

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **Date of issue:** 03.11.2005
- **1.1 Product identifier**
- **Trade name:** PC-ABS
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation:** Filament for Stratasys® Inc. FDM™ modeler
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer / Supplier:**  
Stratasys, Inc. Tel +1 952 937 3000  
7665 Commerce Way Fax +1 952 937 0070  
Eden Prairie, MN 55344  
USA
  
- **In Europe:**  
  
C.S.B. GmbH Tel.: +49-2151-6520860  
Parkstraße 29 Fax: +49-2151-6520869  
D-47829 Krefeld E-Mail: info@csb-online.de  
Germany
- **E-mail address of the competent person responsible for the Safety Data Sheet:** [sdb@csb-online.de](mailto:sdb@csb-online.de)
- **Informing department:** Sales / Technics
- **1.4 Emergency telephone number:** As above or next toxicological information centre


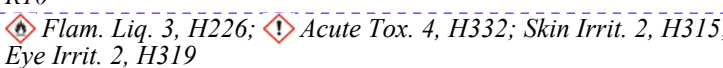
### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
The product is not classified according to the CLP regulation.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC Void**
- **Classification system:**  
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008 Void**
- **Hazard pictograms Void**
- **Signal word Void**
- **Hazard statements Void**
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Polycarbonate-Acrylonitrile/Butadiene/Styrene polymer blend

· **Dangerous components:**

CAS: 100-42-5 EINECS: 202-851-5 Index number: 601-026-00-0	Styrene  R10 	≤ 0.1%
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· **Additional information:** For the wording of the listed risk phrases refer to section 16.

#### **SECTION 4: First aid measures**

· **4.1 Description of first aid measures**

· **General information:** Remove contaminated clothing.

· **After inhalation:** Supply fresh air; consult doctor in case of symptoms.

· **After skin contact:**

After contact with the molten product, cool rapidly with cold water.

Do not pull solidified product away from the skin.

Call a doctor immediately.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Get medical advice/attention if you feel unwell.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

#### **SECTION 5: Firefighting measures**

· **5.1 Extinguishing media**

· **Suitable extinguishing agents**

Carbon dioxide (CO<sub>2</sub>), extinguishing powder or water spray/fog. Fight larger fires with water spray/fog or alcohol-resistant foam.

· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.

· **5.2 Special hazards arising from the substance or mixture**

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide (CO) and Carbon dioxide (CO<sub>2</sub>)

Irritant gases/vapours

Under certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:

Hydrogen cyanide (HCN)

Styrene

Hydrocarbons

· **5.3 Advice for firefighters**

· **Protective equipment:** Put on breathing apparatus.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

#### **SECTION 6: Accidental release measures**

· **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid causing dust.

Do not breathe dust.

Avoid contact with eyes.

· **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Collect mechanically.

Dispose of the material collected according to regulations.

· **6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.

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### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Prevent formation of dust.  
If dust/smoke is developed, avoid breathing dust/smoke.  
Avoid contact with eyes.  
Avoid contact with hot product.  
Make sure that all applicable workplace limits are observed.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**  
Observe all local and national regulations for storage of water polluting products.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed containers.  
Store container in a well ventilated position.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **8.1 Control parameters**
- **Components with critical values that require monitoring at the workplace:**  
Observe all workplace limits for dust.

#### 100-42-5 Styrene

WEL (Great Britain)	Short-term value: 1080 mg/m <sup>3</sup> , 250 ppm
	Long-term value: 430 mg/m <sup>3</sup> , 100 ppm

- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and food.  
Do not inhale dust / smoke / mist.  
Avoid contact with the eyes.  
Wash hands during breaks and at the end of the work.
- **Breathing equipment:**  
If all workplace limits are observed and good ventilation is ensured, no special precautions necessary.  
Use breathing protection in case of dust formation.  
Dust proof mask - particle filter mask
- **Protection of hands:**  
No chemical-protective gloves required.  
Use heat resistant gloves when handling hot/molten product.
- **Eye protection:** Safety glasses
- **Body protection:** Wear heat-resistant protective clothing when handling hot/molten product.

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### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

· <b>Form:</b>	<i>solid</i>
· <b>Colour:</b>	<i>black</i>
· <b>Smell:</b>	<i>nearly odourless</i>
· <b>Odour threshold:</b>	<i>no data available</i>

· **pH-value:** *not applicable*

##### · Change in condition

· <b>Melting point/Melting range:</b>	<i>not applicable</i>
· <b>Boiling point/Boiling range:</b>	<i>not applicable</i>
· <b>Fusion temperature / range:</b>	<i>200°C</i>

· **Flash point:** *not applicable*

· **Ignition temperature:** *482°C*

· **Decomposition temperature:** *277°C*

· **Self-inflammability:** *Product is not selfigniting.*

· **Danger of explosion:** *Product is not explosive.*

##### · Critical values for explosion:

· <b>Lower:</b>	<i>not determined</i>
· <b>Upper:</b>	<i>not determined</i>

· **Oxidizing properties** *not applicable*

· **Vapor pressure:** *negligible*

· **Density at 20°C:** *1.2 g/cm<sup>3</sup>*

##### · Solubility in / Miscibility with

· **Water:** *insoluble*

##### · Viscosity:

· **dynamic:** *not applicable*

· **kinematic:** *not applicable*

· **9.2 Other information** *No further relevant information available.*

### SECTION 10: Stability and reactivity

#### · 10.1 Reactivity

#### · 10.2 Chemical stability

##### · Thermal decomposition / conditions to be avoided:

*Temperature over 270°C*

*No decomposition if used and stored according to specifications.*

· **10.3 Possibility of hazardous reactions** *No dangerous reactions known.*

· **10.4 Conditions to avoid** *No further relevant information available.*

##### · 10.5 Incompatible materials:

*Strong oxidizing agents*

*Acids*

##### · 10.6 Hazardous decomposition products:

*Nitrogen oxides (NO<sub>x</sub>)*

*Carbon monoxide (CO) and Carbon dioxide (CO<sub>2</sub>)*

*Acrylonitril*

*Hydrogen cyanide (HCN)*

*Styrene*

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Hydrocarbons

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### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Dust particles may mechanically irritate the skin.
- **on the eye:** Dust particles may mechanically irritate the eye.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** The product is slightly biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal must be made according to official regulations.
- **Waste disposal key number:** According to local/national regulations.
- **European waste catalogue:**  
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |  |      |
|--|------|
| · <b>14.1 UN-Number</b>                  |      |
| · <b>ADR, ADN, IMDG, IATA</b>            | Void |
| · <b>14.2 UN proper shipping name</b>    |      |
| · <b>ADR, ADN, IMDG, IATA</b>            | Void |
| · <b>14.3 Transport hazard class(es)</b> |      |
| · <b>ADR, ADN, IMDG, IATA</b>            |      |
| · <b>Class</b>                           | Void |

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· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	Void
· <b>14.6 Special precautions for user</b>	Not applicable.
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	-

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **National regulations**
- **Decree to be applied in case of technical fault:** Directive 96/82/EC does not apply.
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**  
The(se) R-phrases are those of the ingredient(s) and do(es) NOT represent the classification of the preparation.
- H226 Flammable liquid and vapour.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- R10 Flammable.
- R20 Harmful by inhalation.
- R36/38 Irritating to eyes and skin.
- **Department issuing MSDS:**  
C.S.B. GmbH Phone: +49 - 2151 - 652086-0  
Parkstraße 29 Fax: +49 - 2151 - 652086-9  
D-47829 Krefeld  
Germany
- **Abbreviations and acronyms:**  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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