

## Safety Data Sheet

### Figure 4<sup>®</sup> RUBBER-BLK 10

Revision Date: December 10, 2019

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

**1.1 Identification of the mixture:** Figure 4 RUBBER-BLK 10

**1.2 Use of the preparation:** For use with Figure 4<sup>®</sup> systems

**1.3 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](mailto:moreinfo@3dsystems.com)  
Chemical Emergency:  
800.424.9300 – Chemtrec

3D Systems Europe Ltd.  
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Hemel Hempstead  
Herts HP2 7 United Kingdom  
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Chemical Emergency:  
+1 703.527.3887 - Chemtrec

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+(61) 29037.2994 – Aus Chemtrec

#### 2. HAZARD(S) IDENTIFICATION

**2.1 Classification of the substance or mixture**

**GHS : Classification according to Regulation (EC) No 1272/2008**

**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:**

Chronic aquatic toxicity	Category 2	H411
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**2.2 Label Elements**

**Label according to Regulation (EC) No. 1272/2008**

**Contains:** 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,1"-methylenebis[4-isocyanatocyclohexane] and 2-oxepanone; Dipentaerythritol Pentaacrylate esters; Acrylate ester; 2-Propenoic acid, (5-ethyl-1,3-dioxan-5yl)methyl ester; 2-Propenoic acid, (1R,2R,4R)-1,7,7-trimethylbicyclo [2.2.1]hept-2-yl ester, rel-

**Hazard pictograms and signal word:**



GHS07



GHS09

**Signal word: Warning**

**Hazard statements:**

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H411: Toxic to aquatic life with long lasting effects.

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#### Precautionary statements:

##### Prevention:

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.  
 P264: Wash contaminated skin thoroughly after handling.  
 P272: Contaminated work clothing should not be allowed out of the workplace.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P273: Avoid release to the environment.

##### Response:

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.  
 P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.  
 P362: Take off contaminated clothing and wash before reuse.  
 P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P307 + P311: IF exposed: Call a POISON CENTER or doctor/physician.  
 P391: Collect spillage.

##### 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
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
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
Acrylate ester	Trade Secret	Trade Secret	10-20	Skin Sensitization Category 1 - H317 Skin Corrosion/Irritation Category 2 - H315 Aquatic Chronic Category 2 - H411
2-Propenoic acid, (5-ethyl-1,3-dioxan-5yl)methyl ester	66492-51-1	266-380-7	20-30	Skin Corrosion/Irritation Category 2 - H315 Skin Sensitization Category 1 - H317 Aquatic Chronic Category 2 - H411
Isobornyl acrylate	5888-33-5	227-561-6	1-10	Skin Sensitization Category 1 - H317 Aquatic Chronic Category 2 - H411 Aquatic Acute Category 1 - H400
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	162881-26-7	423-340-5	1-10	Skin Sensitization Category 1 - H317 Aquatic Chronic Category 4 - H413
Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	41556-26-7	255-437-1	1-5	Skin Sensitization Category 1 - H317 Aquatic Acute Category 1 - H400 Aquatic Chronic Category 1 - H410

### 4. FIRST AID MEASURES

**4.1 General Information:** Ensure that eyewash stations and safety showers are close to the workstation location.

**4.2 Inhalation:** Move affected person to fresh air. If respiratory irritation occurs, if breathing becomes difficult s

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**4.3 Skin contact:** 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 Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

**4.5 Ingestion:** If ingested, drink plenty of water and seek immediate medical attention. Do not induce vomiting.

**4.6 Indication of any immediate medical attention and special treatment needed:** 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 and procedure 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 machines that have exhaust ventilation capability. Make sure that the carbon filtration at the exhaust working properly.

**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 to establish engineering controls measures, such as local exhaust ventilation, to the printing rooms and 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:** black

**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>	114.5 (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>	~1400 (@ 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:** Oxidizing materials, strong acids and strong bases.

**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

**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 (DOT/ADR/RID/GGVSE):

UN Number : 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

Technical name : Acrylic polymers-other

Class : 9 Packaging group : III

Marine pollutant : yes

Contains: Acrylates

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

UN Number : 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

Technical name : Acrylic polymers-other

Class : 9 Packaging group : III

Marine pollutant : yes

Contains: Acrylates

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

UN Number : 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

Technical name : Acrylic polymers-other

Class : 9 Packaging group : III

Marine pollutant : yes

Contains: Acrylates

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#### 14.4 US Department of Transportation (DOT)

UN Number : 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

Technical name: Acrylic polymers-other

Class : 9 Packaging group : III

Marine pollutant : yes

Contains: Acrylates

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#### 15. REGULATORY INFORMATION

##### 15.1 EU regulations

EINEC/ELINCS/NLP: Not listed

REACH Annex XVII, Switzerland: volumes<1mt/yr is exempt from registration

##### 15.2 EU National regulations

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

##### 15.3 US FEDERAL

US EPA TSCA:

This product complies with TSCA Inventory requirements. 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. Further, the Exposure and Environmental Release Controls specified in this document are specified under the LVE and must be adhered to, at a minimum.

Toxic Substances Control Act (TSCA) - 5(a)(2) Significant New Use Rule List of Chemicals: None

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 contain one or more chemical components not listed according to chemical regulations in Australia, Canada (DSL or NDSL), China, European Union, Japan, Taiwan, New Zealand, Philippines, South Korea, and Switzerland chemical inventories.

There may be substance(s) not listed in the chemical inventory.

##### 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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#### 16. OTHER INFORMATION

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

H319: Causes serious eye damage  
H315: Causes skin irritation  
H400: Very toxic to aquatic life  
H410: Very toxic to aquatic life with long-lasting effects  
H317: May cause an allergic skin reaction  
H411: Toxic to aquatic life with long-lasting effects  
H412: Harmful to aquatic life with long-lasting effects  
H413: May cause long-lasting harmful effects to aquatic life

##### 16.2 Further information:

SDS Creation Date: ..... August 09, 2019  
SDS Revision #: ..... -01-A  
SDS Revision Date: ..... December 10, 2019  
Reason for Revision: ..... Update section 1, 9.

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

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