



**Engineering SLA Resin - Heavy Duty**

**SECTION 1: IDENTIFICATION**

- 1.1 GHS Product identifier:** Engineering SLA Resin - Heavy Duty  
**Other means of identification:**
- 1.2 Recommended use of the chemical and restrictions on use:**  
Relevant uses: Resin for 3D Printing. For professional users/industrial user only.  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:**  
FormFutura B.V.  
Tarweweg 3  
6534 AM Nijmegen - Netherlands  
Phone: +31 (0)88 743 4000  
product.compliance@formfutura.com  
www.formfutura.com
- 1.4 Emergency phone number:** +31 (0)30 274 8888, only for the doctor

**SECTION 2: HAZARD(S) IDENTIFICATION**

- 2.1 Classification of the substance or mixture:**  
**29 CFR 1910.1200:**  
Classification of this product has been carried out in accordance with paragraph (d) of § 1910.1200.  
Eye Irrit. 2A: Eye irritation, Category 2A, H319  
Repr. 2: Reproductive toxicity, Category 2, H361  
Skin Irrit. 2: Skin irritation, Category 2, H315  
Skin Sens. 1B: Sensitisation, skin, Category 1B, H317
- 2.2 Label elements:**  
**29 CFR 1910.1200:**  
**Warning**
-  
- Hazard statements:**  
Eye Irrit. 2A: H319 - Causes serious eye irritation.  
Repr. 2: H361 - Suspected of damaging fertility or the unborn child.  
Skin Irrit. 2: H315 - Causes skin irritation.  
Skin Sens. 1B: H317 - May cause an allergic skin reaction.
- Precautionary statements:**  
P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264: Wash thoroughly after use.  
P272: Contaminated work clothing should not be allowed out of the workplace.  
P280: Wear protective gloves/protective clothing/respiratory protection/eye protection/protective footwear.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313: IF exposed or concerned: Get medical advice/attention.  
P332+P313: If skin irritation occurs: Get medical advice/attention.  
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.  
P337+P313: If eye irritation persists: Get medical advice/attention.  
P405: Store locked up.  
P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively.
- Additional labeling:**



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## Engineering SLA Resin - Heavy Duty

### SECTION 2: HAZARD(S) IDENTIFICATION (continued)

#### WARNING

This product can expose you to chemicals including Silicon dioxide (RCS < 1%), which is [are] known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### 2.3 Hazards not otherwise classified (HNO):

Not applicable (N/A)

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances:

Non-applicable

#### 3.2 Mixtures:

**Chemical description:** Mixture of substances

#### Components:

Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name	Concentration
CAS: 42594-17-2	(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate	40 - <65 %
CAS: 4986-89-4	pentaerythritol tetraacrylate	9 - <30 %
CAS: 75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	0,5 - <2 %

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

### SECTION 4: FIRST-AID MEASURES

#### 4.1 Description of necessary measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

##### By inhalation:

This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

##### By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

##### By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

##### By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

#### 4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

#### 4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not applicable (N/A)

### SECTION 5: FIRE-FIGHTING MEASURES

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## Engineering SLA Resin - Heavy Duty

### SECTION 5: FIRE-FIGHTING MEASURES (continued)

#### 5.1 Suitable (and unsuitable) extinguishing media:

##### Suitable extinguishing media:

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

##### Unsuitable extinguishing media:

Non-applicable

#### 5.2 Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

#### 5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

##### Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures:

##### For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Evacuate the area and keep out those who do not have protection.

##### For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

#### 6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

#### 6.3 Methods and materials for containment and cleaning up:

For accidental releases in excess of reportable quantities (RQ) (Table 302.4), refer to 40 CFR 302 for detailed instructions concerning reporting requirements and notify the National Response Center (800) 424-8802.

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

#### 6.4 Reference to other sections:

See sections 8 and 13.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling:

##### A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

##### B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

##### C.- Technical recommendations on general occupational hygiene

PREGNANT WOMEN SHOULD NOT BE EXPOSED TO THIS PRODUCT. Transfer in fixed places that comply with the necessary security conditions (emergency showers and eyewash stations in close proximity), using personal protection equipment, especially on the hands and face (See section 8). Limit manual transfers to containers of small amounts. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

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## Engineering SLA Resin - Heavy Duty

### SECTION 7: HANDLING AND STORAGE (continued)

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

#### 7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 41 °F

Maximum Temp.: 86 °F

Maximum time: 15 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

#### 7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace:



There are no applicable occupational exposure limits for the substances contained in the product

#### 8.2 Appropriate engineering controls:


A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours (Filter type: FFP2)	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR)
 Mandatory respiratory tract protection	Filter mask for gases and vapours (Filter type: A)	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR)

C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Protective gloves against minor risks (Material: Nitrile)	Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional / industrial users, we recommend using chemical protection gloves. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)


As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)

**E.- Bodily protection**

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration.
	Anti-slip work shoes	Replace before any evidence of deterioration.

**F.- Additional emergency measures**

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**40 CFR Part 59 (VOC):**

V.O.C.(weight-percent):	0.06 % weight
V.O.C. at 68 °F:	0.72 kg/m <sup>3</sup> (0.72 g/L)

**California Air Resources Board (CARB) - VOC Regulatory:**

V.O.C.(weight-percent):	0.06 % weight
V.O.C. at 68 °F:	0.72 kg/m <sup>3</sup> (0.72 g/L)

**South Coast Air Quality Management District (AQMD) - VOC Regulatory:**

V.O.C.(weight-percent):	0.06 % weight
V.O.C. at 68 °F:	0.72 kg/m <sup>3</sup> (0.72 g/L)

**Ozone Transport Commission (OTC) Rules - VOC Regulatory:**

V.O.C.(weight-percent):	0.06 % weight
V.O.C. at 68 °F:	0.72 kg/m <sup>3</sup> (0.72 g/L)

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 68 °F:	Liquid
Appearance:	Viscous
Color:	 Grey
Odor:	Resin
Odour threshold:	Not applicable (N/A) *

**Volatility:**

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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**Engineering SLA Resin - Heavy Duty**

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)**

Boiling point at atmospheric pressure:	Not applicable (N/A) *
Vapour pressure at 68 °F:	Not applicable (N/A) *
Vapour pressure at 122 °F:	Not applicable (N/A) *
Evaporation rate at 68 °F:	Not applicable (N/A) *
<b>Product description:</b>	
Density at 68 °F:	~1120.3 kg/m <sup>3</sup>
Relative density at 68 °F:	1.12
Dynamic viscosity at 68 °F:	Not applicable (N/A) *
Kinematic viscosity at 68 °F:	Not applicable (N/A) *
Kinematic viscosity at 104 °F:	>20.5 mm <sup>2</sup> /s
Concentration:	Not applicable (N/A) *
pH:	≈6 - 8 (at 100 %)
Vapour density at 68 °F:	Not applicable (N/A) *
Partition coefficient n-octanol/water 68 °F:	Not applicable (N/A) *
Solubility in water at 68 °F:	Not applicable (N/A) *
Solubility properties:	Not applicable (N/A) *
Decomposition temperature:	Not applicable (N/A) *
Melting point/freezing point:	Not applicable (N/A) *
<b>Flammability:</b>	
Flash Point:	Non Flammable (>199.4 °F)
Flammability (solid, gas):	Not applicable (N/A) *
Autoignition temperature:	500 °F
Lower flammability limit:	Not applicable (N/A) *
Upper flammability limit:	Not applicable (N/A) *
<b>Particle characteristics:</b>	
Median equivalent diameter:	Non-applicable

**9.2 Other information:**

**Information with regard to physical hazard classes:**

Explosive properties:	Not applicable (N/A) *
Oxidising properties:	Not applicable (N/A) *
Corrosive to metals:	Not applicable (N/A) *
Heat of combustion:	Not applicable (N/A) *
Aerosols-total percentage (by mass) of flammable components:	Not applicable (N/A) *

**Other safety characteristics:**

Surface tension at 68 °F:	Not applicable (N/A) *
Refraction index:	Not applicable (N/A) *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

**SECTION 10: STABILITY AND REACTIVITY**

**10.1 Reactivity:**

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

**10.2 Chemical stability:**

Chemically stable under the indicated conditions of storage, handling and use.

**10.3 Possibility of hazardous reactions:**

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

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**Engineering SLA Resin - Heavy Duty**

**SECTION 10: STABILITY AND REACTIVITY (continued)**

**10.4 Conditions to avoid:**

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Avoid direct impact	Not applicable

**10.5 Incompatible materials:**

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Not applicable	Not applicable	Avoid alkalis or strong bases

**10.6 Hazardous decomposition products:**

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO), carbon monoxide and other organic compounds.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects:**

The experimental information related to the toxicological properties of the product itself is not available

**Dangerous health implications:**

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.  
IARC: Toluene (3); Carbon black (2B)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Suspected of damaging fertility or the unborn child

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

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**Engineering SLA Resin - Heavy Duty**

**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

**Other information:**

Not applicable (N/A)

**Specific toxicology information on the substances:**

Identification	Acute toxicity		Genus
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide CAS: 75980-60-8	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	Not applicable (N/A)	
	LC50 inhalation	Not applicable (N/A)	

**SECTION 12: ECOLOGICAL INFORMATION**

The experimental information related to the eco-toxicological properties of the product itself is not available

**12.1 Ecotoxicity (aquatic and terrestrial, where available):**

**Acute toxicity:**

Identification	Concentration		Species	Genus
(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate CAS: 42594-17-2	LC50	1.65 mg/L (96 h)	Danio rerio	Fish
	EC50	2.4 mg/L (48 h)	N/A	Crustacean
	EC50	1.2 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae

**12.2 Persistence and degradability:**

Not available

**12.3 Bioaccumulative potential:**

Not available

**12.4 Mobility in soil:**

Not available

**12.5 Results of PBT and vPvB assessment:**

Non-applicable

**12.6 Other adverse effects:**

Not described

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Disposal methods:**

IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO EVALUATE WHETHER HIS WASTES ARE HAZARDOUS BY CHARACTERISTICS OR LISTING.

**Waste management (disposal and evaluation):**

Follow RCRA framework and EPA regulation for to ensure that hazardous waste is managed safely and properly. Waste should not be disposed of to drains. Remind, It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing. See section 6 for further information about Accidental release measures.

**Regulations related to waste management:**

Legislation related to waste management:

40 CFR Solid Wastes - Part 239 through 282.

State regulatory requirements for generators may be more stringent than those in the federal program. Be sure to check the state's policies.

**SECTION 14: TRANSPORT INFORMATION**

**Other information:**

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**Engineering SLA Resin - Heavy Duty**

**SECTION 14: TRANSPORT INFORMATION (continued)**

ADR/RID: Special Provisions 274, 335, 601, 375. Not restricted as per Special Provisions 375. The provided packaging meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IMDG: Special Provisions 274, 335, 969. Not restricted as per 2.10.2.7. The provided packaging meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

IATA: Special Provisions A97, A158, A197. Not restricted as per Special Provisions A197. The provided packaging meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Products are transported on behalf of Liqcreate in sizes ≤5 L or ≤5 kg. The environmentally hazardous substance mark & the marine pollutant mark are not required when transported in sizes of ≤5 L or ≤5 kg.

**Transport of dangerous goods by land:**

With regard to 49 CFR on the Transport of Dangerous Goods:



- |                                                                                                                                                                                                                            |                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>14.1 UN number:</b>                                                                                                                                                                                                     | UN3082                                                                                                              |
| <b>14.2 UN proper shipping name:</b>                                                                                                                                                                                       | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate) |
| <b>14.3 Transport hazard class(es):</b>                                                                                                                                                                                    | 9                                                                                                                   |
| Labels:                                                                                                                                                                                                                    | 9                                                                                                                   |
| <b>14.4 Packing group, if applicable:</b>                                                                                                                                                                                  | III                                                                                                                 |
| <b>14.5 Marine pollutant:</b>                                                                                                                                                                                              | Yes                                                                                                                 |
| <b>14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises</b>                                             |                                                                                                                     |
| Physico-Chemical properties:                                                                                                                                                                                               | see section 9                                                                                                       |
| Limited quantities:                                                                                                                                                                                                        | 5 L                                                                                                                 |
| Under 49 CFR 171.4, Except when transporting aboard a vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicles, rail cars, and aircraft |                                                                                                                     |
| <b>14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):</b>                                                                                                                                    | Not applicable (N/A)                                                                                                |

**Transport of dangerous goods by sea:**

With regard to IMDG 40-20:



- |                                                                                                                                                                                |                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>14.1 UN number:</b>                                                                                                                                                         | UN3082                                                                                                              |
| <b>14.2 UN proper shipping name:</b>                                                                                                                                           | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate) |
| <b>14.3 Transport hazard class(es):</b>                                                                                                                                        | 9                                                                                                                   |
| Labels:                                                                                                                                                                        | 9                                                                                                                   |
| <b>14.4 Packing group, if applicable:</b>                                                                                                                                      | III                                                                                                                 |
| <b>14.5 Marine pollutant:</b>                                                                                                                                                  | Yes                                                                                                                 |
| <b>14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises</b> |                                                                                                                     |
| Special regulations:                                                                                                                                                           | 335, 969, 274                                                                                                       |
| EmS Codes:                                                                                                                                                                     | F-A, S-F                                                                                                            |
| Physico-Chemical properties:                                                                                                                                                   | see section 9                                                                                                       |
| Limited quantities:                                                                                                                                                            | 5 L                                                                                                                 |
| Segregation group:                                                                                                                                                             | Not applicable (N/A)                                                                                                |
| <b>14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):</b>                                                                                        | Not applicable (N/A)                                                                                                |

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2023:

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**Engineering SLA Resin - Heavy Duty**

**SECTION 14: TRANSPORT INFORMATION (continued)**



<b>14.1 UN number:</b>	UN3082
<b>14.2 UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate
<b>14.3 Transport hazard class(es):</b>	9
Labels:	9
<b>14.4 Packing group, if applicable:</b>	III
<b>14.5 Marine pollutant:</b>	Yes
<b>14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises</b>	
Physico-Chemical properties:	see section 9
<b>14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):</b>	Not applicable (N/A)

**SECTION 15: REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations specific for the product in question:**

- CALIFORNIA LABOR CODE - The Hazardous Substances List: *Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid (41637-38-1) ; cyclohexane (110-82-7) ; Toluene (108-88-3) ; Carbon black (1333-86-4) ; N-butyl acetate (123-86-4) ; Silicon dioxide (RCS < 1%) (7631-86-9)*
  - California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Birth defects or other reproductive harm: Not applicable (N/A)
  - California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Cancer: *Silicon dioxide (RCS < 1%) (7631-86-9)*
  - CANADA-Domestic Substances List (DSL): *Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid (41637-38-1) ; cyclohexane (110-82-7) ; Toluene (108-88-3) ; (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate (42594-17-2) ; pentaerythritol tetraacrylate (4986-89-4) ; Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (75980-60-8) ; 2,5-thiophenediylbis(5-tert-butyl-1,3-benzoxazole) (7128-64-5) ; Carbon black (1333-86-4) ; N-butyl acetate (123-86-4) ; Silicon dioxide (RCS < 1%) (7631-86-9)*
  - CANADA-Non-Domestic Substances List (NDSL): *Anatase (TiO<sub>2</sub>) (1317-70-0)*
  - Hazardous Air Pollutants (Clean Air Act): *Toluene (108-88-3)*
  - Massachusetts RTK - Substance List: *cyclohexane (110-82-7) ; Toluene (108-88-3) ; Carbon black (1333-86-4) ; N-butyl acetate (123-86-4) ; Silicon dioxide (RCS < 1%) (7631-86-9)*
  - Minnesota - Hazardous substances ERTK: *cyclohexane (110-82-7) ; Toluene (108-88-3) ; Carbon black (1333-86-4) ; N-butyl acetate (123-86-4) ; Silicon dioxide (RCS < 1%) (7631-86-9)*
  - New Jersey Worker and Community Right-to-Know Act: *cyclohexane (110-82-7) ; Toluene (108-88-3) ; Carbon black (1333-86-4) ; N-butyl acetate (123-86-4)*
  - New York RTK - Substance list: *cyclohexane (110-82-7) ; Toluene (108-88-3) ; N-butyl acetate (123-86-4)*
  - NTP (National Toxicology Program): *Silicon dioxide (RCS < 1%) (7631-86-9)*
  - OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): *Silicon dioxide (RCS < 1%) (7631-86-9)*
  - Pennsylvania Worker and Community Right-to-Know Law: *cyclohexane (110-82-7) ; Toluene (108-88-3) ; Carbon black (1333-86-4) ; N-butyl acetate (123-86-4) ; Anatase (TiO<sub>2</sub>) (1317-70-0) ; Silicon dioxide (RCS < 1%) (7631-86-9)*
  - Rhode Island - Hazardous substances RTK: *cyclohexane (110-82-7) ; Toluene (108-88-3) ; N-butyl acetate (123-86-4)*
  - The Toxic Substances Control Act (TSCA) : *Esterification products of 4,4'-isopropylidenediphenol, ethoxylated and 2-methylprop-2-enoic acid (41637-38-1) ; cyclohexane (110-82-7) ; Toluene (108-88-3) ; (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate (42594-17-2) ; pentaerythritol tetraacrylate (4986-89-4) ; Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (75980-60-8) ; 2,5-thiophenediylbis(5-tert-butyl-1,3-benzoxazole) (7128-64-5) ; Carbon black (1333-86-4) ; N-butyl acetate (123-86-4) ; Anatase (TiO<sub>2</sub>) (1317-70-0) ; Silicon dioxide (RCS < 1%) (7631-86-9)*
  - Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): *cyclohexane (110-82-7) ; Toluene (108-88-3)*
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: Not applicable (N/A)

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

**Other legislation:**

Take into consideration other applicable federal, state, and local laws and local regulations.

**SECTION 16: OTHER INFORMATION**

- CONTINUED ON NEXT PAGE -

**Engineering SLA Resin - Heavy Duty**

**SECTION 16: OTHER INFORMATION (continued)**

**Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

**Texts of the legislative phrases mentioned in section 2:**

H361: Suspected of damaging fertility or the unborn child.

H317: May cause an allergic skin reaction.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

**Advice related to training:**

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**

Occupational Safety & Health Administration (OSHA).

**Abbreviations and acronyms:**

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

CL50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon

IARC: International Agency for Research on Cancer

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END OF SAFETY DATA SHEET