

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 06/14/2016

Reviewed on 11/14/2018

· **Product Identifier**

· **Trade name: Formlabs Denture Base**

· **Product Number:** Denture Base

· **Relevant identified uses of the substance or mixture and uses advised against:**

· **Product Description** light curable denture base resin

· **Application of the substance / the mixture:** Making denture bases

· **Details of the Supplier of the Safety Data Sheet:**

· **Manufacturer/Supplier:**

DENTCA Inc.

357 Van Ness Way, Suite 250

Torrance, CA 90501, U.S.A.

Phone; 1-424-558-8726

Fax; 1-424-558-8738

info@dentca.com

www.dentca.com

· **Emergency telephone number:** 1-424-558-8726

· **Classification of the substance or mixture:**



GHS07

Eye Irrit. 2A      H319 Causes serious eye irritation.

Aquatic Acute 3    H402 Harmful to aquatic life.

· **Label elements:**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**



GHS07

· **Signal word:** Warning

· **Hazard statements:**

H319 Causes serious eye irritation.

H402 Harmful to aquatic life.

· **Precautionary statements:**

P280                      Wear eye protection / face protection.

P273                      Avoid release to the environment.

P264                      Wash thoroughly after handling.

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

(Contd. on page 2)

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**Trade name: Formlabs Denture Base**

P337+P313 If eye irritation persists: Get medical advice/attention.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Unknown acute toxicity:**

55 % of the mixture consists of component(s) of unknown toxicity.

· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 1  
 Fire = 0  
 0 Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

1 Health = 1  
 0 Fire = 0  
 REACTIVITY 0 Reactivity = 0

· **Hazard(s) not otherwise classified (HNOC):** None known\* · **Chemical characterization: Mixtures**· **Description:** Mixture of substances listed below with non-hazardous additions.· **Dangerous Components:**

	Methacrylate monomer ~ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	40-60%
72869-86-4	Diurethane dimethacrylate ~ Skin Sens. 1, H317	30-50%
3290-92-4	Propylidynetrimethyl trimethacrylate	5-10%
	Initiator ~ Skin Sens. 1, H317; Aquatic Chronic 4, H413	≤ 3.0%
	Inhibitor ~ Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1, H317	≤ 1.0%
	Pigment 1 ☠ Carc. 1B, H350; Repr. 1A, H360; STOT RE 2, H373; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	≤ 1.0%
	Pigment 3 ☠ Carc. 2, H351; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	≤ 1.0%
	Pigment 5 ☠ Resp. Sens. 1A, H334; STOT RE 1, H372; ~Skin Sens. 1A, H317; Combustible <u>Dust</u>	≤ 1.0%

· **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

· **Description of first aid measures:**· **After inhalation:** Supply fresh air; consult doctor in case of complaints.· **After skin contact:** Generally the product does not irritate the skin.

(Contd. on page 3)

· **After eye contact:**

If eye irritation occurs, consult a doctor.

Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If swallowed and symptoms occur, consult a doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed:** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

· **Extinguishing media:**

· **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture:** No further relevant information available.

· **Advice for firefighters:**

· **Protective equipment:**

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

· **Personal precautions, protective equipment and emergency procedures:** Not required.

· **Environmental precautions:** Do not allow to enter sewers/surface or ground water.

· **Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to section 13.

Dispose of the collected material according to regulations.

· **Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Handling**

· **Precautions for safe handling:** Open and handle receptacle with care.

· **Information about protection against explosions and fires:** Keep protective respiratory device available.

· **Conditions for safe storage, including any incompatibilities:**

· **Storage**

· **Requirements to be met by storerooms and receptacles:** Store in the original container.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep receptacle tightly sealed.

· **Specific end use(s):** No further relevant information available.

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· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters:**

· **Components with occupational exposure limits:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

(Contd. on page 4)

**3290-92-4 Propylidynetrimethyl trimethacrylate**

WEEL Long-term value: 1 mg/m<sup>3</sup>  
Skin

**· Ingredients with biological limit values:****Pigment 1**

BEI 25 µg/L  
urine  
end of shift at end of workweek  
Total chromium (fume)

10 µg/L  
urine  
increase during shift  
Total chromium (fume)

· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:** Not required.

· **Protection of hands:** Not required.

· **Material of gloves:** Not required.

· **Penetration time of glove material:** Not applicable.

· **Eye protection:**



Tightly sealed goggles

**· Information on basic physical and chemical properties****· General Information****· Appearance:**

**Form:**

Liquid

**Color:**

Pink

· **Odor:**

Ester-like

· **Odor threshold:**

Not determined.

· **pH-value:**

Not applicable.

**· Change in condition**

**Melting point/Melting range:**

Not determined.

**Boiling point/Boiling range:**

101 °C (214 °F)

· **Flash point:**

65 °C (149 °F)

(Contd. on page 5)

- **Flammability (solid, gaseous):** Not determined.
- **Ignition temperature:** 430 °C (806 °F)
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower:** 2.1 Vol %
  - Upper:** 12.5 Vol %
- **Vapor pressure @ 20 °C (68 °F):** 47 hPa (35 mm Hg)
- **Density:**
  - Relative density:** Not determined.
  - Vapor density:** Not applicable.
  - Evaporation rate:** Not applicable.
- **Solubility in / Miscibility with:**
  - Water:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic @ 20 °C (68 °F):** 1000-4000 cPs
  - Kinematic:** Not applicable.
- **Solvent content:**
  - Organic solvents:** 1.5 %
  - VOC content:** 1.5 %
  - Solids content:** 1.8 %
- **Other information:** No further relevant information available.

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- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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- **Information on toxicological effects:**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

<b>72869-86-4 Diurethane dimethacrylate</b>		
Oral	LD50	>5000 mg/kg (rat)
<b>Inhibitor</b>		
Oral	LD50	1600 mg/kg (rat)

<b>Pigment 1</b>		
Oral	LD50	>10000 mg/kg (rat)
<b>Pigment 3</b>		
Oral	LD50	>10000 mg/kg (rat)
Dermal	LD50	>10000 mg/kg (rabbit)
Inhalative	LC50/4 h	>6.82 mg/l (rat)

· **Primary irritant effect:**

· **On the skin:** No irritating effect.

· **On the eye:** Irritating effect.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

· **Carcinogenic categories:**

· **IARC (International Agency for Research on Cancer):**

80-62-6	Methyl methacrylate	3
9011-14-7	Poly(methyl methacrylate)	3
	Pigment 1	1
	Pigment 3	2B

· **NTP (National Toxicology Program):**

Pigment 1	K
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· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

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· **Toxicity:**

· **Aquatic toxicity:**

**72869-86-4 Diurethane dimethacrylate**

EC50 >1.2 mg/l (daphnia)

**Pigment 3**

EC50 >1000 mg/l (Water flea)

· **Persistence and degradability:** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential:** No further relevant information available.

· **Mobility in soil:** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

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.

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

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

(Contd. on page 7)

- **Waste treatment methods:**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

- **UN-Number:**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **DOT, ADR, ADN, IMDG, IATA**
- **Class:** Non-Regulated Material
- **Packing group:**
- **DOT, ADR, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

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- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed or exempt from listing.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**

Pigment 1

Pigment 3

· **Chemicals known to cause reproductive toxicity for females:**

Pigment 1

· **Chemicals known to cause reproductive toxicity for males:**

Pigment 1

· **Chemicals known to cause developmental toxicity:**

Pigment 1

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

Pigment 1

Pigment 3

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**



GHS07

· **Signal word:** Warning

· **Hazard statements:**

H319 Causes serious eye irritation.

H402 Harmful to aquatic life.

· **Precautionary statements:**

P280 Wear eye protection / face protection.

P273 Avoid release to the environment.

P264 Wash thoroughly after handling.

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.

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

· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· **Information about limitation of use:**

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision:** 11/14/2018 / 1

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances



ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEI: Biological Exposure Limit  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Resp. Sens. 1A: Respiratory sensitisation – Category 1A  
Skin Sens. 1: Skin sensitisation – Category 1  
Skin Sens. 1A: Skin sensitisation – Category 1A  
Carc. 1B: Carcinogenicity – Category 1B  
Carc. 2: Carcinogenicity – Category 2  
Repr. 1A: Reproductive toxicity – Category 1A  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1  
Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3  
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1  
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

· \* **Data compared to the previous version altered.**

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