

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 1 of 16

**Model V3 Resin** 

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

**Product Name:** Model V3 Resin **Product code:** FLDMBE03

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

**Relevant identified uses:** For use in Formlabs SLA Printers **Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer: United States Formlabs, Inc

35 Medford St Suite 201 Somerville, MA 02143 +1 617 855 0762

sds@formlabs.com

Supplier: Germany

Formlabs GmbH Nalepastr. 18 Berlin, . 12459 +49 30 700 146 501

1.4 Emergency telephone number:

**European Union** 

CHEMTREC (EMEA) +44 20 3885 0382 (24/7)

### SECTION 2: Hazard(s) identification

### 2.1 Classification of the substance or mixture:

### Classification according to Regulation (EC) No. 1272/2008 (CLP):

Skin irritation, category 2 Eye Irritation, category 2

Skin sensitization, category 1

Specific target organ toxicity - single exposure, category 3, respiratory tract irritation

Chronic aquatic hazard, category 2

### Hazard-determining components of labeling:

Urethane dimethacrylate

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Methacrylate Monomer(s)

Additional Information: None

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms:





**Signal Word:** Warning **Hazard statements:** 

H317 May cause an allergic skin reaction

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 2 of 16

### **Model V3 Resin**

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

H411 Toxic to aquatic life with long lasting effects

### **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

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

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area

P302+P352 IF ON SKIN: Wash with plenty of soap and water

P333+P313 If skin irritation or rash occurs: Get medical advice/attention

P363 Wash contaminated clothing before reuse

P391 Collect spillage

P332+P313 If skin irritation occurs: Get medical advice/attention

P362 Take off contaminated clothing

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

P337+P313 If eye irritation persists: Get medical advice/attention.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 Call a POISON CENTER/doctor/ if you feel unwell

P403+P233 Store in a well-ventilated place. Keep container tightly closed

P405 Store locked up

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

### 2.3 Other hazards: None known

### **SECTION 3: Composition/information on ingredients**

### **3.1 Substance:** Not applicable.

### 3.2 Mixture:

Identification	EU REACH Registration No.	Name	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Weight %
CAS number: Trade Secret EC number: Trade Secret	-	Methacrylate Monomer(s)	Skin Sens. 1; H317 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3 (RI); H335 Aquatic Chronic 4; H413	50-70
CAS number: 72869-86-4 EC number: 276-957-5	-	Urethane dimethacrylate	Skin Sens. 1; H317 Aquatic Chronic 2; H411	30-50
CAS number: 162881-26-7 EC number: 423-340-5	-	Phenyl bis(2,4,6-trimethylbenzoyl)- phosphine oxide	Aquatic Chronic 4; H413 Skin Sens. 1A; H317	<1

Additional information: None

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 3 of 16

**Model V3 Resin** 

Full Text of H and EUH statements: See section 16

### **SECTION 4: First aid measures**

### 4.1 Description of first aid measures

### **General notes:**

Show this Safety Data Sheet to the doctor in attendance.

### Following inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. If respiratory symptoms develop or persist, seek medical advice/attention.

### Following skin contact:

Wash affected area with plenty of soap and water. Remove contaminated clothing and launder before reuse. If skin irritation develops or persists, seek medical advice/attention.

### Following eye contact:

Immediately rinse eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. If eye irritation develops or persists, seek medical advice/attention.

### Following ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by physician or poison control center. Rinse mouth with water. Never give anything to drink to an unconscious person. Seek medical advice.

### Self-Protection of the first aider:

Not determined or not available.

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

### Acute symptoms and effects:

Dermal exposure may cause an allergic skin reaction. Symptoms may include irritation, redness, pain, rash, inflammation, itching, burning and dermatitis.

Skin contact may result in redness, pain, burning and inflammation.

Eye contact may result in irritation, redness, pain, inflammation, itching, burning and tearing. Inhalation may have adverse effects on the respiratory tract. Symptoms may include cough, breathing difficulties, sore throat and inflammation of the mucous membrane lining the respiratory tract.

### **Delayed symptoms and effects:**

Effects are dependent on exposure (dose, concentration, contact time).

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

## **Specific treatment:**

If respiratory symptoms persist, seek medical attention.

### Notes for the doctor:

Treat symptomatically.

### **SECTION 5: Firefighting measures**

# 5.1 Extinguishing media

### Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

# Unsuitable extinguishing media:

Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture:

Thermal decomposition may produce irritating/toxic fumes/gases.

### 5.3 Advice for firefighters

### **Personal protection equipment:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 4 of 16

### **Model V3 Resin**

(SCBA) with a full-face piece operated in positive pressure mode.

## **Special precautions:**

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

### **SECTION 6: Accidental release measures**

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

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

### **6.2 Environmental precautions:**

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

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

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

### 6.4 Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

### **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

# 7.2 Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

### 7.3 Specific end use(s):

Refer to Section 1 (Recommended Use).

### SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

No occupational exposure limits noted for the ingredient(s).

## **Biological limit values:**

No biological exposure limits noted for the ingredient(s).

### **Derived No Effect Level (DNEL):**

**Ingredient Name:** Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

**CAS #:** 162881-26-7

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 5 of 16

# **Model V3 Resin**

Workers - Systemic	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	Not determined or not applicable.
	Acute - Dermal	No hazard identified
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	21 mg/m³
	Chronic - Dermal	3 mg/kg bw/day
	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	Not determined or not applicable.
Workers - Local	Acute - Dermal	Hazard identified but no DNEL available
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	Not determined or not applicable.
	Chronic - Dermal	Hazard identified but no DNEL available
	Acute - Oral	No hazard identified
	Acute - Inhalation	Not determined or not applicable.
General Population -	Acute - Dermal	No hazard identified
Systemic Effects	Chronic - Oral	1.5 mg/kg bw/day
	Chronic - Inhalation	5.2 mg/m³
	Chronic - Dermal	1.5 mg/kg bw/day
	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	Not determined or not applicable.
General Population -	Acute - Dermal	Hazard identified but no DNEL available
Local Effect	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	Not determined or not applicable.
	Chronic - Dermal	Hazard identified but no DNEL available
	-	

**Ingredient Name:** Methacrylate Monomer(s)

CAS #: Trade Secret

CAS #1 Hade Secret		
Workers - Systemic	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	3.52 mg/m³
	Chronic - Dermal	2 mg/kg bw/day
Workers - Local Effects	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 6 of 16

**Model V3 Resin** 

General Population -	Acute - Oral	No hazard identified
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
Systemic Effects	Chronic - Oral	0.5 mg/kg bw/day
	Chronic - Inhalation	0.87 mg/m³
	Chronic - Dermal	1 mg/kg bw/day
General Population - Local Effect	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No hazard identified
	Acute - Dermal	No hazard identified
	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No hazard identified
	Chronic - Dermal	No hazard identified

**Ingredient Name:** Urethane dimethacrylate

CAS #: 72869-86-4

Workers - Systemic	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No exposure expected
	Acute - Dermal	No hazard identified
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	3.3 mg/m³
	Chronic - Dermal	1.3 mg/kg bw/day
	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No exposure expected
Workers - Local	Acute - Dermal	Hazard identified but no DNEL available
Effects	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No exposure expected
	Chronic - Dermal	Hazard identified but no DNEL available
	Acute - Oral	No hazard identified
	Acute - Inhalation	No exposure expected
General Population -	Acute - Dermal	No hazard identified
Systemic Effects	Chronic - Oral	0.3 mg/kg bw/day
	Chronic - Inhalation	0.6 mg/m³
	Chronic - Dermal	0.7 mg/kg bw/day
	Acute - Oral	Not determined or not applicable.
	Acute - Inhalation	No exposure expected
General Population -	Acute - Dermal	No exposure expected
Local Effect	Chronic - Oral	Not determined or not applicable.
	Chronic - Inhalation	No exposure expected
	Chronic - Dermal	Hazard identified but no DNEL available
	Cilionic Definal	Trazara racritirea bac no bivel available

# **Predicted No Effect Concentration (PNEC):**

Ingredient Name: Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

**CAS #:** 162881-26-7

<b>Environmental Protection Target</b>	PNEC
Fresh water	0.8 μg/L
Freshwater sediments	0.712 mg/kg

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 7 of 16

**Model V3 Resin** 

Marine water	0.8 μg/L
Marine sediments	0.712 mg/kg
Microorganisms in sewage treatment	Not determined or not available.
Soil (agricultural)	0.012 mg/kg soil dw
Air	No hazard identified
Oral (Secondary Poisoning)	No exposure expected

**Ingredient Name:** Methacrylate Monomer(s)

CAS #: Trade Secret

<b>Environmental Protection Target</b>	PNEC
Fresh water	Not determined or not available.
Freshwater sediments	Not determined or not available.
Marine water	Not determined or not available.
Marine sediments	Not determined or not available.
Microorganisms in sewage treatment	Not determined or not available.
Soil (agricultural)	Not determined or not available.
Air	No hazard identified

Ingredient Name: Urethane dimethacrylate

CAS #: 72869-86-4

<b>Environmental Protection Target</b>	PNEC
Fresh water	0.01 mg/L
Freshwater sediments	4.56 mg/kg sediment dw
Marine water	0.001 mg/L
Marine sediments	0.46 mg/kg sediment dw
Microorganisms in sewage treatment	3.61 mg/L
Soil (agricultural)	0.91 mg/kg soil dw
Air	No hazard identified
Oral (Secondary Poisoning)	No exposure expected

## Information on monitoring procedures:

Not determined or not applicable.

### 8.2 Exposure controls

### **Appropriate engineering controls:**

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

# Personal protection equipment

### **Eye and face protection:**

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

# Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 8 of 16

**Model V3 Resin** 

### **Respiratory protection:**

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

## **General hygienic measures:**

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

# **Environmental exposure controls:**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Product (substance / mixture) related measures to prevent exposure:	Not determined or not applicable.
Instruction measures to prevent exposure:	Not determined or not applicable.
Organisational measures to prevent exposure:	Not determined or not applicable.
Technical measures to prevent exposure:	Not determined or not applicable.

## Risk management measures to control exposure:

Not determined or not applicable.

# **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

Physical State	Opaque beige liquid
Color	Not determined or not available.
Odor/Odor threshold	Characteristic acrylate
рН	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	>100°C
Flash point (closed cup)	>93.5°C
Flammability	Not flammable
Upper flammability/explosive limit	Not determined or not available.
Lower flammability/explosive limit	Not determined or not available.
Vapor pressure	Not determined or not available.
Relative vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	Not determined or not available.
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Kinematic viscosity	Not determined or not available.
Particle characteristics	Not determined or not available.

### 9.2 Other information

# 9.2.1 Information with regard to physical hazard classes

Explosives No data available/Not applicable	
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According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 9 of 16

**Model V3 Resin** 

Flammable gases	No data available/Not applicable
Aerosols	No data available/Not applicable
Oxidizing gases	No data available/Not applicable
Gases under pressure	No data available/Not applicable
Flammable liquids	No data available/Not applicable
Flammable solids	No data available/Not applicable
Self-reactive substances and mixtures	No data available/Not applicable
Pyrophoric liquids	No data available/Not applicable
Pyrophoric solids	No data available/Not applicable
Self-heating substances and mixtures	No data available/Not applicable
Substances and mixtures, which emit flammable gases in contact with water	No data available/Not applicable
Oxidizing liquids	No data available/Not applicable
Oxidizing solids	No data available/Not applicable
Organic peroxides	No data available/Not applicable
Corrosive to metals	No data available/Not applicable
Desensitized explosives	No data available/Not applicable

## 9.2.2 Other safety characteristics

None.

# SECTION 10: Stability and reactivity

### 10.1 Reactivity:

Not reactive under recommended handling and storage conditions.

### 10.2 Chemical stability:

Stable under recommended handling and storage conditions.

## 10.3 Possibility of hazardous reactions:

Stable under recommended handling and storage conditions.

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

### 10.4 Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials. Avoid storage >38°C (100°F) and exposure to light/direct sunlight and heat.

### 10.5 Incompatible materials:

Polymerization initiators, including peroxides, strong oxidizing agents, alcohols, copper, copper alloys, carbon steel, iron, rust, and strong bases.

## 10.6 Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# **SECTION 11: Toxicological information**

# 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 Acute toxicity

**Assessment:** Based on available data, the classification criteria are not met.

Product data: No data available.

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 10 of 16

**Model V3 Resin** 

### Substance data:

Name	Route	Result
Urethane dimethacrylate	oral	LD50 Rat: >5000 mg/kg
	dermal	LD50 Rat: >2000 mg/kg
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine	oral	LD50 Rat: >2000 mg/kg
oxide	dermal	LD50 Rat: >2000 mg/kg

## Skin corrosion/irritation

### **Assessment:**

Causes skin irritation.

Product data:

No data available.

### Substance data:

Name	Result
Methacrylate Monomer(s)	Causes skin irritation.

# Serious eye damage/irritation

# **Assessment:**

Causes serious eye irritation.

### **Product data:**

No data available.

### **Substance data:**

Name	Result
Methacrylate Monomer(s)	Cause serious eye irritation.

# Respiratory or skin sensitization

### **Assessment:**

May cause an allergic skin reaction.

# Product data:

No data available.

### Substance data:

Name	Result
Urethane dimethacrylate	May cause an allergic skin reaction.
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine oxide	May cause an allergic skin reaction.
Methacrylate Monomer(s)	May cause an allergic skin reaction.

# Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

# International Agency for Research on Cancer (IARC):

Name	Classification
Urethane dimethacrylate	Not Applicable
Methacrylate Monomer(s)	Not Applicable

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 11 of 16

**Model V3 Resin** 

Name	Classification
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine oxide	Not Applicable

### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

**Reproductive Toxicity** 

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**No data available.

Substance data: No data available.

### **Specific target organ toxicity (single exposure)**

### **Assessment:**

May cause respiratory irritation.

# Product data: No data available. Substance data:

Name	Result
Methacrylate Monomer(s)	May cause respiratory irritation.

# Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**No data available.

Substance data: No data available.

**Aspiration toxicity** 

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**No data available.

Substance data: No data available.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

# 11.2 Information on other hazards

Endocrine disrupting properties: Substance data: No data available.

Other information: No data available.

### **SECTION 12: Ecological information**

### 12.1 Toxicity

### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

Product data: No data available.

**Substance data:** 

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 12 of 16

**Model V3 Resin** 

Name	Result
Urethane dimethacrylate	Fish LC50 Danio rerio: 10.1 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: > 1.2 mg/L (48 hr)
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine oxide	Aquatic Plants EC50 Green algae: >0.26 mg/L (72 hr [growth rate])
	Fish LC50 Freshwater fish: >0.09 mg/L (96 hr)
	Aquatic Invertebrates EC50 Not specified: >1.175 mg/L (48 hr [mobility])

# Chronic (long-term) toxicity

### Assessment:

Toxic to aquatic life with long lasting effects.

Product data: No data available.

### Substance data:

Name	Result
Urethane dimethacrylate	Aquatic Plants NOEC Desmodesmus subspicatus: 0.21 mg/L (72 hr)

# 12.2 Persistence and degradability

Product data: No data available.

### Substance data:

Name	Result
Urethane dimethacrylate	The substance is not readily biodegradable (22% degradation in 28 days).
	This substance is not readily biodegradable. No degradation was observed during 28 day test period.
Methacrylate Monomer(s)	The substance is inherently biodegradable (>24% degradation in 28 days and >60% degradation in 60 days).

# 12.3 Bioaccumulative potential

Product data: No data available.

### Substance data:

Name	Result
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine oxide	Bioaccumulation is not expected. BCF (aquatic species): 5 dimensionless
Methacrylate Monomer(s)	The substance is not expected to bioaccumulate (BCF: 7.9 L/Kg).

# 12.4 Mobility in soil

Product data: No data available.

# Substance data:

Name	Result
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine oxide	Based upon the log Koc of 3.85 an adsorption to the soil is expected.
	The substance has moderate potential to adsorb to organic soil and sediment particles (log Koc: 3.66 dimensionless).

### 12.5 Results of PBT and vPvB assessment

### **Product data:**

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT. **vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 13 of 16

**Model V3 Resin** 

#### Substance data:

### **PBT** assessment:

Urethane dimethacrylate	This substance is not PBT.
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine oxide	This substance is not PBT.
Methacrylate Monomer(s)	The substance is not PBT.

### vPvB assessment:

Urethane dimethacrylate	This substance is not vPvB.	
Phenyl bis(2,4,6- trimethylbenzoyl)-phosphine oxide	This substance is not vPvB.	
Methacrylate Monomer(s)	The substance is not vPvB.	

## 12.6 Endocrine disrupting properties

Substance data: No data available.

12.7 Other adverse effects: No data available.

12.8 Hazard to the ozone layer

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available. **Substance data:** No data available.

### **SECTION 13: Disposal considerations**

### 13.1 Waste treatment methods

### 13.1.1 Product / Packaging disposal:

Dispose contaminated packages in a safe manner in accordance with local and national regulations. Do not allow the product to be released into the environment.

Waste codes / waste designations according to LoW: Not determined or not available.

- **13.1.2 Waste treatment-relevant information:** Not determined or not available.
- 13.1.3 Sewage disposal-relevant information: Not determined or not available.

# 13.1.4 Other disposal recommendations:

Do not discharge into public wastewater or surface waters. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

### **SECTION 14: Transport information**

### International Carriage of Dangerous Goods by Road/Rail (ADR/RID)

UN number or ID number	UN 3082	
UN proper shipping name	Environmentally hazardous liquid, N.O.S. Urethane dimethacrylate	
UN transport hazard class(es)	9	
Packing group	III	
Environmental hazards	None	
Special precautions for user	None	

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 14 of 16

**Model V3 Resin** 

Additional Information	This product is not regulated as a dangerous good when
	transported in sizes of ≤5L or ≤5 kg provided the packaging
	meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to
	4.1.1.8.

# International Carriage of Dangerous Goods by Inland Waterways (ADN)

UN number or ID number	UN 3082	
UN proper shipping name	Environmentally hazardous liquid, N.O.S. Urethane dimethacrylate	
UN transport hazard class(es)	None	
Packing group	III	
Environmental hazards	Marine Pollutant	
Special precautions for user	None	
Additional Information	This product is not regulated as a dangerous good when transported in sizes of $\leq 5L$ or $\leq 5$ kg provided the packaging meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	

# **International Maritime Dangerous Goods (IMDG)**

UN number or ID number	UN 3082	
UN proper shipping name	Environmentally hazardous liquid, N.O.S. Urethane dimethacrylate	
UN transport hazard class(es)	9	
Packing group	III	
Environmental hazards	Marine Pollutant	
Special precautions for user	None	
Additional Information	This product is not regulated as a dangerous good when transported in sizes of $\leq 5L$ or $\leq 5$ kg provided the packaging meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	

# International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number or ID number	UN 3082	
UN proper shipping name  Environmentally hazardous liquid, N.O.S. Urethane dimethacrylate		
UN transport hazard class(es)	None	
Packing group	III	
Environmental hazards	Marine Pollutant	
Special precautions for user None		
Additional Information	This product is not regulated as a dangerous good when transported in sizes of $\leq 5L$ or $5\leq kg$ provided the packaging meets the general provisions of $5.0.2.4.1$ , $5.0.2.6.1$ and $5.0.2.8$ .	

# Maritime Transport in Bulk according to IMO Instruments

Bulk Name	None

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 15 of 16

**Model V3 Resin** 

Ship type	None
Pollution category	None
IMO hazard class	None
<b>Environmental hazards</b>	None
Material hazardous only in bulk	None
Cargo Group	None

# **SECTION 15: Regulatory information**

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

# **Inventory listing (EINECS):**

72869-86-4	Urethane dimethacrylate	Listed
Trade Secret	Methacrylate Monomer(s)	Listed
162881-26-7	[·····································	Not Listed

**REACH SVHC candidate list:** None of the ingredients are listed. **REACH SVHC Authorizations:** None of the ingredients are listed.

**REACH Restriction:** None of the ingredients are listed. **Water hazard class (WGK) (Product):** Not determined.

# Water hazard class (WGK) (Substance):

Ingredient Name	CAS	Class
Urethane dimethacrylate	72869-86-4	Water hazard class 1: slightly hazardous to water
Phenyl bis(2,4,6- trimethylbenzoyl)- phosphine oxide	162881-26-7	Water hazard class 1: slightly hazardous to water
Methacrylate Monomer(s)	Trade Secret	Water hazard class 1: slightly hazardous to water

### Other regulations

**Germany TA Luft:** None of the ingredients are listed.

**Additional information:** Not determined.

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

### **SECTION 16: Other information**

# **Abbreviations and Acronyms: None**

**Classification procedure:** 

Classification according to Regulation (EC) No. 1272/2008 (CLP)	Method Used
Skin irritation, category 2	Calculation method
Eye Irritation, category 2	Calculation method
Skin sensitization, category 1	Calculation method
Specific target organ toxicity - single exposure, category 3, respiratory tract irritation	Calculation method
Chronic aquatic hazard, category 2	Calculation method

### Summary of classification(s) in section 3:

[	Skin Sens. 1	Skin sensitization, category 1

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878.

Initial preparation date: 12.01.2022 Page 16 of 16

### **Model V3 Resin**

Skin Irrit. 2	Skin irritation, category 2
Eye Irrit. 2	Eye Irritation, category 2
STOT SE 3 (RI)	Specific target organ toxicity - single exposure, category 3, respiratory tract irritation
Aquatic Chronic 4	Chronic aquatic hazard, category 4
Aquatic Chronic 2	Chronic aquatic hazard, category 2
Skin Sens. 1A	Skin sensitization, category 1A

# **Summary of hazard statements in section 3:**

H317	May cause an allergic skin reaction
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H413	May cause long lasting harmful effects to aquatic life
H411	Toxic to aquatic life with long lasting effects

### **Disclaimer:**

This product has been classified in accordance with EC No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and EC No. 1907/2006 (REACH), as amended by Commission Regulation (EU) 2020/878. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation, and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

**Initial preparation date: 12.01.2022** 

**Revision date:** 

**End of Safety Data Sheet**