

# DENTSPLY International

## Safety Data Sheet

Safety Data Sheet (in compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010), US 29CFR1910.1200, Canada Hazardous Products Regulation

Date Issued: 16 February 1997

Document Number: 174

Date Revised: 2 August 2017

Revision Number: 6

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier:

**Trade Name (as labeled):** Hy-Pro Lucitone® Denture Base Resin  
**Part/Item Number:** 684101, 684102, 684104, 684106, 684127, 684175, 684177 - 684179, 684181, 684302, 684303, 684308, 684311, 684406, 684407, 684409, 684411

#### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:

**Recommended Use:** Resin used in removable dental appliances.  
**Restrictions on Use:** For Professional Use Only

#### 1.3 Details of the Supplier of the Safety Data Sheet:

**Manufacturer/Supplier Name:** Dentsply Sirona Prosthetics  
**Manufacturer/Supplier Address:** 570 West College Ave.  
York, PA 17401  
**Manufacturer/Supplier Telephone Number:** 717-845-7511 (Product Information)  
**Email address:** Prosthetics\_MSDS@Dentsplysirona.com

#### 1.4 Emergency Telephone Number:

**Emergency Contact Telephone Number:** 800-424-9300 Chemtrec

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the Substance or Mixture:

GHS Classification:		
Health	Environmental	Physical
Carcinogen Category 2 (H351) Eye Irritant Category 2 (H319) Reproductive Toxicity Category 1B (H360Df) Skin Irritant Category 2 (H315) Specific Target Organ Toxicity – Single Exposure Category 3 (H335)	Aquatic Chronic Toxicity Category 3 (H412)	Not Hazardous

**OSHA Specific Hazards:** Combustible Dust

**2.2 Label Elements:**



**Signal Word:** Danger

Contains: Dibutyl Phthalate and Titanium Dioxide

Hazard Phrases	Precautionary Phrases
<p>May form combustible dust concentrations in air.                      H315 Causes skin irritation.                      H319 Causes serious eye irritation.                      H335 may cause respiratory irritation.                      H351 Suspected of causing cancer.                      H360Df May damage the unborn child. Suspected of damaging fertility.                      H412 Harmful to aquatic life with long lasting effects.</p>	<p>P201 Obtain special instructions before use.                      P202 Do not handle until all safety precautions have been read and understood.                      P210 Keep away from heat, sparks, and open flames. No smoking.                      P261 Avoid breathing dust.                      P264 Wash thoroughly after handling.                      P271 Use only outdoors or in a well-ventilated area.                      P273 Avoid release to the environment.                      P280 Wear protective gloves, eye protection and face protection.                      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 attention.                      P302+P352 IF ON SKIN: Wash with plenty of soap and water.                      P332+P313 If skin irritation occurs: Get medical attention.                      P362 Take off contaminated clothing and wash before reuse.                      P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.                      P312 Call a POISON CENTER or doctor if you feel unwell.                      P308 + P313 IF exposed or concerned: Get medical attention.                      P403 + P233 Store in a well-ventilated place. Keep container tightly closed.                      P405 Store locked up.                      P501 Dispose of contents and container in accordance with local and national regulations.</p>

**2.3 Other Hazards:** None known.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixture:**

Hazardous Components	C.A.S. #	EINECS # / REACH Registration #	Classification	WT %
Polymethyl Methacrylate and	Mixture	Mixture	Eye Irrit. 2A, H319	85-100

Acrylic Copolymers			Skin Irrit. 2, H315 STOT SE 3, H335	
Dibutyl Phthalate	84-74-2	201-557-4 /	Repr. 1B, H360Df Aq. Acute 1, H400 Aq. Chronic 2, H411	0-15
Titanium Dioxide	13463-67-7	236-675-5 /	Carc. 2, H351	<0.2

The exact concentration is being withheld as a trade secret.

Refer to Section 16 for the full text of the GHS Classifications.

#### 4. FIRST AID MEASURES

##### 4.1 Description of First Aid Measures:

<b>Eye</b>	Flush eyes with large quantities of water for at least 15 minutes, while holding the eyelids apart. Get medical attention if irritation persists.
<b>Skin</b>	Remove contaminated clothing. Wash skin thoroughly with soap and water. If irritation or symptoms develop, get medical attention. Launder clothing before re-use.
<b>Inhalation</b>	Remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. Get medical attention if symptoms persist.
<b>Ingestion</b>	Do not induce vomiting unless directed to do so by medical personnel. If conscious, give 8 ounces of water to dilute. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

##### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed:

May cause eye, skin and respiratory irritation. This product contains Dibutyl Phthalate, which may cause adverse reproductive effects based on studies with laboratory animals. Individuals with sensitivity to methacrylates may develop an allergic reaction when exposed to this product. This product contains Titanium Dioxide which is suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

##### 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed:

Immediate medical attention should not be required.

#### 5. FIRE-FIGHTING MEASURES

**5.1 Extinguishing Media:** Use water fog, carbon dioxide, dry chemical.

##### 5.2 Special Hazards Arising from the Substance or Mixture:

Dust generated in processing of this material may present a potential fire and explosion hazard if suspended in air at high concentrations. Settled dust presents a fire hazard. Re-suspension of the dust into the air by vibration, traffic, material handling, etc. in high concentrations in the presence of an ignition source could result in a dust explosion. Minimize the generation and accumulation of dust. Thermal decomposition may release carbon oxides and methacrylate monomers.

##### 5.3 Advice for Fire-Fighters:

<b>Fire Fighting Procedures/Precautions for Fire Fighters:</b>	Cool fire exposed containers and structures with water. Do not use solid water jet as that may create a dust cloud that can present an explosion hazard. Firefighters should wear full emergency equipment and an approved positive pressure self-contained breathing apparatus.
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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Evacuate spill area and keep unprotected personnel away. Eliminate all sources of ignition. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wear appropriate protective clothing as described in Section 8. Powders that become wet may cause surfaces to be extremely slippery and present a slip hazard.

### 6.2 Environmental Precautions:

Do not allow spills to enter sewers or waterways. Report releases as required by local and national authorities.

### 6.3 Methods and Material for Containment and Cleaning up:

Scoop or shovel up using methods that minimize the generation of airborne dust. Non-sparking tools should be used. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentrations. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Place dry material into an appropriate container for disposal. Flush spill area with water to remove residue.

### 6.4 Reference to Other Sections:

Refer to Section 8 for Personal Protective Equipment and Section 13 for Disposal information.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling:

Avoid contact with the eyes, skin and clothing. Avoid breathing dust. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Minimize the generation and accumulation of dust. Keep dust away from open flames, hot surfaces and sources of ignition. Follow good housekeeping practices to keep surfaces, including areas overhead such as piping, drop ceilings, ductwork, etc. free from settled dust. Dry powders can build static electricity charges when subjected to friction of transfer and in mixing operations. Provide adequate precautions, such as electrical grounding and bonding.

Do not reuse containers. Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.

**7.2 Conditions for Safe Storage, Including Any Incompatibilities:** Store in a cool, dry, well-ventilated area away from heat, and sources of ignition. Keep container tightly closed when not in use. Keep away from oxidizing agents and other incompatible materials.

**7.3 Specific End Use (s):** For professional use only.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters:

### Occupational Exposure Limits:

Polymethyl Methacrylate and Acrylic Copolymers	5 mg/m <sup>3</sup> (respirable), 15 mg/m <sup>3</sup> (total dust) TWA OSHA PEL (As PNOC)
	10 mg/m <sup>3</sup> TWA (as Dust, inhalable) Belgium
	4 mg/m <sup>3</sup> TWA DFG MAK (Inhalable) (As Dust, general threshold limit value)
Dibutyl Phthalate	5 mg/m <sup>3</sup> TWA ACGIH TLV 5 mg/m <sup>3</sup> TWA OSHA PEL
	0.58 mg/m <sup>3</sup> TWA (Inhalable fraction and vapor), 1.16 mg/m <sup>3</sup> STEL (15 minute reference period) DFG MAK
	5 mg/m <sup>3</sup> TWA UK OEL 10 mg/m <sup>3</sup> STEL UK OEL
	Belgium: 5 mg/m <sup>3</sup> TWA
Titanium Dioxide	15 mg/m <sup>3</sup> TWA OSHA PEL (total dust) 10 mg/m <sup>3</sup> TWA ACGIH TLV
	10 mg/m <sup>3</sup> (inhalable), 4 mg/m <sup>3</sup> (respirable dust) TWA UK WEL
	Belgium: 10 mg/m <sup>3</sup> TWA
<b>Biological Exposure Limits:</b> None Established	

## 8.2 Exposure Controls:

**Appropriate Engineering Controls:** Use adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits. Provide local exhaust ventilation where product is processed in a manner that generates dust. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment). Use only appropriately classified electrical equipment.

### Individual Protection Measures (PPE):

**Specific Eye/face Protection:** Chemical safety glasses with side shields or chemical goggles recommended.

**Specific Skin Protection:** Wear impervious gloves such as butyl or nitrile rubber to avoid skin contact.

**Specific Respiratory Protection:** None should be needed for normal use. If the exposure limits are exceeded, an approved respirator with dust/mist cartridges or supplied air respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.

**Specific Thermal Hazards:** None required

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical and Chemical Properties:

<b>Appearance:</b>	Pink free flowing powder	<b>Explosive limits:</b>	<b>LEL:</b> 20 g/m <sup>3</sup> <b>UEL:</b> Not applicable
<b>Odor:</b>	Faint methacrylate odor	<b>Vapor pressure (mmHg):</b>	Not applicable
<b>Odor threshold:</b>	Not available	<b>Vapor density:</b>	Not applicable
<b>pH:</b>	Not applicable	<b>Relative density:</b>	Not available

<b>Melting/freezing point:</b>	Not applicable	<b>Solubility(ies):</b>	Insoluble
<b>Initial boiling point and boiling range:</b>	Not applicable	<b>Partition coefficient: n-octanol/water:</b>	Not available
<b>Flash point:</b>	>572°F (>300°C) TCC	<b>Auto-ignition temperature:</b>	Not available
<b>Evaporation rate:</b>	Not applicable	<b>Decomposition temperature:</b>	572°F (300°C)
<b>Flammability (solid, gas):</b>	Polymer dust is combustible	<b>Viscosity:</b>	Not available
<b>Explosive Properties:</b>	High concentrations of dust in the presence of an ignition source could result in a dust explosion.	<b>Oxidizing Properties:</b>	None

**9.2 Other Information:** None available.

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity:** Non-reactive under normal conditions

**10.2 Chemical Stability:** Stable under normal conditions.

**10.3 Possibility of Hazardous Reactions:** None known.

**10.4 Conditions to Avoid:** Avoid heat, sparks, flames and all other sources of ignition. Avoid hygroscopic conditions and dust formation. Avoid excessive heat (temperatures greater than 572°F (300°C)).

**10.5 Incompatible materials:** Avoid oxidizing agents.

**10.6 Hazardous Decomposition Products:** Thermal decomposition may release carbon oxides and methacrylate monomers.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects:

**Potential Health Effects:**

Eyes: Dust may cause irritation with redness and tearing.

Skin: Dust may cause irritation, redness, rash and swelling. May cause skin sensitization in sensitive individuals.

Ingestion: Swallowing large amounts may cause nausea, vomiting and diarrhea.

Inhalation: Inhalation of dust may cause irritation of the nose, throat and upper respiratory tract.

**Chronic Health Effects:** Repeated skin contact may cause dermatitis.

**Irritation:** Dibutyl Phthalate: Not irritating to rabbit skins and eyes.

**Corrosivity:** No data available. This product is not expected to be corrosive.

**Sensitization:** Individuals with sensitivity to methacrylates may develop an allergic reaction. Dibutyl Phthalate was not sensitizing in a guinea pig maximization test.

**Carcinogenicity:** Titanium dioxide: Titanium dioxide is listed by IARC as a group 2B carcinogen (possible human carcinogen). None of the components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH or the EU CLP.

**Mutagenicity:** Dibutyl Phthalate: Negative in an in vitro bacterial gene mutation assay.

**Acute Toxicity Data:**

Polymethyl Methacrylate and Acrylic Copolymers: No data available

Dibutyl Phthalate: Oral rat LD50- 6279 mg/kg; Skin rabbit LD50- 4200 mg/kg; Inhalation rat LC50- > 15.68 mg/L/4 hr

Titanium Dioxide: Oral rat LD50 - >20000 mg/kg; Skin hamster LD50 - >10000 mg/kg

**Reproductive Toxicity Data:** Dibutyl phthalate: Has been shown to cause adverse reproductive effects and birth defects in a two generation study with rats. The effects on the second generation were greater than on the first generation. The lowest dose-level in this study, 0.1% in the diet (52 mg/kg by weight for males; 80 mg/kg by weight for females) is a LOAEL for embryotoxicity. The NOAEL for maternal toxicity is 0.5% in the diet (385 mg/kg by weight).

**Specific Target Organ Toxicity Single Exposure (STOT-SE):** No data currently available.

**Specific Target Organ Toxicity Repeated Exposure (STOT-RE):** Dibutyl phthalate: In animal studies, dibutyl phthalate has been shown to cause kidney and liver damage, fetotoxicity, teratogenicity, and testicular damage.

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity:**

Dibutyl Phthalate: 96 hr LC50 Fathead minnow-0.92 mg/L; 48 hr EC50 Daphnia magna- 4.8 mg/L; 96 hr EC50 Pseudokirchnerella subcapitata- 0.75 mg/L

**12.2 Persistence and Degradability:** Dibutyl phthalate: Had an average aerobic and anaerobic biodegradation half-life of 2.9 and 14.4 days, respectively.

**12.3 Bio-accumulative Potential:** No data available.

**12.4 Mobility in Soil:** Dibutyl phthalate is expected to have a low mobility in soil.

**12.5 Results of PBT and vPvB Assessment:** Not required

**12.6 Other Adverse Effects:** None known.

## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste Treatment Methods:**

**Waste Treatment Recommendations:** Treat in accordance with national and local regulations.

## 14. TRANSPORT INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
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<b>DOT</b>	None	Not Regulated	None	None	None
<b>ADR/RID</b>	None	Not Regulated	None	None	None
<b>IMDG</b>	None	Not Regulated	None	None	None
<b>IATA/ICAO</b>	None	Not Regulated	None	None	None

**14.6 Special Precautions for User:** Not applicable.

**14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.

## 15. REGULATORY INFORMATION

### 15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:

#### U.S. Federal Regulations

**Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):** This product has a Reportable Quantity (RQ) of 66 lbs. (based on the RQ for Dibutyl Phthalate of 10 lbs present at 0-15%). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**Toxic Substances Control Act (TSCA):** This product is a medical device and not subject to chemical notification requirements.

**Clean Water Act (CWA):** This material is not regulated under the Clean Water Act.

**Clean Air Act (CAA):** Dibutyl Phthalate is regulated under the Clean Air Act

#### **Superfund Amendments and Reauthorization Act (SARA) Title III Information:**

**SARA Section 311/312 (40 CFR 370) Hazard Categories:** Classified under OSHA Hazcom 2012 GHS as per Section 2 of this SDS.

**This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):**

Components	C.A.S. #	WT %
Dibutyl Phthalate	84-74-2	0-15%

#### State Regulations

**California: WARNING:** This product can expose you to chemicals including Titanium dioxide, which is known to the state of California to cause cancer, and Di-n-butyl phthalate, which is known to the State of California to cause birth defects and other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### International Regulations

**Canadian Environmental Protection Act:** This product is a medical device and not subject to chemical notification requirements.

**EU REACH:** This product is a medical device and not subject to chemical notification requirements.

**Australian Inventory of Chemical Substances:** This product is a medical device and not subject to chemical notification requirements.

**China Inventory of Existing Chemicals and Chemical Substances:** This product is a medical device and not subject to chemical notification requirements.



**Korean Existing Chemicals List:** This product is a medical device and not subject to chemical notification requirements.

**Philippine Inventory of Chemicals and Chemical Substances:** This product is a medical device and not subject to chemical notification requirements.

**15.2 Chemical Safety Assessment:** None required.

## 16. OTHER INFORMATION

HMIS Hazard Rating:

Health – 2\*      Flammability – 2      Physical Hazard– 0

Full text of Classification abbreviations used in Section 2 and 3:

Aq. Acute 1 Aquatic Acute Toxicity Category 1

Aq. Chronic 2 Aquatic Chronic Toxicity Category 2

Carc. 2 Carcinogen Category 2

Eye Irrit. 2A Eye Irritant Category 2A

Repro 1B Toxic to Reproduction Category 1B

Skin Irrit. 2 Skin Irritant Category 2

STOT SE 3 Specific Target Organ Toxicity Single Exposure Category 3

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 may cause respiratory irritation.

H351 Suspected of causing cancer.

H360Df May damage the unborn child. Suspected of damaging fertility.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Supersedes: 2 April 2014

Date Updated: 2 August 2017

Revision Summary: 3 Year update. Changes to all sections

Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, ECHA REACH Registration Website, Country websites for occupational exposure limits.

# DENTSPLY International

## Safety Data Sheet

Safety Data Sheet (conforms to with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 2015/830), US 29CFR1910.1200, Canada Hazardous Products Regulation

Date Issued: 28 May 2004  
Document Number: 151  
Date Revised: 28 June 2017  
Revision Number: 6

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier:

**Trade Name (as labeled):** Lucitone® Liquid  
**Part/Item Number:** 684309, 684315

#### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:

**Recommended Use:** Fabrication of Dentures  
**Restrictions on Use:** For Professional Use Only

#### 1.3 Details of the Supplier of the Safety Data Sheet:

**Manufacturer/Supplier Name:** Dentsply Sirona Prosthetics  
**Manufacturer/Supplier Address:** 570 West College Ave.  
York, PA 17401  
**Manufacturer/Supplier Telephone Number:** 717-845-7511 (Product Information)  
**Email address:** [Prosthetics\\_MSDS@Dentsplysirona.com](mailto:Prosthetics_MSDS@Dentsplysirona.com)

#### 1.4 Emergency Telephone Number:

**Emergency Contact Telephone Number:** 800-424-9300 Chemtrec

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the Substance or Mixture:

GHS Classification:		
Health	Environmental	Physical
Skin Irritant Category 2 (H315) Skin Sensitization Category 1 (H317) Specific Target Organ Toxicity- Single Exposure Category 3 (H335)	Not Hazardous	Flammable Liquid Category 2 (H225)

#### 2.2 Label Elements:



**Signal Word:** Danger

Contains: Methyl Methacrylate, Ethylene Glycol Dimethacrylate

Hazard Phrases	Precautionary Phrases
H225 Highly flammable liquid and vapor. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.	P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking. P233 Keep container tightly closed. P240 Ground or bond container and receiving equipment. P241 Use explosion-proof electrical, ventilating, and lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P261 Avoid breathing mist, vapors or spray. P264 Wash thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing must not be allowed out of the workplace. P280 Wear protective gloves, protective clothing, and eye protection. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P333+P313 If skin irritation or rash occurs: Get medical attention. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor if you feel unwell. P370+P378 In case of fire: Use carbon dioxide, foam, water spray or water fog for extinction. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. P501 Dispose of contents and container in accordance with local and national regulations.

**2.3 Other Hazards:** None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2 Mixture:

Hazardous Components	C.A.S. #	EINECS # / REACH Registration #	Classification	WT %
Methyl Methacrylate	80-62-6	201-297-1 /	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335	90-99
Ethylene Glycol Dimethacrylate	97-90-5	202-617-2 /	Skin Sens. 1, H317 STOT SE 3, H335	1-10

The exact concentration is being withheld as a trade secret.

Refer to Section 16 for the full text of the GHS Classifications.

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid Measures:

<b>Eye</b>	Flush victim's eyes with large quantities of water, while holding the eyelids apart. Get medical attention if irritation develops or persists.
<b>Skin</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation or rash develops. Remove and launder clothing before re-use.
<b>Inhalation</b>	Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get medical attention if breathing is difficult or irritation persists.
<b>Ingestion</b>	If small quantities are swallowed, rinse out mouth with water. Do not induce vomiting unless directed to do so by a medical professional. Get medical attention if symptoms develop or if you feel unwell.

### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed:

May cause eye, skin, and respiratory tract irritation. Prolonged or repeated contact may cause allergic skin reaction (skin rash). Inhalation of vapors may cause dizziness, headache, and other central nervous system effects.

### 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed:

Immediate medical attention should not be required.

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing Media:

Use carbon dioxide, foam, water spray or water fog. Water may be ineffective unless used as a fine spray or fog.

### 5.2 Special Hazards Arising from the Substance or Mixture:

Highly flammable liquid and vapor. Vapors are heavier than air and may travel to ignition source and flash back. Heat of fire may cause an exothermic auto polymerization reaction. Emits toxic fumes under fire conditions. Closed containers may explode due to pressure build up when exposed to extreme heat. Decomposition may release carbon monoxide, carbon dioxide, methyl methacrylate, and irritating smoke and fumes.

### 5.3 Advice for Fire-Fighters:

<b>Fire Fighting Procedures/Precautions for Fire Fighters:</b>	Fight fire from a safe distance of protected location. Use water to cool fire-exposed containers. Firefighters should wear full emergency equipment and approved positive pressure self-contained breathing apparatus. Do not enter fire area without proper protection.
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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Evacuate spill area and keep unprotected personnel away. Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Use non-sparking tools and equipment. Avoid breathing vapors or mists. Ventilate area with explosion proof equipment. Avoid contact with skin, eyes or clothing. Wear appropriate protective clothing as described in Section 8.

**6.2 Environmental Precautions:**

Report releases as required by local and national authorities.

**6.3 Methods and Material for Containment and Cleaning up:**

Contain and collect using an inert absorbent material and place in appropriate containers for disposal. Clean spill site with water. Use non-sparking tools.

**6.4 Reference to Other Sections:**

Refer to Section 8 for Personal Protective Equipment and Section 13 for Disposal information.

## 7. HANDLING AND STORAGE

**7.1 Precautions for Safe Handling:**

Avoid contact with skin, eyes or clothing. Wear protective clothing and equipment as described in Section 8. Avoid breathing mists or vapors. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Use with non-sparking tools and explosion proof equipment. Electrically bond and ground containers for transfer. Do not expose to direct sunlight. Keep containers closed when not in use.

Do not reuse containers. Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.

**7.2 Conditions for Safe Storage, Including Any Incompatibilities:** Store in a cool, dry, well-ventilated location away from oxidizers and other incompatible materials. Do not store in direct sunlight. Prevent moisture contact. Protect from physical damage. Keep container tightly closed when not in use.

**7.3 Specific End Use (s):** For professional use only.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control Parameters:****Occupational Exposure Limits:**

Methyl Methacrylate	50 ppm TWA, 100 ppm STEL ACGIH TLV (Sens) 100 ppm TWA OSHA PEL
	50 ppm TWA, 100 ppm STEL DFG MAK
	50 ppm TWA, 100 ppm STEL Belgium
	50 ppm TWA, 100 ppm STEL UK WEL
	50 ppm TWA, 100 ppm STEL EU OEL
Ethylene Glycol Dimethacrylate	None Established

**Biological Exposure Limits:** None Established

## 8.2 Exposure Controls:

**Appropriate Engineering Controls:** Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

### Individual Protection Measures (PPE):

**Specific Eye/face Protection:** Chemical safety glasses are recommended where splashing is possible.

**Specific Skin Protection:** Wear nitrile rubber or other impervious gloves to prevent skin contact. Wear impervious clothing if needed to prevent any contact with this product, such as gloves, apron, boots, or whole body suit.

**Specific Respiratory Protection:** None required with adequate ventilation. If the occupational exposure limits are exceeded, an approved respirator with applicable cartridges or supplied air respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.

**Specific Thermal Hazards:** None required

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical and Chemical Properties:

<b>Appearance:</b>	Clear liquid	<b>Explosive limits:</b>	<b>LEL:</b> 2.1% <b>UEL:</b> 12.5%
<b>Odor:</b>	Acrylic odor	<b>Vapor pressure (mmHg):</b>	29 mmHg @ 68°F (20°C)
<b>Odor threshold:</b>	0.21 ppm (methyl methacrylate)	<b>Vapor density:</b>	3.45
<b>pH:</b>	Not available	<b>Relative density:</b>	0.94
<b>Melting/freezing point:</b>	-54°F (-48°C)	<b>Solubility(ies):</b>	1.5%
<b>Initial boiling point and boiling range:</b>	Not available	<b>Partition coefficient: n-octanol/water:</b>	Not available
<b>Flash point:</b>	55°F (13°C) TOC	<b>Auto-ignition temperature:</b>	815°F (435°C)
<b>Evaporation rate:</b>	3.1 (Bac=1)	<b>Decomposition temperature:</b>	Not available
<b>Flammability (solid, gas):</b>	Not applicable	<b>Viscosity:</b>	Not available
<b>Explosive Properties:</b>	Vapors are explosive above the LEL	<b>Oxidizing Properties:</b>	None

**9.2 Other Information:** None available.

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity:** May auto polymerize.

**10.2 Chemical Stability:** Product may become unstable if heated.

**10.3 Possibility of Hazardous Reactions:** Polymerization can occur. Reaction with oxidizers may cause fire.

**10.4 Conditions to Avoid:** Conditions leading to polymerization are excessive heat, oxygen-free atmosphere inhibitor depletion (due to excessive aging), direct sunlight, and contamination with polymerization catalysts.

**10.5 Incompatible materials:** Avoid contact with oxidizing agents, reducing agents, acids, and bases.

**10.6 Hazardous Decomposition Products:** Thermal decomposition may release carbon monoxide, carbon dioxide, methyl methacrylate, and irritating smoke and fumes.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological Effects:

**Potential Health Effects:**

Eyes: Liquid and vapor may cause moderate irritation (tears, blurred vision and redness).

Skin: May cause moderate skin irritation. May cause allergic skin reaction (skin sensitization).

Ingestion: Ingestion can cause gastrointestinal irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.

Inhalation: May cause respiratory tract irritation with coughing, mucous production and shortness of breath. High concentration is irritating to the respiratory tract and may cause dizziness, headache and anesthetic effects.

**Chronic Health Effects:** Prolonged or repeated overexposure may cause skin irritation or sensitization in some individuals, as well as kidney, lung, liver, and heart damage.

**Irritation:** Methyl Methacrylate: Moderately to slightly irritating to rabbit skin. Slightly to non-irritating to rabbit eyes. Ethylene Glycol Dimethacrylate: Not irritating to rabbit eyes

**Corrosivity:** No data available. This product is not expected to be corrosive.

**Sensitization:** Methyl Methacrylate: Sensitizing in a Mouse local lymphnode assay. Ethylene Glycol Dimethacrylate: Found to be an extremely weak sensitizer in the Mouse local lymphnode assay.

**Carcinogenicity:** Methyl methacrylate: The results of a 2-year inhalation studies conducted for NTP showed no evidence of carcinogenicity of methyl methacrylate for male rats exposed at 500 or 1,000 ppm and female rats exposed at 250, 500 or 1,000 ppm. In another study, no increase was seen in the number or type of tumors in either rats or hamsters from a chronic inhalation study. No carcinogenic activity was also reported in a chronic oral study. However, acute oral exposure studies and structure-activity relationship comparisons with other acrylates suggest that the introduction of a methyl group to the acrylate moiety (e.g., EC to MMA) negates carcinogenic activity. None of the components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH or the EU CLP.

**Mutagenicity:** Methyl Methacrylate: Negative in AMES test, positive and negative in in-vitro studies. Negative in vivo studies.

**Aspiration Hazard:** Not an aspiration hazard

**Acute Toxicity Data:**

Methyl Methacrylate: Oral rat LD50- 7800 mg/kg; Inhalation rat LC50- 29.8 mg/L/ 4hr (7093 ppm/4 hr); Skin rabbit LD50->5000 mg/kg

Ethylene Glycol Dimethacrylate: Oral rat LD50: 3300 mg/kg; Oral mouse LD50: 2 g/kg

**Reproductive Toxicity Data:** Methyl Methacrylate: In a study in rats, there were no developmental effects, although there were decreases in maternal body weight following inhalation of concentrations up to 8,315 mg/m<sup>3</sup>. There was no reduction in fertility in a dominant lethal assay in mice exposed to this compound at concentrations up to 36,900 mg/m<sup>3</sup> and no adverse effects on reproductive organs in repeated dose studies conducted to date.

**Specific Target Organ Toxicity Single Exposure (STOT-SE):** Methyl Methacrylate: In an inhalation study with dogs, a 2000 ppm dose showed a drop in arterial blood pressure and GI motor activities. The lethal oral dose for methyl methacrylate is 6 to 9 g/kg in lab animals. Poisoned animals exhibit respiratory depression, and coma; also irritation of skin, eyes and respiratory tract.

**Specific Target Organ Toxicity Repeated Exposure (STOT-RE):** Methyl Methacrylate: Impairment of locomotor activity and learning and behavioral effects on the brain were observed in rats exposed orally to 500 mg/kg bw/day for 21 days.

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity:**

Methyl Methacrylate: 96h LC50 Fathead minnow- 130 mg/L; 48h EC50 Algae- 170 mg/L

Ethylene Glycol Dimethacrylate: 96 hr LC50 Zebrafish- 15.95 mg/L; 48 hr EC50 Daphnia magna- 44.9 mg/L

**12.2 Persistence and Degradability:** Methyl methacrylate is readily biodegradable - 88% after 28 days. Ethylene Glycol Dimethacrylate: 69% after 28 days- readily biodegradable (but failing 10 day window) in screening tests.

**12.3 Bio-accumulative Potential:** The potential for bioaccumulate is expected to be low for methyl methacrylate.

**12.4 Mobility in Soil:** Methyl methacrylate is expected to have very high to high mobility in soil.

**12.5 Results of PBT and vPvB Assessment:** Not applicable

**12.6 Other Adverse Effects:** None

## 13. DISPOSAL CONSIDERATIONS

**13.1 Waste Treatment Methods:**

**Waste Treatment Recommendations:** Dispose in accordance with national and local regulations.

## 14. TRANSPORT INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
<b>DOT</b>	UN1247	Methyl Methacrylate Monomer, Inhibited	3	II	Not applicable
<b>ADR/RID</b>	UN1247	Methyl Methacrylate Monomer, Inhibited	3	II	Not applicable
<b>IMDG</b>	UN1247	Methyl Methacrylate Monomer, Inhibited	3	II	Not applicable
<b>IATA/ICAO</b>	UN1247	Methyl Methacrylate Monomer, Inhibited	3	II	Not applicable

**14.6 Special Precautions for User:** Not applicable.

**14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.

## 15. REGULATORY INFORMATION

**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:**

**U.S. Federal Regulations**



**Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):** Releases above the RQ of 1,010 lbs. (based on the RQ for methyl methacrylate of 1,000 lbs present at 90-99%) must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**Toxic Substances Control Act (TSCA):** This product is a medical device and not subject to chemical notification.

**Clean Water Act (CWA):** This material is not regulated under the Clean Water Act.

**Clean Air Act (CAA):** Methyl methacrylate is regulated under the Clean Air Act.

**Superfund Amendments and Reauthorization Act (SARA) Title III Information:**

**SARA Section 311/312 (40 CFR 370) Hazard Categories:** Classified under OSHA Hazcom 2012 GHS as per Section 2 of this SDS.

**This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):**

Components	C.A.S. #	WT %
Methyl Methacrylate	80-62-6	90-99%

**State Regulations**

**California:** This product contains the following substances known to the state of California to cause cancer and/or reproductive toxicity: None known.

**International Regulations**

**Canadian Environmental Protection Act:** This product is a medical device and not subject to chemical notification requirements.

**European Inventory of Existing Chemicals (EINECS):** This product is a medical device and not subject to chemical notification requirements.

**EU REACH:** This product is a medical device and not subject to chemical notification requirements.

**Australian Inventory of Chemical Substances:** This product is a medical device and not subject to chemical notification requirements.

**China Inventory of Existing Chemicals and Chemical Substances:** This product is a medical device and not subject to chemical notification requirements.

**Japanese Existing and New Chemical Substances:** This product is a medical device and not subject to chemical notification requirements.

**Korean Existing Chemicals List:** This product is a medical device and not subject to chemical notification requirements.

**Philippine Inventory of Chemicals and Chemical Substances:** This product is a medical device and not subject to chemical notification requirements.

**15.2 Chemical Safety Assessment:** None required.

**16. OTHER INFORMATION**

HMIS Hazard Rating:  
Health – 2      Flammability – 3      Physical Hazard – 2

Full text of Classification abbreviations used in Section 2 and 3:

Flam. Liq. 2 Flammable Liquid Category 2

Skin Irrit. 2 Skin Irritant Category 2

Skin Sens. 1 Skin Sensitization Category 1

STOT SE 3 Specific Target Organ Toxicity Single Exposure Category 3

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

Supersedes: 5 May 2014

Date Updated: 28 Junes 2017

Revision Summary: 3 Year update. Changes to all sections.

Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, ECHA REACH Registration Website, Country websites for occupational exposure limits.