

# MSDS - Material Safety Data Sheet

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## ZYYX proABS - MSDS

ACCORDING TO REGULATION (EC) NO. 1907/2006 AND REGULATION (EU) NO 453/2010 (REACH)

### 1. Identification of the substance/mixture and of the Company

#### 1.1. Product identifier

Trade name: ZYYX proABS

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

General use: Polymer for 3D printing applications

#### 1.3. Details of the supplier of the safety data sheet

Company name: Magicfirm Europe AB

Address: Holtermansgatan 1 B

Postal Code, city: SE-411 29 GOTHENBURG, SWEDEN

WWW: [www.zyyx3dprinter.com](http://www.zyyx3dprinter.com)

E-mail: [info@zyyx3dprinter.com](mailto:info@zyyx3dprinter.com)

Telephone: +46 (0)31 799 57 17

### 2. Hazards identification (Directive 1272/2008/EEC and GHS)

2.1 Classification: Not dangerous according to Directive 1272/2008/EEC.

2.2 Label elements: Not a hazardous substance or mixture.

2.3 Other hazards: Not known.

### 3. Composition / information on ingredients

#### 3.1. Mixture

Acrylonitrile-co-butadiene-co-styrene

Polyethylene terephthalate

Polycarbonate

**SVHC:** None of the substances, named in the Candidate list art. 59 (1,10) of the REACH regulation EC no. 1907/2006 has been used in a concentration >0,1 %.

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## 4. SECTION 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. Take off contaminated clothing and shoes immediately.

**If inhaled:** If breathed in, move person into fresh air.

**In case of skin contact:** If on skin, rinse well with water. If skin irritation persists, seek medical attention.

**In case of eye contact:** If easy to do, remove contact lens, if worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**If swallowed:** Rinse mouth with water. Induce vomiting immediately and call a physician. If a person vomits when lying on his back, place him in the recovery position.

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

Treat burns as thermal burns. The material will come off as healing occurs; 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 lead to an electrical spark. Use proper bonding and/or grounding procedures.

### 5.1. Extinguishing media

**Suitable extinguishing media:** Foam, water spray jet, dry chemical.

**Unsuitable extinguishing media:** High volume water jet.

### 5.2. Special hazards arising from the substance or mixture

**Specific hazards during firefighting:** Do not use a solid water stream as it may scatter and spread fire. Exposure to decomposition products may be a hazard to health.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

**Further information:** Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes.

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## 6. SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures:** Refer to protective measures listed in sections 7 and 8. Avoid dust formation. Avoid breathing dust. 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 molten material to solidify. Use mechanical handling equipment. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly.

**6.4 Reference to other sections:** see chapter: 7, 8, 11, 12 and 13.

## 7. SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling:** For personal protection see section 8. Avoid creating dust. Do not breathe dust. Avoid contact with molten material. Avoid contact with skin and eyes.

**Advice on protection against fire and explosion:** Normal measures for preventive fire protection.

**Dust explosion class:** No data available.

### 7.2. Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers:** Keep containers tightly closed in a dry, cool and ventilated place.

**Further information on storage conditions:** Protect from moisture.

**Advice on common storage:** Keep away from oxidising agents and strongly acid or alkaline materials. Keep away from food, drink and animal feedingstuffs.

### 7.3. Specific end use(s)

Filament for 3D printing.

## 8. SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**DNEL:** Dnel/Dmel-values are not available.

**PNEC:** PNEC-values are not available.

### 8.2. Exposure controls

Eye protection: Use safety goggles for continuous stare at printing.

Skin and body protection: Good practices suggest to minimize skin contact. When material is heated, wear gloves and possibly apron to protect against thermal burns.

Respiratory protection: In the case of dust or aerosol formation use respirator with an approved filter. Half mask with a particle filter P2 (EN 143).

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Hand protection: Rubber gloves.  
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.  
General industrial hygiene practice. Do not breathe dust. Avoid contact with skin, eyes and clothing. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday.  
Wash contaminated clothing before re-use.  
Engineering measures: Provide adequate ventilation.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance: filament wire  
Colour: various  
Odour: Neutral.  
Odour Threshold: no data available.  
Flash point: no data available.  
Ignition temperature: not applicable.  
Thermal decomposition:  $\geq 280$  °C.  
Lower explosion limit: not applicable.  
Upper explosion limit: not applicable.  
Explosive properties: no data available.  
Flammability: no data available.  
Oxidizing properties: no data available.  
Auto-ignition temperature: no data available.  
Burning number: no data available.  
Molecular Weight: no data available.  
pH: no data available.  
Melting point/range: 225 - 245 °C.  
Vapour pressure: no data available.  
Density: 1.1 g/cm<sup>3</sup>.  
Bulk density: no data available.  
Water solubility: insoluble.  
Solubility in other solvents: acetone.  
Viscosity, dynamic: no data available.  
Viscosity, kinematic: no data available.  
Evaporation rate: no data available.

### 9.2. Other information

None known.

## 10. Stability

**10.1 Reactivity:** no data available.

**10.2 Chemical stability:** The product is chemically stable.

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**10.3 Possibility of hazardous reactions:** No decomposition if stored and applied as directed.

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

**10.5 Incompatible materials:** Materials to avoid: Strong oxidizing materials.

**10.6 Hazardous decomposition products:** Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

## 11. Toxicological information

### 11.1. Information on toxicological effects

Principle routes of exposure:	Eye contact, skin contact, inhalation, ingestion
Acute toxicity:	Not applicable.
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

<b>12.1 Toxicity:</b>	Not applicable, no relevant information available.
<b>12.2 Persistence and degradability:</b>	Difficult to degrade.
<b>12.3 Bioaccumulative potential:</b>	No data available.
<b>12.4 Mobility in soil:</b>	No data available.
<b>12.5 Results of PBT and vPvB assessment:</b>	No data available.
<b>12.6 Other adverse effects:</b>	No data available.

## 13. Disposal considerations

### 13.1. Waste treatment methods

**Advice on disposal and packaging:** Disposal: In accordance with local and national regulations. Do not dispose of together with household waste. Waste codes should be assigned by the user based on the application for which the product was used.

## 14. Transport information

<b>ADR:</b>	Not dangerous goods.
<b>RID:</b>	Not dangerous goods.
<b>IATA:</b>	Not dangerous goods.
<b>IMDG:</b>	Not dangerous goods.
<b>Special precautions for user:</b>	Not applicable.

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## 15. Regulatory information

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

Directive 96/82/EC:                    Update 2003.  
    Directive 96/82/EC does not apply.  
Further information:                    Reserved for industrial and professional use.

### 15.2. Chemical Safety Assessment

no data available.

## 16. Other information

Full text of H-Statements referred to under sections 2 and 3.  
The information provided in this MSDS 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.

### Document history

Issue	Date	Done by	Change
A	2017-07-10	TB	First issue of document, based on data from material supplier.