

**Safety Data Sheet**  
 according to Regulation (EC) No 1907/2006 and 1272/2008,  
 Hazard Communication Standard 29 CFR 1910 (USA),  
 WHS Regulations Australia,  
 JIS Z 7253 (2012) Japan

**VisiJet® M2R-CL**  
 Revision Date: June 28. 2018

**1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY/UNDERTAKING**
**1.1 Identification of the mixture: VisiJet® M2R-CL**
**1.2 Use of the preparation:** For use with ProJet® 2500 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  
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 800.424.9300 – Chemtrec

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 Chemical Emergency:  
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 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:**

Skin irritation	Category 2	H315
Skin Sensitization	Category 1	H317
Serious eye damage/irritation	Category 2A	H319
Acute Toxicity	Category 4	H332
Reproductive toxicity	Category 2	H361f
Aquatic environment-long-term hazard	Category 2	H411

**2.2 Label Elements**
**Regulation (EC) No, 1272/2008:**
**Hazard pictograms and signal word:**

**GHS07**

**GHS08**

**GHS09**
**Signal word: Warning**
**Hazard determining components of labelling:** 3-Hydroxy-2,2-dimethylpropyl 3-hydroxy-2,2-dimethylpropionate diacrylate, Diphenyl (2,4,6-trimethyl-benzoyl)phosphine oxide, monofunctional urethane acrylate

**Hazard statements:**

H315: Causes skin irritation  
 H317: May cause an allergic skin reaction  
 H319: Causes serious eye irritation  
 H332: Harmful if inhaled  
 H361f: Suspected of damaging fertility or the unborn child  
 H411: Toxic to aquatic life with long lasting effects

## Safety Data Sheet

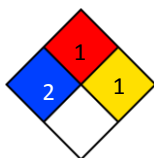
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#### Precautionary statements:

P261: Avoid breathing gas/mist/vapours/spray  
P264: Wash skin thoroughly after handling  
P280: Wear protective gloves, protective clothing, eye protection  
P302+350: If on skin, wash with soap and water  
P305+351+338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing  
P333+P313: If skin irritation or rash occurs: Get medical advice/attention  
P362: Take off contaminated clothing and wash before reuse  
P410+403: Protect from sunlight. Store in a well-ventilated place  
P501: Dispose of contents/container in accordance with local/regional regulations



#### NFPA Ratings

0 = Minimal  
1 = Slight  
2 = Moderate  
3 = Serious  
4 = Severe

#### Hazardous Materials Identification System (HMIS):

(Degree of hazard: 0 = low, 4 = extreme):

Health 2  
Flammability 1  
Physical Hazards 1

#### Personal Protection:

Skin, eye protection

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Chemical characterization:

**Description:** Organic mixture

#### 3.2 Dangerous components:

Chemical name	CAS-No	EC-No	%	Classification
				Regulation (EC) 1272/2008
3-Hydroxy-2,2-dimethylpropyl 3-hydroxy-2,2-dimethyl-propionate diacrylate	30145-51-8	250-072-4	15-30	Skin Sens. 1, H317 Eye Irrit.2A, H319
Tricyclodecane dimethanol diacrylate	42594-17-2	255-901-3	10-20	Skin Sens. 1, H317 Aqu. Chronic 2, H411
Diphenyl (2,4,6-trimethyl-benzoyl)phosphine oxide	75980-60-8	278-355-8	0.5-1.5	Skin Sens. 1, H317 Repr.2, H361 f Aqu. Chronic 2, H411
Isobornyl methacrylate	7534-94-3	231-403-1	10-20	Eye Irrit.2A, H319 Skin Irrit. 2, H315 STOT SE 3, H335 Aqu.Chron. 3, H412
Monofunctional aliphatic urethane acrylate	63225-53-6	264-036-0	20-40	Skin. Sens.1, H317 Acute Tox.4, H332 (constituent <84%) Aqu. Chronic 2, H411

### 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.

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**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. Absorb spillage with suitable absorbent materials. Place all waste in an appropriate container 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.  
Component Analysis:

Component	Component Manufacturer IEL (Internal Exposure Limit)		
Diphenyl (2,4,6-trimethylbenzoyl)phosphine oxide	3.5 mg/m <sup>3</sup>		
	DNEL (Derived No-Effect Level)		
	Long Term Oral	Long Term Dermal	Long Term Inhalation
Monofunctional aliphatic urethane acrylate	1 mg/kg bw/day Population: Consumers Effects: Systemic	1 mg/kg bw/day Population: Consumers Effects: Systemic	1.7 mg/m <sup>3</sup> Population: Consumers Effects: Systemic
		2 mg/kg bw/day Population: Worker	9.9 mg/m <sup>3</sup> Population: Workers Effects: Systemic

### 8.2 Exposure controls

**Technical measures to prevent exposure:** Use local exhaust ventilation.

**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:** If ventilation cannot effectively keep vapor concentrations below established limits, appropriate certified respiratory protection must be provided (e.g. 3M 6000 with organic vapor cartridge A2 or half mask 3M 4251).

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

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

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Appearance:

**Physical state:** liquid

**Colour:** Clear

**Odour:** Mild

### 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>	142°C (COC)
<b>Ignition temperature (°C):</b>	NA
<b>Vapour pressure (°C):</b>	NA
<b>Density (g/cm<sup>3</sup>):</b>	1.1
<b>Bulk density (kg/m<sup>3</sup>):</b>	NA
<b>Water solubility (20°C in g/l):</b>	insoluble
<b>Partition coefficient:</b>	NA
<b>n-Octanol/Water (log Po/w):</b>	NA
<b>Viscosity, dynamic (mPa s):</b>	10-13 (80°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.

#### 11. TOXICOLOGICAL INFORMATION

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

**11.2 Acute effects (toxicity tests)**

Component	LD <sub>50</sub> Oral	LD <sub>50</sub> Dermal	LC <sub>50</sub> (Inhalation)
Tricyclodecane dimethanol diacrylate	>5000 mg/kg	>5000 mg/kg	4h >40mg/l
Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide	> 5000 mg/kg	>2000 mg/kg	
Monofunctional aliphatic urethane acrylate	>2000-5000 mg/kg (rat)	NA	1-5 mg/l (rat) (OECD 436 (inhalative toxicity 4h, Rat), constituent < 84%

**Irritation to respiratory tract:** irritating

**Skin irritation:** irritating

**Eye irritation:** irritating

**Sensitisation:** 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.

#### 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.

	EC 50/48h	EC50/72h	EC0 (72h)	LC50
Monofunctional aliphatic urethane acrylate	18.6 mg/l (daphnia)	5.98 mg/l (algae)	2.72 mg/l (fish)	2.52 mg/l (fish), 96h
Tricyclodecane dimethanol diacrylate	2.4 mg/l (daphnia)	1.6 mg/l (green algae)		
Diphenyl (2,4,6-trimethylbenzoyl) phosphine oxide	3.53mg/l (daphnia)			6.53 mg/l (oryzias latipes), 48h

**12.2 Persistence and degradability**

Component	Data
Monofunctional aliphatic urethane acrylate	Aquatic half-life Fresh water 132 days, 25°C Biodegradability: Not readily

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#### 12.3 Bioaccumulative potential

Component	Data
Monofunctional aliphatic urethane acrylate	Biodegradability 15 % (28d) (OECD 301F) Not readily biodegradable (according to OECD criteria) LogPow 1.82

#### 12.4 Mobility in soil

Component	Data
Monofunctional aliphatic urethane acrylate	Soil/water partition coefficient (K <sub>oc</sub> ) 75.86

#### Ecotoxicological effects:

· **Remark:** Toxic for fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

#### 12.5 Results of PBT and vPvB assessment

· **PBT:** Persistent: Yes

· **vPvB:** Not applicable.

#### 12.6 Other adverse effects

No further relevant information available.

### 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.

### 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

Classification Code: M6

Packing group: III

Hazard label: 9

Risk No: 90

Tunnel restriction code: -

Marine pollutant : yes

Contains: Acrylates

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#### 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

Hazard label: 9

Marine pollutant : yes

Contains. Acrylates

#### 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

Hazard label: 9

Contains. Acrylates

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## 15. REGULATORY INFORMATION

### 15.1 EU regulations

EINEC/ELINCS/NLP: All materials are listed

REACH Annex XVII: None listed

### 15.2 National EU regulations

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

### 15.3 US FEDERAL

TSCA: All materials are listed on the TSCA Inventory or are not subject to TSCA requirements

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 Australian regulations

SUSDP, Industrial Chemicals Act 1989:

Australian Inventory of Chemical Substances, AICS: Listed

### 15.5 Japanese regulations

Chemical Risk Information platform (CHRIP)	Listed
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	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):

Skin irrit. 2, H 315- Skin irritation, category 2, H315: Causes skin irritation  
Skin sens. 1, H 317- Skin sensitization, category 1, H317: May cause an allergic skin reaction  
Eye Irrit. 2, H319 - Eye irritation, category 2, H319: Causes serious eye irritation  
Acute Tox.4, H332- Acute toxicity, category 4, H 332: Harmful if inhaled  
STOT SE 3, H335- Specific target organ toxicity-single exposure, category 3, H335: May cause respiratory irritation  
Repr.2, H361f: Reproductive toxicity, category 2, H 361f: Suspected of damaging fertility  
Aqu.Chron. 2, H411: Aquatic environment – long-term hazard, category 2, H411: Toxic to aquatic life with long lasting effects  
Aqu. Chron. 3, H412: Aquatic environment - long-term hazard, category 3, H412: Harmful to aquatic life with long lasting effects

##### 16.2 Further information:

SDS Creation Date: ..... January 5, 2017  
SDS Revision #: .....03-A  
SDS Revision Date: ..... June 28, 2018  
Reason for Revision: ..... Update Sections 1, 3,12,14,16

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