Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013 Revision: 05.03.2013

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

· **Date of compilation:** 22.06.2004
· **1.1 Product identifier**

· **Trade name:** **P400 ABS Model**
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **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

For information in Europe contact:

C.S.B. GmbH Tel.: +49-2151-6520860
Düsseldorfer Straße 113 Fax: +49-2151-6520869
D-47809 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

· **Informing department:** Product safety department
· **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 EU guidelines:**
The product is not subject to classification according to the calculation methods of the "General Classification Guideline for Preparations of the EC" as issued in the last version.
Observe all safety regulations when handling chemicals.
· **Additional information:** 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:** Polymer

· **Dangerous components:**

CAS: 100-41-4 EINECS: 202-849-4 Index number: 601-023-00-4	Ethylbenzene Xn R20; F R11 Flam. Liq. 2, H225; Acute Tox. 4, H332	< 0.25%

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· **Other components:**		
CAS: 9003-56-9 Polymer	Acrylonitrile/butadiene/styrene copolymer	97%

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 inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid.
· **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. If symptoms persist, consult doctor.
Remove contact lenses, if present and easy to do.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
In case of persistent symptoms consult doctor.
· **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_2), 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 (NOx)
Carbon monoxide (CO) and Carbon dioxide (CO_2)
Irritant gases/vapours
Under certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:
Hydrogen cyanide (HCN)
Styrene
· **5.3 Advice for firefighters**
· **Protective equipment:** Wear self-contained breathing apparatus.
· **Additional information**
Cool endangered containers with water spray jet.
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**
Wear protective clothing.
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.

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· **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.

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 container in a well ventilated position.
Store in cool, dry conditions in well sealed containers.
Maximum storage temperature: < 70 °C
· **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.

100-41-4 Ethylbenzene	
WEL (Great Britain)	Short-term value: 552 mg/m³, 125 ppm Long-term value: 441 mg/m³, 100 ppm Sk
IOELV (European Union)	Short-term value: 884 mg/m³, 200 ppm Long-term value: 442 mg/m³, 100 ppm Skin

· **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 eat, drink or smoke while working.
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.
· **Protection of hands:**
No chemical-protective gloves required.
Use heat resistant gloves when handling hot/molten product.

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· **Eye protection:** *Safety glasses*
· **Body protection:** *Wear heat-resistant protective clothing when handling hot/molten product.*

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	*solid*
Colour:	*milky white*
· **Smell:**	*odourless*
· **Odour threshold:**	*no data available*
· **Change in condition**	
Melting point/Melting range:	*not applicable*
Boiling point/Boiling range:	*not applicable*
· **Flash point:**	*not applicable*
· **Inflammability (solid, gaseous)**	*combustible*
· **Ignition temperature:**	
Decomposition temperature:	*> 300 °C*
· **Self-inflammability:**	*Product is not selfigniting.*
· **Danger of explosion:**	*Product is not explosive.*
· **Critical values for explosion:**	
Lower:	*not determined*
Upper:	*not determined*
· **Oxidizing properties**	*not applicable*
· **Vapor pressure:**	*not applicable*
· **Density at 20 °C:**	*1.05 g/cm³*
· **Relative density at 20 °C**	*1.05*
· **Vapour density (AIR = 1):**	*not applicable*
· **Evaporation rate**	*not applicable*
· **Solubility in / Miscibility with**	
Water:	*insoluble*
· **Partition coefficient (n-octanol/water):**	*not determined*
· **Viscosity:**	
dynamic:	*not applicable*
kinematic:	*not applicable*
· **9.2 Other information**	*No further relevant information available.*

SECTION 10: Stability and reactivity

· **10.1 Reactivity** *No further relevant information available.*
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** *Temperature over 300 °C*
· **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*
· **10.6 Hazardous decomposition products:**
Irritant gases/vapours

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Nitrogen oxides (NOx)
Carbon monoxide (CO) and Carbon dioxide (CO_2)
Hydrogen cyanide (HCN)
Styrene

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
100-41-4 Ethylbenzene		
Oral	LD50	3500 mg/kg (rat)
Dermal	LD50	15500 mg/kg (rabbit)
Inhalative	LC50/4 h	17.2 mg/l (rat)

· **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.
· **Repeated dose toxicity** *not classified*
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
According to present knowledge no CMR-effects known.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
100-41-4 Ethylbenzene	
EC50/48 h	1.8 - 2.9 mg/l (daphnia)
IC50/72 h	4.6 mg/l (selenastrum capricornutum)
LC50/96 h	94.44 mg/l (carassius auratus)
	12.1 mg/l (fathead minnow (pimephales promelas))
	4.2 mg/l (rainbow trout (oncorhynchus mykiss))

· **12.2 Persistence and degradability** *No further relevant information available.*
· **12.3 Bioaccumulative potential** *Does not accumulate in organisms.*
· **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.*

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· **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

· **14.1 UN-Number** · **ADR, IMDG, IATA**	*Void*
· **14.2 UN proper shipping name** · **ADR, IMDG, IATA**	*Void*
· **14.3 Transport hazard class(es)** · **ADR, IMDG, IATA** · **Class**	*Void*
· **14.4 Packing group** · **ADR, IMDG, IATA**	*Void*
· **14.5 Environmental hazards:**	*Not applicable.*
· **14.6 Special precautions for user**	*Not applicable.*
· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	*Not applicable.*
· **Transport/Additional information:**	*Not dangerous according to the above specifications.*
· **UN "Model Regulation":**	-

SECTION 15: Regulatory information

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

· **National regulations**

· **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-phrase(s) resp.H-statement(s) are those of the ingredient(s) and do(es) NOT represent the classification of the preparation/mixture.
H225 Highly flammable liquid and vapour.
H332 Harmful if inhaled.

R11 Highly flammable.
R20 Harmful by inhalation.

· **Department issuing MSDS:**
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· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
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
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

GB