SAFETY DATA SHEETS

This SDS packet was issued with item:

072766756

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

072766640 072766749

DENTSPLY

MATERIAL SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Triad® VLC Custom Tray Material
Product Number: 89783, 95746, 95752
MSDS Code Number: 97

Manufacturer: Dentsply Prosthetics
Address: 570 West College Ave.
York, PA 17405-0872
Information Telephone Number: 717-845-7511
Emergency Telephone Number: 800-424-9300 Chemtrec
Email: Prosthetics_MSDS@Dentsply.com

Product Use: Resin used in removable dental appliances.

Date of Last Revision: June 10, 2009

SECTION 2 HAZARDS IDENTIFICATION

Emergency Overview: CAUTION! May cause eye and skin irritation. May cause skin sensitization. Contains crystalline silica. Inhalation of respirable crystalline silica may cause lung disease and cause cancer. Risk of cancer depends on the level and duration of exposure. The crystalline silica in this product is encapsulated in a resin matrix and no exposure occurs unless a dust is created in the use of the product.

EU Preparation Classification (1999/45/EC): Xi; R36/38, R43, R52/53

SECTION 3 COMPOSITION INFORMATION ON INGREDIENTS

Ingredient	CAS No./EINECS No.	Percent	EC Substance Classification (67/548/EEC)
Polymethylmethacrylate	Proprietary	10-20	Xi R36/38, R43
Sodium Potassium Aluminum Silicate	68476-25-5/270-666-7	30-60	Not applicable
Crystalline Silica (as Quartz)	14808-60-7/238-878-4	0-15	Xn R48/20
Urethane Diacrylate	Proprietary	20-30	Xi R36/38, R43
1,6-Hexanediol Dimethylacrylate	6606-59-3/229-551-7	1-5	Xi N R36/37/38, R51/53
Amorphous Precipitated Silica	112945-52-5/231-545-4	1-5	Not applicable

See Section 16 for further information on EU Classification.

SECTION 4 FIRST AID MEASURES

Eye Contact: Immediately flush victim's eyes with large quantities of water for at least 15 minutes, holding the eyelids apart. Get medical attention.
Skin Contact: Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation develops. Launder clothing before re-use. (Discard contaminated shoes).
Ingestion: If conscious, wash mouth out with water. Do not induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.
Inhalation: If irritation develops, remove to fresh air. Get medical attention if symptoms persist.

SECTION 5 FIRE FIGHTING PROCEDURES

Extinguishing Media: Water fog, foam, and carbon dioxide.
Firefighting Procedures: Firefighters should wear full emergency equipment and an approved positive pressure self-contained breathing apparatus. Cool exposed intact containers with water spray.
Unusual Fire/Explosion Hazards: High temperatures and sunlight may cause a polymerizing reaction to occur. Decomposition may release acrid smoke or fumes.
Known or Anticipated Hazardous Products of Combustion: Carbon oxides and methylmethacrylate.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Accidental Release Measures Exposure to sunlight or artificial light will cause the paste to polymerize. Spread the paste to maximize the surface area. Once the material is hard, pick up and place into a container for disposal. Spill and release reporting requirements vary. Consult local authorities regarding requirements.

Personal Precautions: Avoid contact with skin, eyes or clothing.

Environmental Precautions: Prevent entry into sewers and waterways.

SECTION 7 HANDLING AND STORAGE

Handling: Avoid contact with the eyes, skin and clothing. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Avoid creating dust in the processing of this material.

Empty containers retain product residues can be hazardous. Follow all MSDS precautions when handling empty containers.

Storage: Store in a tightly closed container in a cool, well ventilated location away from incompatible materials. Do not store near high temperatures or ignition sources. Prevent contact with moisture. Refrigeration prolongs shelf life. Store away from food or beverages.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

Occupational Exposure Limits:

Polymethylmethacrylate	None Established
Sodium Potassium Aluminum Silicate	5 mg/m^3 (respirable dust), 5 mg/m^3 (total dust) TWA OSHA PEL
Crystalline Silica	0.025 mg/m^3 (Respirable) TWA ACGIH TLV 30 $mg/m^3/\%SiO_2$ + 2 (Total Dust) TWA OSHA PEL 10 $mg/m^3/\%SiO_2$ +2 (Respirable Dust) TWA OSHA PEL 0.3 mg/m^3 TWA UK WEL
Urethane Diacrylate	None Established

1,6 Hexanediol Dimethylacrylate	None Established
Amorphous Precipitated Silica	0.8 mg/m^3 TWA OSHA PEL 6 mg/m^3 TWA, 2.4 mg/m^3 STEL UK WEL

Engineering Controls: Use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits.

Personal Protective Equipment:
Eye Protection: Chemical safety glasses or chemical splash goggles.
Skin Protection: Wear impervious gloves as rubber to prevent skin contact.
Respiratory Protection: None under normal use conditions. If the product is heated and ventilation is inadequate, wear a NIOSH approved respirator appropriate for the exposure conditions. When polishing or grinding, there is a chance to overexposure to crystalline silica to occur. Use local exhaust ventilation and a NIOSH approved respiratory if needed.
Other Protective Clothing or Equipment: Impervious clothing as needed to prevent contact. A safety shower and eye wash should be available in the immediate work area.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Blue paste with mild ester odor.
Boiling Point: N/A (polymerizes)
Freezing Point: Not available
Solubility in Water: Negligible
Vapor Pressure (mmHg): <1
Evaporation Rate: Not available
% Volatile by Volume: Negligible
Flammable Limits in Air:
LEL: N/A
UEL: N/A
Melting Point: N/A
Specific Gravity: 1.6
pH: Not determined
Vapor Density: >1
Viscosity: Not determined
Flashpoint: Not applicable
Autoignition Temperature: Not applicable

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable
Conditions to Avoid: . Polymerizes to form hard plastic in 2 hours at 100°C (212°F) with low exotherm. Avoid high temperatures and direct sunlight.
Incompatibility with Other Materials: Oxidizing agents, reducing agents, tertiary amines, heavy metals, peroxides, free radical initiators
Hazardous Decomposition Products: Carbon oxides and methylmethacrylate.

SECTION 11 TOXICOLOGICAL INFORMATION

Potential Health Effects:
Eyes: May cause irritation, redness, rash and swelling.
Skin: May cause irritation, redness, rash and swelling. May cause allergic skin reaction (sensitization).
Ingestion: Swallowing may cause gastrointestinal irritation and diarrhea. Large amounts may cause central nervous system depression, intoxication, unconsciousness and coma.
Inhalation: None expected under normal use. When grinding or polishing, respirable crystalline silica may be generated.
Chronic Health Effects: Repeated inhalation of crystalline silica may cause lung damage and silicosis. The crystalline silica in this product is encapsulated in a resin matrix and no exposure occurs unless a dust is created in the use of the product.

Carcinogenicity: Crystalline silica is classified as a Group 1 carcinogen by IARC, and "known to be a human carcinogen" by NTP. None of the other components is listed as a carcinogen by IARC, NTP, the EU Directive or OSHA.

Medical Conditions Aggravated by Exposure: Individuals with pre-existing skin disorders may be at increased risk from exposure.

Acute Toxicity Data:

Polymethylmethacrylate	No data available
Sodium Potassium Aluminum Silicate	No data available
1,6-Hexanediodimethylacrylate	Oral rat LD50: >2000 mg/kg
Urethane Diacrylate	No data available
Amorphous Precipitated Silica	Oral rat LD50: >10,000 mg/kg; Inhalation rat LC50: >0.139 mg/l/4h; Skin rabbit LD50: >5000 mg/kg
Crystalline Silica (as Quartz)	No data available

SECTION 12 ECOLOGICAL INFORMATION

Polymethylmethacrylate	No data available
Sodium Potassium Aluminum Silicate	No data available
1,6 Hexanediol Dimethylacrylate	96h/LC50 fish: 4.5 mg/l
Urethane Diacrylate	No data available
Amorphous Precipitated Silica	96h/LC50 fish: >10,000 mg/l; 24h/EC50 daphnia magna: >10,000 mg/l
Crystalline Silica (as Quartz)	No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with national and local regulations. Exposure to sunlight or artificial light will cause the material to polymerize into a hard plastic.

SECTION 14 TRANSPORT INFORMATION

DOT Shipping Name: Not Regulated
DOT Hazard Class: N/A
UN Number: N/A
DOT Labels Required (49CFR172.101): N/A

IATA Shipping Name: Not Regulated
IATA Hazard Class: N/A
UN Number: N/A
IATA Hazard Labels Required: N/A

IMDG Shipping Name: Not Regulated
IMDG Class: N/A
UN Number: N/A
IMDG Label: N/A

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA: Report spills required under federal, state and local regulations.

SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Chronic Health

Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Section 302 Extremely Hazardous Substances (TPQ): None

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

U.S. STATE REGULATIONS

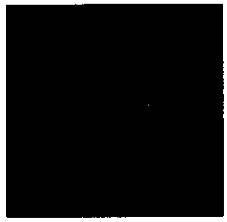
California Proposition 65: This product contains the following substances known to the State of California to cause cancer: Crystalline Silica as Quartz: 0-15%

INTERNATIONAL REGULATIONS:

Canadian WHMIS Classification: This product is a medical device and exempt from labeling under WHMIS.

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

European Community Labeling:



Irritant

R36/38 Irritating to eyes and skin
R43 May cause sensitization by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical attention
S36/37 Wear suitable protective clothing and gloves.
S61 Avoid release to the environment. Refer to Safety data sheets.

European Inventory of New and Existing Chemicals Substances (EINECS): 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.

SECTION 16 OTHER INFORMATION

HMIS Hazard Rating:
Health – 2 Fire Hazard – 1 Reactivity – 1

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):
N Dangerous for the environment.
Xi Irritant
Xn Harmful
R36/38 Irritating to eyes and skin.
R36/37/38 Irritating to eyes, respiratory system and skin.
R43 May cause sensitization by skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Revision Summary:
Switched Sections 2 and 3. Added e-mail address to Section 1. Updated exposure limits. Updated Canadian WHMIS classification.

Revision Date: 06/10/2009 Supercedes: 07/14/2006

DENTSPLY International

Prosthetics

Safety Data Sheet

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

Date Issued: 25 June 1997
Document Number: 097
Date Revised: 5 February 2019
Revision Number: 6

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

1.1 Product Identifier:

Trade Name (as labeled):	**Triad® VLC Custom Tray Material**
Part/Item Number:	**89783, 95746, 95752**

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:	**800-243-1942**

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture:

GHS Classification:

Health	Environmental	Physical
Carcinogen Category 1 (H350) Eye Irritant Category 2A (H319) Skin Irritant Category 2 (H315) Skin Sensitization Category 1 (H317) Specific Target Organ Toxicity – Repeat Exposure Category 1 (H372) Specific Target Organ Toxicity - Single Exposure Category 3 (H335)	Not Hazardous	Not Hazardous

2.2 Label Elements:

Signal Word: Danger

Contains: Crystalline Silica, Sodium Aluminum Silicate, Dimethylaminoethyl Methacrylate

Hazard Phrases	Precautionary Phrases
H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H350 May cause cancer by inhalation. H372 Causes damage to lungs through prolonged or repeated exposure by inhalation.	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust or fumes. P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. 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. P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor. 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. P333+P313 If skin irritation or rash occurs: Get medical attention. P362+P364 Take off contaminated clothing and wash it before reuse. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER or 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 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 %
Sodium Aluminum Silicate	68476-25-5	270-666-7 /	Eye Irrit. 2 (H319) STOT SE 3 (H335)	30-60

Polyester Urethane Acrylate	71833-41-5	Not listed	Eye Irrit. 2B (H319) Skin Irrit. 2 (H315) Skin Sens. 1B (H317)	20-30
Crystalline Silica (as Quartz)	14808-60-7	238-878-4 /	Carc. 1 (H350) STOT RE 1 (H372)	1-10
1, 6 Hexanediol Dimethacrylate	6606-59-3	229-551-7 /	Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	1-5
Non-Silaned Fumed Silica	7631-86-9	231-545-4 /	Not Applicable	<3
Dimethylaminoethyl Methacrylate	2867-47-2	220-688-8 /	Acute Tox. 4 (H302, H312) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1 (H317)	<1
Methacrylic acid	79-41-4	201-204-4 /	Acute Tox. 3 (H311) Acute Tox. 4 (H302, H332) Eye Dam. 1 (H318) Skin Corr. 1A (H314) STOT SE 3 (H335)	<1
Benzoyl Peroxide	94-36-0	202-327-6 /	Org. Perox. B, H241 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M-Factor Acute: 10) Aquatic Chronic 1, H410 (M-Factor Chronic: 10)	<0.1

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:	
Eye	Immediately flush eyes with large quantities of water for several minutes, while holding the eyelids apart. Remove contact lenses if easy to do so. Continue rinsing. Get medical attention if irritation persists.
Skin	Remove contaminated clothing and shoes. Flush skin thoroughly with water for several minutes. Get medical attention if irritation or rash occurs. Launder clothing before re-use.
Inhalation	Remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. Get medical attention if irritation or symptoms of exposure persist.
Ingestion	Do not induce vomiting. If conscious, wash mouth out with water. Never give anything by mouth to an unconscious or convulsing person. Get medical attention if you feel unwell.
4.2 Most Important Symptoms and Effects, Both Acute and Delayed:	
May cause moderate eye and skin irritation. May cause skin sensitization. Individuals with sensitivity to methacrylates may develop an allergic reaction when exposed to this product. Inhalation of dust or fumes may cause moderate respiratory irritation. Prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis) and increase the risk of lung 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 is not required.	

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media:	Use media appropriate for surrounding fire.
5.2 Special Hazards Arising from the Substance or Mixture:	
High temperatures and sunlight may cause a polymerizing reaction to occur. Decomposition may release oxides of carbon, methylmethacrylate, acrid smoke or fumes.	
5.3 Advice for Fire-Fighters:	
Fire Fighting Procedures/Precautions for Fire Fighters:	Cool exposed intact containers with water spray. Firefighters should wear full emergency equipment and approved positive pressure self-contained breathing apparatus. Do not enter fire area without proper protection. Contain water used in firefighting from entering sewers or natural waterways.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
Evacuate spill area and keep unprotected personnel away. Avoid contact with skin, eyes or clothing. Wear appropriate protective clothing as described in Section 8. Do not breathe dust or fumes. Ventilate area.

6.2 Environmental Precautions:
Avoid releases to the environment. Report releases as required by local and national authorities.
6.3 Methods and Material for Containment and Cleaning up:
Exposure to sunlight or artificial light will cause the paste to polymerize. Spread the paste to maximize the surface area. Once the material is hard, pick up and place into a container for disposal. For dust, collect using a dustless method (HEPA vacuum or wet method) and place in appropriate container for use. Do not use compressed air. Do not sweep up. 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. Do not breathe dust or fumes. Avoid dust generation. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Silica dust may be in the air without a visible dust cloud. Practice good housekeeping to prevent accumulation of dust in work areas. Empty containers retain product residues can be hazardous. Follow all SDS precautions when handling empty containers.
7.2 Conditions for Safe Storage, Including Any Incompatibilities: Store in a tightly closed container in a cool, well ventilated location away from incompatible materials. Do not store near high temperatures or ignition sources. Prevent contact with moisture. Refrigeration prolongs shelf life. Store away from food or beverages.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:	
Occupational Exposure Limits:	
Sodium Aluminum Silicate (as PNOC)*	5 mg/m^3 (Respirable fraction), 15 mg/m^3 (total dust) TWA OSHA PEL
	4 mg/m^3 TWA DFG MAK (Inhalable)
Polyester Urethane Acrylate (as PNOC)*	5 mg/m^3 (Respirable fraction), 15 mg/m^3 (total dust) TWA OSHA PEL
	4 mg/m^3 TWA DFG MAK (Inhalable)
Crystalline Silica (as Quartz)	0.05 mg/m^3 TWA OSHA PEL (respirable dust) 0.025 mg/m^3 TWA ACGIH TLV (Respirable)
	0.1 mg/m^3 TWA UK WEL (as Silica, respirable crystalline)
	0.1 mg/m^3 TWA Belgium OEL
1, 6 Hexanediol Dimethacrylate	None Established
Non-Silaned Fumed Silica (as silica, amorphous)	80 mg/m^3 TWA OSHA PEL % SiO_2
	4 mg/m^3 TWA DFG MAK (inhalable)
	6 mg/m^3 TWA (inhalable aerosol), 2.4 mg/m^3 TWA (respirable aerosol) UK WEL
	10 mg/m^3 TWA Belgium OEL
Dimethylaminoethyl Methacrylate (as PNOC)*	5 mg/m^3 (Respirable fraction), 15 mg/m^3 (total dust) TWA OSHA PEL
	4 mg/m^3 TWA DFG MAK (Inhalable)
Methacrylic acid	20 ppm TWA ACGIH TLV
	50 ppm TWA, 100 ppm STEL DFG MAK
	20 ppm TWA, 40 ppm STEL UK WEL
	20 ppm TWA Belgium OEL
Benzoyl Peroxide	5 mg/m^3 TWA ACGIH TLV
	5 mg/m^3 TWA OSHA PEL
	5 mg/m^3 TWA, 5 mg/m^3 STEL (inhalable) DFG MAK
	5 mg/m^3 TWA UK WEL
	5 mg/m^3 TWA Belgium OEL

*****PNOC exposure limits only apply if dust is generated.

Biological Exposure Limits: None Established

8.2 Exposure Controls:

Appropriate Engineering Controls: Use with adequate local exhaust ventilation to maintain exposures below the occupational exposure limits or when grinding polymerized (cured) materials.

Individual Protection Measures (PPE):

Specific Eye/face Protection: Chemical safety goggles are recommended to avoid eye contact. In Europe follow EN 166.

Specific Skin Protection: Wear impervious gloves such to prevent prolonged skin contact. Contact your glove supplier for selection assistance. In Europe follow EN 374.
Specific Respiratory Protection: None should be needed for normal use. If the product is heated, grinded, or ventilation is inadequate, 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:

Appearance:	Blue paste in the uncured state. Blue hard plastic when cured.	**Explosive limits:**	**LEL:** Not available **UEL:** Not available
Odor:	Mild ester odor	**Vapor pressure (mmHg):**	<1
Odor threshold:	Not determined	**Vapor density:** (Air = 1)	Not applicable
pH:	Not available	**Relative density:**	1.6
Melting/freezing point:	Not available	**Solubility(ies):**	Completely miscible
Initial boiling point and range:	Not applicable (polymerizes)	**Partition coefficient: n-octanol/water:**	Not available
Flash point:	Not applicable	**Auto-ignition temperature:**	Not applicable
Evaporation rate: (n-BuAc = 1)	Not available	**Decomposition temperature:**	Not determined
Flammability (solid, gas):	Not applicable	**Viscosity:**	Not applicable
Explosive Properties:	Not explosive	**Oxidizing Properties:**	Not an oxidizer

9.2 Other Information: None available

10. STABILITY AND REACTIVITY

10.1 Reactivity: Polymerization can occur.

10.2 Chemical Stability: Unstable if heated.

10.3 Possibility of Hazardous Reactions: Polymerizes to form hard plastic in 2 hours at 100ºC (212ºF) with low exotherm.

10.4 Conditions to Avoid: Avoid high temperatures and direct sunlight.

10.5 Incompatible materials: Avoid oxidizing agents, reducing agents, tertiary amines, heavy metals, peroxides, free radical initiators

10.6 Hazardous Decomposition Products: Decomposition may release oxides of carbon, methylmethacrylate, acrid smoke or fumes.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:
Eyes: May cause moderate eye irritation with redness, burning and tearing.
Skin: May cause moderate skin irritation. Prolonged exposure may cause dermatitis. May cause an allergic skin reaction (sensitization).
Ingestion: Ingestion may cause irritation of the mucous membranes, esophagus and stomach.
Inhalation: None expected under normal use. Inhalation of dust from grinding plastic or fumes may cause irritation of mucous membrane and upper respiratory tract with coughing, sneezing and watering of the eyes.

Chronic Health Effects: None expected under normal use. Excessive inhalation of respirable crystalline silica dust may cause may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function.

Irritation: This product is expected to be irritating to eyes and skin.

Corrosivity: Dimethylaminoethyl Methacrylate: Corrosive to rabbit skin and eyes. This product is not corrosive to eyes and skin.

Sensitization: Dimethylaminoethyl Methacrylate: Sensitization potential was seen guinea pig maximization test. Benzoyl Peroxide: Benzoyl peroxide is a skin sensitizer.

Carcinogenicity: Crystalline silica quartz is listed as “Carcinogenic to Humans” (Group 1) by IARC and “Known to be a Human Carcinogen" by NTP. None of the other components of this product at 0.1% or greater are listed as carcinogens by OSHA, IARC, NTP, ACGIH or the EU CLP.

Mutagenicity: No data available.

Aspiration Hazard: Not an aspiration hazard.

Acute Toxicity Data:
Product ATE: >5000 mg/kg (oral), >5000 mg/kg (skin)
Sodium Aluminum Silicate: No toxicity data available
Polyester Urethane Acrylate: No toxicity data available
Crystalline Silica: Oral Rat LD50 - >22,500 mg/kg.
1, 6 Hexanediol Dimethacrylate: Oral rat LD50->2000 mg/kg
Non-Silaned Fumed Silica: Oral rat LD50- > 5000 mg/kg, inhalation rat LC50- > 0.14 mg/L/4hr (no mortality), Skin rabbit LD50- > 5000 mg/kg
Dimethylaminoethyl Methacrylate: Oral rat LD50- 1550-2659 mg/kg, Skin rat LD50- > 2000 mg/kg
Methacrylic acid: Oral rat LD50- 1320 mg/kg, Inhalation rat LC50- 7.1 mg/L/4hr (as mist), Skin rabbit LD50- 500-1000 mg/kg
Benzoyl Peroxide: Oral rat LD50 –>5,000 mg/kg; Inhalation rat LD50 ->24.3 mg/L/4hr

Reproductive Toxicity Data: No data available.

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

Specific Target Organ Toxicity Repeated Exposure (STOT-RE): Crystalline Silica Quartz: Excessive inhalation of respirable crystalline silica dust has been shown to cause a progressive, disabling and sometimes fatal lung disease called silicosis in humans. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function.

12. ECOLOGICAL INFORMATION

12.1 Toxicity:
Crystalline Silica Quartz: 72 hr LC50 Carp - >10,000 mg/L
1, 6 Hexanediol Dimethacrylate: 96hr LC50 Zebra fish- 4.5 mg/L, 48hr EC50 Daphnia magna- 11.9 mg/L (QSAR), 72hr NOEC Algae 1.11 mg/L (QSAR)
Dimethylaminoethyl Methacrylate: 96hr LC50 Japanese Rice Fish-19.1 mg/L, 48 hr EC50 Daphnia magna- 33 mg/L, 14 days LC50 Japanese Rice Fish- 5.26 mg/L, 21 day NOEC Daphnia magna- 4.35 mg/L
Methacrylic acid: 96hr LC50 Rainbow trout-85 mg/L
Benzoyl Peroxide: 96 hr LC50 Rainbow Trout – 0.06 mg/L, 48 hr EC50 Daphnia magna- 0.11 mg/L, 21 day EC10 Daphnia magna- 0.001 mg/L

12.2 Persistence and Degradability: 1, 6 Hexanediol Dimethacrylate: Readily biodegradable- 91.1% in 28 days. Dimethylaminoethyl Methacrylate: Readily biodegradable- 95.3% in 28 days. Benzoyl Peroxide: Readily biodegradable in screening tests – 68% in 28 days.

12.3 Bio-accumulative Potential: No data available

12.4 Mobility in Soil: No data available

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
DOT	None	Not Regulated	None	None	None
ADR/RID	None	Not Regulated	None	None	None
IMDG	None	Not Regulated	None	None	None
IATA/ICAO	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 is not subject to CERCLA reporting requirements 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): This material is not regulated under the Clean Air Act.

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

SARA Section 311/312 (40 CFR 370) Hazard Categories: See OSHA Hazard Classification in Section 2.

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372): None.

State Regulations

California:

 **WARNING:** This product can expose you to chemicals including Crystalline Silica, which is known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to 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.

Japanese Existing and New Chemical Substances: 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.

Korean Existing Chemicals List: 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 – 0 Physical Hazard– 1
*Chronic Health Hazard

Full text of Classification abbreviations used in Section 2 and 3:
Acute Tox. 3 Acute Toxicity Category 3
Acute Tox. 4 Acute Toxicity Category 4
Aquatic Acute 1 Aquatic Acute Toxicity Category 1

Aquatic Chronic 1 Aquatic Chronic Toxicity Category 1
Aquatic Chronic 3 Aquatic Chronic Toxicity Category 3
Carc 1 Carcinogenicity Category 1
Eye Dam. 1 Eye Damage Category 1
Eye Irrit. 2A Eye Irritant Category 2A
Org. Perox. B Organic Peroxide Type B
Skin Corr. 1 Skin Corrosion Category 1
Skin Irrit. 2 Skin Irritant Category 2
Skin Sens. 1 Skin Sensitizer Category 1
STOT RE 1 Specific Target Organ Toxicity – Repeat Exposure Category 1
STOT SE 3 Specific Target Organ Toxicity – Single Exposure Category 3
H241 Heating may cause a fire or explosion.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction
H318 May cause serious eye damage
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H350 May cause cancer.
H372 Causes damage through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Supersedes: 23 April 2018
Date Updated: 5 February 2019
Revision Summary: Revise CA Prop 65 statement.

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