acids, Oxidizers, Alkalis.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11:

Toxicological Information

11.1 Information on toxicological effects

Test data are not available for the complex mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

Acute toxicity

Shall not be classified as acutely toxic.

Skin/corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

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Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye. Irritant.

Respiratory or skinsensitization

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant. (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Other information

Fine dust may be irritating for the skin, eyes and respiratory tract. Skin contact with molten material can cause burns.

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SECTION 12:

Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Based on previous experience, this product is non-degradable.

12.3 Bioaccumulative potential

Based on previous experience, this product is non-degradable.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential

The product contains low amount of a substance(s) with an endocrine disrupting potential.

SECTION 13:

Disposal Considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14:
Transport Information

ADR/RID/ADN

Irrelevant

ICAO/IATA

Irrelevant

IMDG

Irrelevant

SECTION 15:
Regulatory Information**NOTICE**

The information herein is presented in good faith and believed to be accurate as of the print date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. See other sections for health and safety information.

REACH; 1907/2006/EC: None of the ingredients are listed.

Directive 2000/60/EC: None of the ingredients are listed.

Regulation 98/2013/EU: None of the ingredients are listed.

SECTION 16:
Other Information

The information in this Material Safety Data Sheet (MSDS) is mainly based on information used from the supplier of the raw materials which are used for production of the filaments.

The information in this Material Safety Data Sheet (MSDS) is based on current knowledge and experience. No liability can be assumed for the accuracy and completeness of this information.

Users should consider this information only as additional to other data gathered. Independent determination of suitability and completeness of information from all available sources is essential to ensure proper and safe use and disposal of these materials.

The information in this MSDS applies for this specific material only. It therefore does not apply for its usage in combination with other materials or ways of processing.