

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Issuing Date 24-Mar-2016

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STRATASYS REVISION: A

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) SDS-06135

Product Name MED610 Biocompatible, Clear

Chemical name Acrylic formulation

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

Recommended Use Printing inks

Uses advised against This product is a cartridge containing ink. Under normal conditions of use, the substance is released from a cartridge only inside an appropriate printing system, and therefore, exposure is limited

1.3. Details of the supplier of the safety data sheet

Importer

Stratasys GMBH
Airport Boulevard B 120
77836 Rheinmünster, Germany

For further information, please contact

Company Phone Number +49 722 97 77 20

E-mail address info@Stratasys.com

1.4. Emergency telephone number

Emergency Telephone

- +49 722 97772280 - Europe - Multi lingual response
- +49 722 97772281 - Global – English Language response
- +1 978 495 5580 - USA – Multi-lingual response
- +85 2 975 70887 - Asia Pacific - Multi lingual response
- +61 2 8011 4763 - Australia - Multi lingual response
- +86 15626070595 - China - Chinese response

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

| | |
|--|----------------------|
| Acute toxicity - Oral | Category 4 - (H302) |
| Skin corrosion/irritation | Category 2 - (H315) |
| Serious eye damage/eye irritation | Category 1 - (H318) |
| Skin sensitization | Category 1B - (H317) |

| | |
|--|---------------------|
| Specific target organ toxicity (single exposure) | Category 3 - (H335) |
| Specific target organ toxicity (repeated exposure) | Category 2 - (H373) |
| Acute aquatic toxicity | Category 1 - (H400) |
| Chronic aquatic toxicity | Category 1 - (H410) |

2.2. Label elements

Contains 2-Hydroxy-3-phenoxypropyl acrylate, 4-(1-oxo-2propenyl) morpholine, Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate, TRICYCLODECANE DIMETHANOL DIACRYLATE, Bisphenol A epoxy acrylate oligomer, 2, 4, 6 - trimethylbenzoyldiphenylphosphine oxide

**Signal word**

Danger

Hazard statements

H302 - Harmful if swallowed

H315 - Causes skin irritation

H318 - Causes serious eye damage

H317 - May cause an allergic skin reaction

H335 - May cause respiratory irritation

H373 - May cause damage to organs through prolonged or repeated exposure

H410 - Very toxic to aquatic life with long lasting effects

EUH208 - Contains Genorad 20 May produce an allergic reaction.

Precautionary Statements - EU (§28, 1272/2008)

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P280 - Wear eye protection/ face protection

P314 - Get medical advice/attention if you feel unwell

P501 - Dispose of contents/container to industrial incineration plant

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Additional information

This product requires tactile warnings if supplied to the general public

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

| Chemical name | EC No. | CAS No. | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP] | REACH Registration Number |
|---|-----------|-----------|----------|---|---------------------------|
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate | 227-561-6 | 5888-33-5 | 20 - 30 | Acute Tox. 5 (H303) Acute Tox. 5 (H313) Skin Sens. 1 (H317) Resp. Sens. 3 (H335) Aquatic Chronic 1 (H410) | 01-2119957862-25-0001 |
| Proprietary | Listed | - | 20 - 30 | Acute Tox. 4 (H302) | 01-0000016491-73 |

| | | | | | |
|---|------------|------------|---------|---|---------------------------|
| | | | | Eye Dam. 1 (H318) Skin Sens. 1 (H317) STOT RE 2 (H373) | -0000 |
| Proprietary | Listed | - | 10 - 20 | Skin Sens. 1 (H317) | No data available |
| TRICYCLODECANE DIMETHANOL DIACRYLATE | 255-901-3 | 42594-17-2 | 5 - 10 | Skin Sens. 1 (H317) Aquatic Chronic 2 (H411) | 01-2120051112-76 -0000 |
| Proprietary | Not Listed | - | 5 - 10 | Acute Tox. 5 (H303) Acute Tox. 5 (H313) Skin Sens. 1 (H317) Aquatic Chronic 2 (H411) | No data available |
| Proprietary | Listed | - | 1 - 5 | Repr. 2 (H361f) Skin Sens. 1B (H317) Aquatic Chronic 2 (H411) | 01-2119972295-29 -0000 |
| Proprietary | Not Listed | - | 0.1 - 1 | Aquatic Chronic 2 (H411) Skin Sens. 1 (H317) Eye Irrit. 2A (H319) | No data available |

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

| | |
|---------------------|---|
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin contact | Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |

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

| | |
|-----------------|---------------------------|
| Symptoms | No information available. |
|-----------------|---------------------------|

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|------------------------|
| Note to physicians | Treat symptomatically. |
|---------------------------|------------------------|

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

| | |
|---------------------------------------|--|
| Suitable Extinguishing Media | Class B fires: Use carbon dioxide (CO ₂), regular dry chemical (sodium bicarbonate), regular foam (Aqueous Film Forming Foam-AFFF), or water spray to cool containers Use extinguishing agent suitable for type of surrounding fire |
| Unsuitable extinguishing media | No information available. |

5.2. Special hazards arising from the substance or mixture

| | |
|---|---------------------------|
| Specific hazards arising from the chemical | No information available. |
|---|---------------------------|

5.3. Advice for firefighters**Special protective equipment for fire-fighters**

Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Keep out of drains, sewers, ditches and waterways. Inhalation is a health risk. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****Personal precautions**

Ensure adequate ventilation.

Occupational Spill Release

Intact cartridges do not pose a leak or spill hazard. Damaged cartridges may leak uncured ink. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Keep out of drains, sewers, ditches and waterways.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions**Environmental precautions**

See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up**Methods for containment**

Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections**Reference to other sections**

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling****Advice on safe handling**

Avoid breathing vapors or mists. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Do not eat, drink or smoke when using this product.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Storage Conditions**

Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Store in a cool, well ventilated area. Store in accordance with local regulations.

Store locked up. Keep container tightly closed. Store between 15 °C and 27 °C. Shipment temperature (up to 5 weeks) is -20 °C to 50 °C. Store in a combustible storage area away from heat and open flame.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure disclaimer Personal protection measures are only needed if cartridge is damaged punctured causing spillage of material

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | |
|-----------------------|--------------------------|
| Physical state | liquid |
| Appearance | Ink cartridge |
| Odor | Characteristic. |
| Color | Bluish clear |
| Odor threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---------------------------------------|----------------------|--------------------------------|
| pH | No data available | None known |
| Melting point / freezing point | No data available | None known |
| Boiling point / boiling range | No data available | None known |

| | | |
|---------------------------|--------------------------|------------|
| Flash point | > 100 °C | |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability limit: | No data available | |
| Lower flammability limit: | No data available | |
| Vapor pressure | No data available | None known |
| Vapor density | No data available | None known |
| Relative density | No data available | None known |
| Water solubility | No data available | None known |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No information available | |
| Oxidizing properties | No information available | |

9.2. Other information

| | |
|----------------------------|--------------------------|
| Softening point | No information available |
| Molecular weight | No information available |
| VOC Content (%) | No information available |
| Liquid Density | No information available |
| Bulk density | No information available |
| Particle Size | No information available |
| Particle Size Distribution | No information available |

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

| | |
|------------|---------------------------|
| Reactivity | Heating may cause a fire. |
|------------|---------------------------|

10.2. Chemical stability

| | |
|-----------|--|
| Stability | Decomposes on exposure to light. Unstable if heated. |
|-----------|--|

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

10.3. Possibility of hazardous reactions

| | |
|------------------------------------|---|
| Possibility of hazardous reactions | Uncured ink will polymerize on exposure to light. |
|------------------------------------|---|

10.4. Conditions to avoid

| | |
|---------------------|-----------------------------------|
| Conditions to avoid | Avoid exposure to heat and light. |
|---------------------|-----------------------------------|

10.5. Incompatible materials

| | |
|------------------------|--|
| Incompatible materials | Not applicable under normal conditions of use and storage. |
|------------------------|--|

10.6. Hazardous decomposition products

| | |
|----------------------------------|---|
| Hazardous decomposition products | Thermal Decomposition Products. Combustion: oxides of carbon. |
|----------------------------------|---|

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

| | |
|--------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. |
| Eye contact | Specific test data for the substance or mixture is not available. |
| Skin contact | Specific test data for the substance or mixture is not available. |
| Ingestion | Specific test data for the substance or mixture is not available. |

Information on toxicological effects

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

| | |
|-------------------------------|----------------|
| ATEmix (oral) | 1,314.00 mg/kg |
| ATEmix (dermal) | 2,266.00 mg/kg |
| ATEmix (inhalation-dust/mist) | 5.77 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|--|--------------------------|
| Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate | = 4890 mg/kg (Rat) | > 3000 mg/kg (Rabbit) | |
| Proprietary | 588 mg/kg (rat) | > 2000 mg/kg (rat) | 5.28 mg/l (rat) |
| Proprietary | (Rat) LD50 = 1,590 - 3,910 mg/kg | (Rabbit) LD50 = > 2,000 mg/kg | (Rat) 1 h LC0 = 6.7 mg/l |
| TRICYCLODECANE | 2.000 mg/kg (Rat) (Method: OECD Test Guideline 423) | 2.000 mg/kg (Rat)(Method: OECD Test Guideline 402) | |
| DIMETHANOL DIACRYLATE | | | |
| Proprietary | >2000 mg/kg (Rat) | >2000 mg/kg | |
| Proprietary | > 5,000 mg/kg (Rat) (OECD Guideline 401) | > 2,000 mg/kg (Rat) (OECD Guideline 402) | |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-----------------------------------|---------------------------|
| Skin corrosion/irritation | No information available. |
| Serious eye damage/eye irritation | No information available. |
| Respiratory or skin sensitization | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |

| Chemical name | European Union |
|---------------|----------------|
| Proprietary | Repr. 2 |

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 24.264 % of components with unknown hazards to the aquatic environment.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|--|---|---|----------------------------|--|
| Exo-1,7,7-trimethylbicyclo [2.2.1]hept-2-yl acrylate | 1.98 mg/l Fresh water | 0.704 mg/l Fresh water | - | 0.524 mg/l Fresh water |
| Proprietary | 120 mg/l (algae) | - | - | 120 mg/kg (daphnia) |
| Proprietary | Pseudokirchneriella subcapitata (green algae) 96 h EC50 = 0.17 mg/l | Oncorhynchus mykiss (rainbow trout) 96 h LC50 = 27 mg/l | - | Daphnia magna (Water flea) 48 h EC50 = 95 mg/l |
| TRICYCLODECANE DIMETHANOL DIACRYLATE | (Pseudokirchneriella subcapitata) : 1,6 mg/l (Method: OECD Test Guideline 201) | (Fish) : 4,95 mg/l | - | (Daphnia magna Straus) : 2,36 mg/l (Method: OECD Test Guideline 202) |
| Proprietary | > 2.01 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static) | 6.53 mg/l, Oryzias latipes (JIS K 0102-71, semistatic) | - | 3.53 mg/l, Daphnia magna (OECD Guideline 202, part 1, static) |

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

| | |
|--|---|
| Waste from residues/unused products | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging | Do not reuse empty containers. |
| Waste codes / waste designations according to EWC / AVV | 08 03 12* Waste ink containing dangerous substances. |

Section 14: TRANSPORT INFORMATION

| | |
|-------------------------------|---|
| <u>Additional Info</u> | The environmentally hazardous substance mark is not required when transported in sizes of ≤5L or ≤5kg The marine pollutant mark is not required when transported in sizes of ≤5L or ≤5kg |
|-------------------------------|---|

IMDG

| | |
|--|--|
| 14.1 UN/ID no. | UN3082 |
| 14.2 Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) |
| 14.3 Hazard Class | 9 |
| 14.4 Packing Group | III |
| Description | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III |
| 14.5 Marine pollutant | Not applicable |
| Environmental hazard | Yes |
| 14.6 Special Provisions | 274, 335 |
| EmS-No. | F-A, S-F |
| 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | No information available |

RID

| | |
|----------------------------------|--|
| 14.1 UN/ID no. | UN3082 |
| 14.2 Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) |
| 14.3 Hazard Class | 9 |
| Labels | 9 |
| 14.4 Packing Group | III |
| Description | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III |
| 14.5 Environmental hazard | Yes |
| 14.6 Special Provisions | None |
| Classification code | M6 |

ADR

| | |
|----------------------------------|--|
| 14.1 UN/ID no. | UN3082 |
| 14.2 Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) |
| 14.3 Hazard Class | 9 |
| Labels | 9 |
| 14.4 Packing Group | III |
| Description | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III |
| 14.5 Environmental hazard | Yes |
| 14.6 Special Provisions | 274, 335, 601, 375 |
| Classification code | M6 |
| Tunnel restriction code | (E) |

IATA

| | |
|---------------------------|--|
| 14.1 UN/ID no. | UN3082 |
| 14.2 Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) |
| 14.3 Hazard Class | 9 |
| 14.4 Packing Group | III |
| Description | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III |
| 14.5 Environmental hazard | Yes |
| 14.6 Special Provisions | None |



Section 15: REGULATORY INFORMATION

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

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H411 - Toxic to aquatic life with long lasting effects

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H302 - Harmful if swallowed
 H318 - Causes serious eye damage
 H373 - May cause damage to organs through prolonged or repeated exposure if inhaled
 H303 - May be harmful if swallowed
 H313 - May be harmful in contact with skin
 H335 - May cause respiratory irritation
 H410 - Very toxic to aquatic life with long lasting effects
 H361f - Suspected of damaging fertility

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |

| Classification procedure | |
|---|--------------------|
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used |
| Acute oral toxicity | Calculation method |
| Acute dermal toxicity | Calculation method |
| Acute inhalation toxicity - gas | Calculation method |
| Acute inhalation toxicity - Vapor | Calculation method |
| Acute inhalation toxicity - dust/mist | Calculation method |
| Skin corrosion/irritation | Calculation method |
| Serious eye damage/eye irritation | Calculation method |
| Respiratory sensitization | Calculation method |
| Mutagenicity | Calculation method |
| Carcinogenicity | Calculation method |
| Reproductive toxicity | Calculation method |
| Acute aquatic toxicity | Calculation method |
| Chronic aquatic toxicity | Calculation method |
| Aspiration toxicity | Calculation method |

Revision Date 02-Mar-2016

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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