Safety Data Sheet
acc. to OSHA HCS

Printing date 03/08/2013 *Reviewed on 03/08/2013*

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

· **Product identifier**

· **Trade name: P500 ABSi Model**
· **CAS Number:**
9010-94-0
· **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

· **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

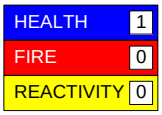
· **Information department:** Sales / Technics
· **Emergency telephone number:** see above

2 Hazards identification

· **Classification of the substance or mixture**
The substance is not classified according to the Globally Harmonized System (GHS).
· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void
· **Information concerning particular hazards for human and environment:** not applicable
· **Label elements**
· **GHS label elements** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Additional information:** Void
· **Classification system**
· **NFPA ratings (scale 0-4)**

Health = 1
Fire = 0
Reactivity = 0

· **HMIS**



Health = 1
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description:**
9010-94-0 Butadiene-styrene-acrylonitrile-methyl methacrylate copolymer
· **Identification number(s):** void, polymer

· **Dangerous components:**		
80-62-6	Methyl methacrylate Xi R37/38-43; F R11 Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	< 0.4%
100-42-5	Styrene Xn R20; Xi R36/38 R10 Flam. Liq. 3, H226; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 0.25%

4 First aid measures

· **Description of first aid measures**
· **General information** Remove contaminated clothing.
· **After inhalation**
Supply fresh air; consult doctor in case of complaints.
After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid.
· **After skin contact**
Wash with soap and water.
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 a doctor.
Remove contact lenses, if present and easy to do.
· **After swallowing**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

· **Extinguishing media**
· **Suitable extinguishing agents**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents** Water with full jet.
· **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Nitrogen oxides (NOx)
Carbon monoxide and carbon dioxide
In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:
Hydrogen cyanide (HCN)
Styrene
· **Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.

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· ***Additional information***
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

· ***Personal precautions, protective equipment and emergency procedures***
Ensure adequate ventilation
Avoid formation of dust.
Do not breathe dust.
Avoid contact with skin and eyes.
· ***Environmental precautions:*** *Do not allow to enter sewers/ surface or ground water.*
· ***Methods and material for containment and cleaning up:***
Ensure adequate ventilation.
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
· ***Reference to other sections***
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· ***Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Any deposit of dust which cannot be avoided must be regularly removed.
Do not breathe dust.
Avoid contact with skin and eyes.
Make sure that all applicable workplace limits are observed.
Avoid contact with hot product.
· ***Information about protection against explosions and fires:*** *Keep ignition sources away - Do not smoke.*

· ***Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and receptacles:***
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 receptacle in a well ventilated area.
Store in cool, dry conditions in well sealed receptacles.
Maximum storage temperature: < 70 °C
· ***Specific end use(s)*** *No further relevant information available.*

8 Exposure controls/personal protection

· ***Additional information about design of technical systems:*** *No further data; see item 7.*

· ***Control parameters***
· ***Components with limit values that require monitoring at the workplace:***
Observe all workplace limits for dust:
TLV inhalable dust: 15 mg/m³ OSHA
TLV respirable dust: 5 mg/m³ OSHA

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100-42-5 Styrene	
PEL	Short-term value: C 200; 600* ppm Long-term value: 100 ppm *5-min peak in any 3 hrs
REL	Short-term value: 425 mg/m³, 100 ppm Long-term value: 215 mg/m³, 50 ppm
TLV	Short-term value: 170 mg/m³, 40 ppm Long-term value: 85 mg/m³, 20 ppm BEI
80-62-6 Methyl methacrylate	
PEL	410 mg/m³, 100 ppm
REL	410 mg/m³, 100 ppm
TLV	Short-term value: 410 mg/m³, 100 ppm Long-term value: 205 mg/m³, 50 ppm SEN

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
Keep away from foodstuffs, beverages and feed.
Do not eat, drink, smoke or sniff while working.
Do not inhale dust / smoke / mist.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
Use skin protection cream for skin protection.
· **Breathing equipment:**
Use breathing protection in case of dust formation.
If all workplace limits are observed and good ventilation is ensured, no special precautions necessary.
· **Protection of hands:**
Protective gloves
Use heat resistant gloves when handling hot/molten product.
To avoid skin problems reduce the wearing of gloves to the required minimum.
Check the permeability prior to each renewed use of the glove.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Safety glasses
· **Body protection:** Wear heat-resistant protective clothing when handling hot/molten product.
· **Limitation and supervision of exposure into the environment**
Do not allow to enter sewers/ surface or ground water.

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	solid
Color:	Clear
· **Odor:**	odorless
· **Odor threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Not applicable
Boiling point/Boiling range:	Not applicable
Fusion temperature / range:	82 - 107 °C (180 - 225 °F)
· **Flash point:**	340 °C (644 °F)
· **Flammability (solid, gaseous)**	combustible
· **Ignition temperature:**	Not determined
· **Decomposition temperature:**	280 °C (536 °F)
· **Auto igniting:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties**	Not applicable
· **Vapor pressure:**	Not applicable.
· **Density at 20 °C (68 °F):**	1.07 g/cm³ (8.929 lbs/gal)
· **Relative density at 20 °C (68 °F)**	1.07 (H_2O = 1)
· **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.
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** see 10.3
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** Strong oxidizing agents
· **Hazardous decomposition products:**
Poisonous gases/vapors
Nitrogen oxides (NOx)
Carbon monoxide and carbon dioxide

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Hydrogen cyanide (prussic acid)
Styrene
Acrylonitril

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **LD/LC50 values that are relevant for classification:** *no data available*
· **Primary irritant effect:**
· **on the skin:** *Dust particles may mechanically irritate the skin.*
· **on the eye:** *Dust particles may mechanically irritate the eye.*
· **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.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
80-62-6	Methyl methacrylate	3
100-42-5	Styrene	2B
107-13-1	Acrylonitrile	2B

· **NTP (National Toxicology Program)**		
107-13-1	Acrylonitrile	R

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** *No further relevant information available.*
· **Persistence and degradability** *No further relevant information available.*
· **Bioaccumulative potential** *Does not accumulate in organisms*
· **Mobility in soil** *No further relevant information available.*
· **Additional ecological information:**
· **General notes:** *Water hazard class 1 (Self-assessment) (German regulation): slightly hazardous for water.*
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*
· **Other adverse effects** *No further relevant information available.*

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation** *Disposal must be made according to local/official regulations.*

· **Uncleaned packagings:**
· **Recommendation:**
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

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14 Transport information

· **UN-Number** · **DOT, ADR, IMDG, IATA**	Void
· **UN proper shipping name** · **DOT, ADR, IMDG, IATA**	Void
· **Transport hazard class(es)** · **DOT, ADR, IMDG, IATA** · **Class**	Void
· **Packing group** · **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Not applicable.
· **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":**	-

15 Regulatory information

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

· **SARA Section 355 (extremely hazardous substances)**

107-13-1	Acrylonitrile

· **TSCA (Toxic Substances Control Act)**

Substance is listed.

· **Cancerogenity categories**

· **MAK (German Maximum Workplace Concentration)**

100-42-5	Styrene
107-13-1	Acrylonitrile

· **National regulations**

· **Disturbance regulations:** Directive 96/82/EC does not apply.

· **Water hazard class:**
Water hazard class 1 (Self-assessment) (German regulation): slightly hazardous for water.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **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
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)

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LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

USA