

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

- **Product identifier**
- **Trade name:** ULTEM® Support
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Support 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

- 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
- **Information department:** Product safety department.
- **Emergency telephone number:** see above

2 Hazards identification

- **Classification of the substance or mixture**
- **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.
- **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 EU" as issued in the latest valid version.
 Observe the general safety regulations when handling chemicals
- **Classification system**
- **NFPA ratings (scale 0-4)**



- **HMIS**



- **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:** Mixtures
- **Description:** Preparation

- **Dangerous components:**

13463-67-7	Titanium(IV)-oxide	≤ 4%
1333-86-4	Carbon black	≤ 1%

- **Other components:**

25154-01-2	polysulfone	≥95-≤99%
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- **Additional information** For the wording of the listed risk phrases refer to section 16.

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. Continue rinsing.
- **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**
Carbon monoxide and carbon dioxide
Sulphur oxides (SO_x)
Hydrocarbons
Smoke
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - Ensure adequate ventilation
 - Avoid formation of dust.
 - Keep away from ignition sources
 - 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.
 - Dispose of the collected material according to regulations.
- **Reference to other sections**
 - 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 prolonged or repeated skin contact.
 - Avoid contact with eyes.
 - Make sure that all applicable workplace limits are observed.
- **Information about protection against explosions and fires:**
 - Protect against electrostatic charges.
 - 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 in cool, dry conditions in well sealed receptacles.
 - Store receptacle in a well ventilated area.
- **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

13463-67-7 Titanium(IV)-oxide

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PEL	15* mg/m ³ *total dust
REL	See Pocket Guide App. A
TLV	10 mg/m ³

1333-86-4 Carbon black

PEL	3.5 mg/m ³
REL	3.5* mg/m ³ *0.1 in presence of PAHs, as PAHs; 10-hr TWA
TLV	3* mg/m ³ *inhalable fraction

· **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 breathe dust.

Avoid close or long term contact with the skin.

Avoid contact with the eyes.

Wash hands before breaks and at the end of 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.

· **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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.

Body protection must be chosen depending on activity and possible exposure.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: solid
Filament

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Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 01/08/2013

Reviewed on 01/08/2013

Trade name: ULTEM® Support

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· Color:	<i>milky white</i>
· Odor:	<i>Nearly odorless odorless</i>
· Odor threshold:	<i>no data available</i>
· pH-value:	<i>Not applicable</i>
· Change in condition	
Melting point/Melting range:	<i>> 190°C (> 374 °F)</i>
Boiling point/Boiling range:	<i>no data available</i>
Fusion temperature / range:	<i>190°C (374 °F)</i>
· Flash point:	<i>no data available</i>
· Ignition temperature:	<i>no data available</i>
· Decomposition temperature:	<i>no data available</i>
· Auto igniting:	<i>Product is not selfigniting.</i>
· Danger of explosion:	<i>Product does not present an explosion hazard.</i>
· Explosion limits:	
Lower:	<i>Not determined</i>
Upper:	<i>Not determined</i>
· Oxidizing properties	<i>Not applicable</i>
· Density:	<i>no data available</i>
· Solubility in / Miscibility with	
Water:	<i>Insoluble</i>
· Viscosity:	
dynamic:	<i>Not applicable</i>
kinematic:	<i>Not applicable</i>
· Other information	<i>No further relevant information available.</i>

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
*No decomposition if used and stored according to specifications.
 Avoid impact, friction, heat, sparks, electrostatic charges.
 To avoid thermal decomposition do not overheat.
 Temperature over 430 °C*
- **Possibility of hazardous reactions** *Toxic fumes may be released if heated above the decomposition point*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:**
*Carbon monoxide
 Hydrocarbons
 Sulfur oxides (SO_x)*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
on the skin: Dust particles may mechanically irritate the skin.

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- **on the eye:** Dust particles may mechanically irritate the eye.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
 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)**

13463-67-7	Titanium(IV)-oxide	2B
1333-86-4	Carbon black	2B

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** This product is according to previous experiences inert and non-degradable.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not 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:** Disposal must be made according to local/official regulations.

14 Transport information

- | | |
|-------------------------------------|------|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADN, IMDG, IATA | Void |
| · ADR | Void |
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |

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- | | |
|--|---|
| · Special precautions for user | <i>Not applicable.</i> |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <i>Not applicable.</i> |
| · Transport/Additional information: | <i>Not dangerous according to the above specifications.</i> |

15 Regulatory information

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

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

None of the ingredients is listed.

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

All ingredients are listed.

- **Cancerogenity categories**

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

13463-67-7	Titanium(IV)-oxide
1333-86-4	Carbon black

- **Markings 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 EU" as issued in the latest valid version.

Observe the general safety regulations when handling chemicals

- **National regulations**

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

- **Water hazard class:** *Generally not 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.

- **Relevant phrases**

The(se) R-phrases are those of the ingredient(s) and do(es) NOT represent the classification of the preparation.

- **Department issuing MSDS:**

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