

## Safety Data Sheet

### Figure 4™ EGG SHELL-AMB 10

Revision Date: October 23, 2019

#### 1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY/UNDERTAKING

**1.1 Identification of the mixture:** Figure 4 EGG SHELL-AMB 10

**1.2 Use of the preparation:** For use in Figure 4® systems

**1.2 Company/undertaking identification:**

3D Systems, Inc.  
333 Three D Systems Circle  
Rock Hill, South Carolina U.S.A.  
Phone: 803.326.3900 or  
Toll-free Phone: 800.793.3669  
e-mail: moreinfo@3dsystems.com  
Chemical Emergency:  
800.424.9300 – Chemtrec

3D Systems Europe Ltd.  
Mark House, Mark Road  
Hemel Hempstead  
Herts HP2 7 United Kingdom  
Phone: +44 144-2282600  
e-mail: moreinfo@3dsystems.com  
Chemical Emergency:  
+1 703.527.3887 - Chemtrec

3D Systems / Australia  
5 Lynch Street  
Hawthorn, VIC 3122  
+1 03 9819-4422  
e-mail: moreinfo@3dsystems.com  
Chemical Emergency:  
+(61) 29037.2994 – Aus Chemtrec

#### 2. HAZARDS IDENTIFICATION

##### 2.1 Classification

**GHS : Regulation (EC) No. 1272/2008, 29 CFR 1910, Australian Dangerous Goods Code:**

**Physical Hazard:**

None

**Health Hazard:**

Skin Corrosion/Irritation	Category 2	H315
Serious Eye Damage/Eye Irritation	Category 2	H319
Skin Sensitization	Category 1	H317

**Environmental Hazard:**

Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

##### 2.2 Label Elements

**Regulation (EC) No, 1272/2008:**

**Hazard pictograms and signal word:**



GHS07



GHS09

**Signal word: Warning**

**Hazard determining components of labelling:**

Isobornyl acrylate; 2-Propenoic acid, 1,1'-[(octahydro-4,7methano-1H-indene-5,?- diyl)bis(methylene)] ester; 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1"-methylenebis[4-isocyanatocyclohexane] and 2-oxepanone; Acrylate ester; Dipentaerythritol Pentaacrylate esters; Photo Initiator and Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl).

**Hazard statements:**

H302: Harmful if swallowed

H317: May cause an allergic skin reaction

H318: Causes serious eye damage

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

H412: Harmful to aquatic life with long-lasting effect

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#### Precautionary statements:

##### Prevention:

P260: Do not breathe dust/fume/gas/mist/vapors/spray.  
 P264: Wash contaminated skin thoroughly after handling.  
 P270: Do not eat, drink or smoke when using this product.  
 P271: Use only outdoors or in a well-ventilated area.  
 P272: Contaminated work clothing should not be allowed out of the workplace.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P285: In case of inadequate ventilation wear respiratory protection.

##### Response:

P314: Get medical advice/attention if you feel unwell.  
 P302 + P352: IF ON SKIN: Wash with plenty of soap and water  
 P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.  
 P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P410 + P403: Protect from sunlight. Store in a well-ventilated place.  
 P307 + P311: IF exposed: Call a POISON CENTER or doctor/physician.

##### Storage:

P410 + P403: Protect from sunlight. Store in a well-ventilated place.

##### Disposal:

P501 -Dispose of contents/container in accordance with local/state/regional regulations

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Chemical characterization:

Description: Organic mixture

#### 3.2 Dangerous components:

Chemical name	CAS-number	EC-number	%	Classification Regulation (EC) 1272/2008
Isobornyl acrylate	5888-33-5	227-561-6	22 - 30	Skin Sensitization Category 1 - H317 Aquatic Chronic Category 2 - H411 Aquatic Acute Category 1 - H400
2-Propenoic acid, 1,1'-[(octahydro-4,7methano-1H-indene-5,?-diyl)bis(methylene)] ester	42594-17-2	255-901-3	15 - 25	Skin Sensitization Category 1 - H317 Aquatic Chronic Category 2 - H411
2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1"-methylenebis[4-isocyanatocyclohexane] and 2-oxepanone	52404-33-8	641-075-5	10 - 20	Serious Eye Damage/Eye Irritation Category 2 - H319 Skin Corrosion/Irritation Category 2 - H315 Skin Sensitization Category 1 - H317
Acrylate ester	Trade secret	Trade secret	10 - 20	Skin Sensitization Category 1 - H317 Skin Corrosion/Irritation Category 2 - H315 Aquatic Chronic Category 2 - H411 Aquatic Acute Category 2 - H401
Dipentaerythritol Pentaacrylate esters	60506-81-2	262-270-8	5-15	Serious Eye Damage/Eye Irritation Category 2 - H319 Skin Sensitization Category 1 - H317 Aquatic Chronic Category 3 - H412
Photo Initiator	Mixture	Mixture	5-15	Skin Corrosion/Irritation Category 1B - H314 Serious Eye Damage/Eye Irritation Category 1 - H318 Skin Sensitization Category 1 - H317 Aquatic Chronic Category 2 - H411
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)	162881-26-7	418-140-1	1- 5	Skin Sensitization Category 1 - H317 Aquatic Chronic Category 4 - H413

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#### 4. FIRST AID MEASURES

- 4.1 General Information:** Ensure that eyewash stations and safety showers are close to the workstation location.
- 4.2 In case of inhalation:** May cause respiratory irritation. Move affected person to fresh air. If respiratory irritation occurs, if breathing becomes difficult seek medical attention immediately.
- 4.3 In case of skin contact:** May cause irritation or sensitization by skin contact, including redness and/or swelling. Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse.
- 4.4 In case of eye contact:** Irritating to eyes. Causes redness, swelling and pain. Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.
- 4.5 In case of ingestion:** Irritating to mouth, throat and stomach. If ingested, drink plenty of water and seek immediate medical attention. Do not induce vomiting.
- 4.6 Self-protection of the first aider:** Put on appropriate protective equipment (see section 8). Move exposed person to fresh air. Remove contaminated clothing and shoes.

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#### 5. FIRE-FIGHTING MEASURES

- 5.1 Suitable extinguishing media:** Water mist, dry chemical, carbon dioxide, or appropriate foam.
- 5.2 Extinguishing media which must not be used for safety reasons:** High volume water jet.
- 5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:** Thermal decomposition products can include CO<sub>2</sub>, CO, NO<sub>x</sub> and smoke.
- 5.4 Special protective equipment for fire-fighters:** Wear full protective clothing, including helmet, self-contained positive-pressure or pressure demand breathing apparatus, protective clothing and facemask.
- 5.5 Additional information:** Move container from area if it can be done without risk. Cool containers with water spray. Avoid inhalation of material or combustion by-products.

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#### 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions:** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing. Consult expert immediately.
- 6.2 Environmental precautions:** Stop the flow of material, if this is without risk. Ventilate contaminated area. Eliminate sources of ignition. In case of contamination of aquatic environment inform local authorities.
- 6.3 Methods for cleaning up:** Wear appropriate protective equipment and clothing to minimise exposure. Use of certified respirators and chemical resistant gloves are required to avoid exposure to any unreacted materials during spill clean-up (use of a 3M 6000 respirator with organic vapor cartridge A2 or half mask 3M 4251 is recommended).

Absorb spillage with suitable absorbent materials. Place all waste in an appropriate air tight bags or containers for disposal. The material and its container must be disposed of as hazardous waste. Keep away from sources of ignition.

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#### 7. HANDLING AND STORAGE

- 7.1 Handling** Provide adequate ventilation. Use suitable protective equipment. Avoid contact with skin and eyes. Do not breathe vapors or mist. Avoid ignition sources. Do not allow to enter drains or watercourses.
- 7.2 Storage:** Store sealed in the original container at room temperature. Keep this material indoors in a cool, dry, well ventilated place. Store out of direct sunlight or UV light sources. Storage Temperature: below 35 °C / 95 °F. Storage class 10, environmentally hazardous liquids.

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#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

##### 8.1 Exposure limit values:

General Product Information: No occupational exposure limits (PEL/TWA) have been established for this product.

##### 8.2 Exposure controls

**Technical measures to prevent exposure:** Use only with 3D Systems Figure 4 systems with installed and fully functional carbon filtration systems. Uncured parts should be transported in closed containers.

**Instructual measures to prevent exposure:** When using, do not eat, drink or smoke. Wash hands after handling and before eating, smoking and using the lavatory and at the end of the day.

##### Personal protection equipment:

**Respiratory protection:** Recommend users establish appropriate engineering control measures, including but not limited to local exhaust ventilation, in rooms/areas where printers are installed and in post-processing areas, to minimize inhalation exposure.

**Hand protection:** Use impervious nitrile gloves.

**Eye protection:** Wear safety glasses or chemical goggles.

**Body protection:** Use apron and closed shoes.

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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

##### 9.1 Appearance:

**Physical state:** liquid

**Colour:** light yellow

**Odour:** mild acrylate

##### 9.2 Important health, safety and environmental information

<b>pH (20 °C):</b>	NA
<b>Melting point/range (°C):</b>	NA
<b>Boiling point/range (°C):</b>	NA
<b>Flash point (°C):</b>	98.5 (Pensky Martens closed cup)
<b>Ignition temperature (°C):</b>	NA
<b>Vapour pressure (°C):</b>	NA
<b>Density (g/cm<sup>3</sup>):</b>	NA
<b>Bulk density (kg/m<sup>3</sup>):</b>	NA
<b>Water solubility (20°C in g/l):</b>	NA
<b>Partition coefficient:</b>	NA
<b>n-Octanol/Water (log Po/w):</b>	NA
<b>Viscosity, dynamic (mPa s):</b>	~212 (@ 25 °C)
<b>Dust explosion hazard:</b>	NA
<b>Explosion limits:</b>	NA

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#### 10. STABILITY AND REACTIVITY

**10.1 Conditions to avoid:** Avoid exposure to heat and light. Take necessary actions to avoid static electricity discharge.

**10.2 Materials to avoid:** Not tested

**10.3 Hazardous decomposition products:** Carbon dioxide, carbon monoxide and other toxic fumes can be released at high temperatures or upon burning.

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#### 11. TOXICOLOGICAL INFORMATION

**11.1 Toxicokinetics, metabolism and distribution:** NA

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#### 11.2 Acute effects (toxicity tests) – Formulation has not been tested

##### Acute toxicity of the components:

Irritation to skin and eye  
Causes sensitisation  
Corrosive to skin

**11.3 Experiences made in practice:** Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**11.4 General remarks:** Carcinogenicity: None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

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#### 12. Ecological information

**12.1 Ecotoxicity:** The aquatic toxicity of the product is unknown; however based on components, it is predicted that this material may be harmful to aquatic organisms or cause long-term adverse effects in the aquatic environment. Prevent contamination of soil, drains and surface waters.

**12.2 Mobility:** No information available for product.

**12.3 Persistence and degradability:** No information available for product.

**12.4 Results of PBT assessment:** No information available for product

**12.5 Other adverse effects:** No information available for product

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#### 13. DISPOSAL CONSIDERATIONS

**13.1 Appropriate disposal / Product:** Do not contaminate drains, soil or surface waters with this material or its container. Reduce waste by attempting to utilize product completely. Dispose of this container and its contents in accordance with all local, state, and federal regulations. Do not reuse or refill.

**13.2 Waste codes / waste designations according to EWC / AVV:** 070208

**13.3 Appropriate packaging:** NA

**13.4 Additional information:** Prior to disposal 3D Systems recommends consulting an approved waste disposal firm to ensure regulatory compliance.

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#### 14. TRANSPORT INFORMATION

##### 14.1 Land transport (ADR/RID/GGVSE):

Official transport designation: Environmentally hazardous substance, liquid N.O.S.

UN-No.: 3082

Class: 9

Packing group: III

Marine pollutant: yes

Contains: Acrylates

##### 14.2 Sea transport (IMDG-Code/GGVSee):

Official transport designation: Environmentally hazardous substance, liquid N.O.S.

UN-No.: 3082

Class: 9

Packing group: III

Marine pollutant: yes

Contains: Acrylates

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#### 14.3 Air transport (ICAO-IATA/DGR):

Official transport designation: Environmentally hazardous substance, liquid N.O.S.

UN-No.: 3082

Class: 9

Packing group: III

Contains. Acrylates

#### 14.4 DOT:

Official transport designation: Environmentally hazardous substance, liquid N.O.S.

UN-No.: 3082

Class: 9

Packing group: III

Contains. Acrylates

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## 15. REGULATORY INFORMATION

### 15.1 EU regulations

EINEC/ELINCS/NLP and Switzerland: All the chemical substance are listed or exempt from registration.

REACH Annex XVII: None listed

### 15.2 EU National regulations

Wassergefährdungsklasse (water hazard class, Germany): WGK 2: Hazard to waters

### 15.3 US FEDERAL

**TSCA:** All components listed or exempt from listing.

One of the components does not appear on the TSCA Inventory because it is manufactured and processed under a Low Volume Exemption (LVE) to the Premanufacture Notification process. There are maximum amounts of this material that may be manufactured. This material is available for commercial use ONLY as a monomer in UV curable inks. Do not release to the environment, use safety precautions to minimize skin and inhalation exposure.

**TSCA – Section 5(a) Significant New Use Rule List of Chemicals:** None

**TSCA – Section 5(e) Consent Order:** None

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpart D):** None

**SARA 302 EHS List (40 CFR 355 Appendix A):** None listed

**SARA 313 (40 CFR 372.65):** None listed

**CERCLA (40 CFR 302.4):** None listed

**SARA 302 EHS List (40 CFR 355 Appendix A):** None listed

**SARA 313 (40 CFR 372.65):** None listed

**CERCLA (40 CFR 302.4):** None listed

**15.4 International regulations:** This product contains chemical components that are not registered according to chemical regulations in Australia, Canada, China, Japan, South Korea, New Zealand, Philippines, and Taiwan.

### 15.5 Japanese regulations

Chemical Risk Information platform (CHRIP)	not applicable
Industrial Health and Safety Law	not applicable
Hazardous material	not applicable
Organic solvent poison prevention rule	not applicable
Ordinance on prevention of hazard due to specified chemical substances	not applicable
Lead Poisoning Prevention Rule	not applicable
Poison and Deleterious Substance Control law	not applicable
PRTR and Promotion of Chemical Management law (PRTR Law)	no listed components
Fire Services Act	Category 4, Class 3, oil
Explosives Law	not applicable
High pressure gas safety law	not applicable
Export Trade Control Order	not applicable
Waste Disposal and Public Cleaning Law	applicable. Before disposal, consult an approved waste disposal operative to ensure regulatory compliance.

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#### OTHER INFORMATION

##### 16.1 Relevant Hazard Statements (number and full text) referred to in sections 2 and 3 (according to (EC) No. 1272/2008):

H314: Causes severe skin burns and eye damage  
H315: Causes skin irritation  
H317: May cause an allergic skin reaction  
H318: Causes serious eye damage  
H319: Causes serious eye irritation  
H400: Very toxic to aquatic life  
H401: Toxic to aquatic life  
H411: Toxic to aquatic life with long-lasting effects  
H412: Harmful to aquatic life with long-lasting effects

##### 16.2 Further information:

SDS Creation Date: ..... August 12, 2019  
SDS Revision #: ..... -02-A  
SDS Revision Date: ..... October 23, 2019  
Reason for Revision: ..... Update section 1, 9.

[www.3dsystems.com](http://www.3dsystems.com)

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