Dentsply Sirona
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: 8 August 2016
Document Number: 601
Date Revised: N/A
Revision Number: New

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

1.1 Product Identifier:

Trade Name (as labeled):	**Lucitone® HIPA Denture Base Liquid**
Part/Item Number:	**682012, 682014, 682015**

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

Recommended Use:	**Denture base material**
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
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:

Dentsply Sirona
Prosthetics

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

1.1 Product Identifier:

Trade Name (as labeled):	**Lucitone® HIPA Denture Base Powder**
Part/Item Number:	**905922-905929, 905932-905939, 905942-905949, 905952, 905954, 905956, 906018-906022**

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

Recommended Use:	**Denture base material**
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**
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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)	Not Hazardous	Not Hazardous

2.2 Label Elements:

Signal Word: Warning

Contains: Titanium dioxide

Hazard Phrases	Precautionary Phrases
May form combustible dust concentrations in air. H351 Suspected of causing cancer by inhalation.	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P280 Wear protective gloves. P308+P313 IF exposed or concerned: Get medical attention. 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 %
Non-hazardous ingredients	Proprietary	Proprietary	Not applicable	Balance
Dibenzoyl peroxide*	94-36-0	202-327-6 /	Skin Sens. 1, H317 Org. Perox. B, H241 Eye Irrit. 2, H319 Aquatic Acute 1, H400 (M-Factor Acute: 10) Aquatic Chronic 1, H410 (M-Factor Chronic: 10)	<1
Titanium Dioxide	13463-67-7	236-675-5	Carc. 2, H351	<1

*The Dibenzoyl peroxide is inextricable bound in the product matrix; hence, no exposure to dibenzoyl peroxide can occur.

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	Rinse thoroughly with water, while holding the eye lids open to be sure the material is washed out. Get medical attention if irritation occurs and persists.
Skin	Remove clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before re-use.

Inhalation	If irritation develops, remove to fresh air. Get medical attention if symptoms persist.
Ingestion	Do not induce vomiting unless directed to do so by a medical professional. If conscious, wash mouth out with water. Never give anything by mouth to an unconscious or convulsing person. Get medical attention if symptoms develop.

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

May cause eye and skin irritation. This product contains titanium dioxide which is suspected of causing cancer. Risk of cancer depends on level and duration 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:	On large fires, use dry chemical, foam, or water spray. For small fires, use carbon dioxide, dry chemical, or water spray. Do not use solid water jet as that may create a dust cloud that can present an explosion hazard.

5.2 Special Hazards Arising from the Substance or Mixture:

Avoid generating dust. Concentrated dust/air combinations may produce explosive conditions. As with all organic dusts, fine particles suspended in air in critical proportions and in the presence of an ignition source may ignite and/or explode. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders. Decomposition may release oxides of carbon and methyl methacrylate.

5.3 Advice for Fire-Fighters:

Fire Fighting Procedures/Precautions for Fire Fighters:	Cool fire exposed containers and structures with water. 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:

Avoid contact with skin, eyes or clothing. Avoid breathing dust or fumes. Wear appropriate protective clothing as described in Section 8. Avoid creating and breathing dust. Eliminate ignition sources.

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:

Wet down and collect in a manner to minimize the generation of airborne dusts or vacuum with a high efficiency vacuum cleaner. If a vacuum is used, explosion proof equipment is required. 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.) Non-sparking tools should be used.

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 Handing:

Avoid contact with the eyes, skin and clothing. Avoid breathing dust. Wear protective clothing and equipment as described in Section 8. Avoid creating and breathing dusts. Use only 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, or inert atmospheres.

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. Store away from incompatible materials and protect from physical damage.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Occupational Exposure Limits:

Non Hazardous ingredients	None Established
Dibenzoyl peroxide	5 mg/m^3 TWA ACGIH TLV 5 mg/m^3 TWA OSHA PEL 5 mg/m^3 TWA DFG MAK (inhalable), 5 mg/m^3 STEL (inhalable) 5 mg/m^3 TWA UK WEL
Titanium Dioxide	10 mg/m^3 TWA ACGIH TLV 15 mg/m^3 TWA OSHA PEL (total dust) 10 mg/m^3 (Inhalable), 4 mg/m^3 (respirable) TWA UK WEL 10 mg/m^3 TWA Belgium OEL

Biological Exposure Limits: None Established

8.2 Exposure Controls:

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposures below occupational exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of 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 and powered industrial trucks.

Individual Protection Measures (PPE):

Specific Eye/face Protection: Chemical safety glasses or goggles recommended.

Specific Skin Protection: Wear impervious gloves to prevent skin contact. Consult glove supplier for thickness

and breakthrough times.
Specific Respiratory Protection: None should be needed for normal use. If 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:

Appearance:	Colored free flowing powder	**Explosive limits:**	**LEL:** Not applicable **UEL:** Not applicable
Odor:	Faint methacrylate odor.	**Vapor pressure (mmHg):**	Not applicable
Odor threshold:	Not determined	**Vapor density:**	Not applicable
pH:	Not applicable	**Relative density:**	Not available
Melting/freezing point:	Not applicable	**Solubility:**	Insoluble
Initial boiling point and range:	Not applicable	**Partition coefficient: n-octanol/water:**	Not applicable
Flash point:	>392°F (>200°C)	**Auto-ignition temperature:**	>932°F (>500°C)
Evaporation rate:	Not applicable	**Decomposition temperature:**	>392°F (>200°C)
Flammability:	Non flammable	**Viscosity:**	Not applicable
Explosive Properties:	May shatter glass containers due to pressure build up.	**Oxidizing Properties:**	Not oxidizing

9.2 Other Information: None available

10. STABILITY AND REACTIVITY

10.1 Reactivity: Polymerization will not occur.
10.2 Chemical Stability: Stable under normal condition.
10.3 Possibility of Hazardous Reactions: None known.
10.4 Conditions to Avoid: Avoid excessive heat, flames, ignition sources and direct sunlight.
10.5 Incompatible materials: Oxidizing agents.
10.6 Hazardous Decomposition Products: Decomposition may release oxides of carbon and methyl methacrylate.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:
Eyes: Dust may cause irritation with redness and tearing.
Skin: May cause irritation.
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: None expected under normal use.

Irritation: None expected under normal use.

Corrosivity: This product is not classified as corrosive.

Sensitization: Dibenzoyl Peroxide: Dibenzoyl peroxide is a skin sensitizer; however, it is inextricably bound in the product and no exposure will occur.

Carcinogenicity: Titanium dioxide: Titanium dioxide is listed by IARC as a Group 2B carcinogen (Possibly carcinogenic to humans). None of the other components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH or the EU CLP.

Mutagenicity: No data available. This product is not expected to cause mutagenic activity.

Acute Toxicity Data:
Non Hazardous ingredients : Not acutely toxic
Dibenzoyl Peroxide: Oral rat LD50 > 5000 mg/kg, inhalation rat LC0: 24.3 mg/L

Reproductive Toxicity Data: No data available. This product is not expected to cause adverse reproductive effects.

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

Specific Target Organ Toxicity Repeated Exposure (STOT-RE): No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity:
Dibenzoyl Peroxide: Oncorhynchus mykiss LC50: 0.0602 mg/L/96hr

This product is not expected to cause harm to the environment.

12.2 Persistence and Degradability: Dibenzoyl peroxide 68% in 28 days.

12.3 Bio-accumulative Potential: No data is currently available

12.4 Mobility in Soil: No data is currently 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): Releases above the RQ of 500,000 lbs (based on the RQ for Benzoic Acid of 5,000 lbs present at <1%) 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.

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: Chronic Health, Fire Hazard

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

Components	C.A.S. #	WT %
Dibenzoyl peroxide	94-36-0	<1%

State Regulations

California: This product contains substances known to the state of California to cause cancer and/or reproductive toxicity.

15.2 Chemical Safety Assessment: None required.

16. OTHER INFORMATION

HMIS Hazard Rating:
Health – 1* Flammability – 2 Physical Hazard– 0

Full text of Classification abbreviations used in Section 2 and 3:
Aquatic Acute 1 Aquatic Acute Toxicity Category 1
Aquatic Chronic 1 Aquatic Chronic Toxicity Category 1
Carc. 2 Carcinogen Category 2
Eye Irrit. 2 Eye Irritant Category 2
Org. Perox. B Organic Peroxide Type B
Skin Sens. 1 Skin Sensitizer Category 1
H241 Heating may cause a fire or explosion.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Supersedes: None
Date Updated: 8 August 2016
Revision Summary: New SDS

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

Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids, for safe handling.

Signal Word: Danger

Contains: Methyl Methacrylate

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, hot surfaces, sparks, open flames, and other ignition sources. 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 action to prevent static discharge. P261 Avoid breathing mists, 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. 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. P370+P378 In case of fire: Use carbon dioxide, foam, water spray or water fog to extinguish. 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	70-90

Methacrylate Ester	Proprietary	Proprietary	Skin Sens. 1B, H317 Aquatic Chronic 3, H412	5-15
Di-functional acrylate	Proprietary	Proprietary	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1B, H317	1-5
Benzotriazole Additive	Proprietary	Proprietary	Skin Sens. 1B, H317 Aquatic Chronic 1, H410	<0.3

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	Rinse thoroughly with water. Get medical attention if irritation occurs and 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. Get medical attention if irritation persists.
Ingestion	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:
Direct contact may cause moderate skin irritation. May cause skin sensitization. Individuals with sensitivity to methacrylates may develop an allergic reaction when exposed to this product. Inhalation of mists or vapors may cause moderate respiratory tract irritation.

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.

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. Closed containers may explode due to pressure build up when exposed to extreme heat. Emits toxic fumes under fire conditions. Decomposition may release carbon monoxide, carbon dioxide, acrylates, and irritating smoke.

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

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 spills and releases as required to appropriate 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 Handing:

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 contaminants that 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. 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 (DSEN) 100 ppm TWA OSHA PEL

	50 ppm TWA, 100 ppm STEL DFG MAK
	50 ppm TWA, 100 ppm STEL UK WEL
	50 ppm TWA, 100 ppm STEL EU OEL
Methacrylate Ester	None Established
Di-functional acrylate	None Established
Benzotriazole Additive	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: None should be needed during normal conditions. Splash-proof goggles where contact is possible.

Specific Skin Protection: Wear impervious gloves to prevent skin contact.

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:

Appearance:	White liquid	**Explosive limits:**	**LEL:** 2.1% **UEL:** 12.5%
Odor:	Ester-like odor	**Vapor pressure (mmHg):**	29 mmHg @ 68°F(20°C)
Odor threshold:	Not available	**Vapor density: (Air=1)**	3.45
pH:	Not available	**Relative density:**	0.949 g/mL @ 59.9°F (15.5°C)
Melting/freezing point:	-54°F (-48°C)	**Solubility(ies):**	Slightly soluble. 1.6 g/L @ 68°F(20°C)
Initial boiling point and boiling range:	214°F (101°C)	**Partition coefficient: n-octanol/water:**	Not available
Flash point:	50°F (10°C) TCC	**Auto-ignition temperature:**	789.8°F (421°C)
Evaporation rate:	>1 (Bac = 1)	**Decomposition temperature:**	Not available
Flammability (solid, gas):	Not applicable	**Viscosity:**	Not available
Explosive Properties:	Vapors may be explosive in confined areas	**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: Stable under normal storage and handling conditions. Unstable if heated.

10.3 Possibility of Hazardous Reactions: Polymerization can occur. Conditions leading to polymerization are excessive heat, oxygen-free atmosphere inhibitor depletion (due to excessive aging), direct sunlight, and contamination with polymerization catalysts.

10.4 Conditions to Avoid: Heat, sparks, open flame, elevated temperatures, direct sunlight, and other ignition sources.

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

10.6 Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, acrylates, and irritating smoke.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:
Eyes: Direct contact with liquid and vapors may cause eye irritation with tearing, blurred vision and redness.
Skin: May cause moderate irritation, redness, rash and swelling. Prolonged or repeated contact may cause allergic skin reaction (sensitization).
Ingestion: Small amounts are not anticipated to cause adverse effects. Large quantities may cause gastrointestinal disturbances.
Inhalation: Inhalation of mists or vapors may cause moderate 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.

Irritation: Methyl Methacrylate: Moderately to slightly irritating to rabbit skin. Slight to non-irritating to rabbit eyes. Methacrylate Ester: Caused mild skin and eye irritation to rabbit skin and eyes. Benzotriazole Additive: Minimal eye irritation was seen in rabbits.

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

Sensitization: Methyl Methacrylate: Sensitizing in a Mouse local lymphnode assay. Methacrylate Ester: Mouse Local Lymph Node Assay produced an allergic reaction. No skin allergic reaction was observed in Guinea pig maximization test. Benzotriazole Additive: Strong reaction seen in Guinea pig maximization test. No sensitization noted in RIPT (humans) test. Some literatures references sensitization reactions occur in people exposed to cosmetic and plastic formulations containing this chemical.

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 listed above 0.1% are listed as carcinogens by OSHA, IARC, NTP, or the EU CLP.

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

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

Methacrylate Ester: Oral rat LD50- 4450 mg/kg

Di-functional acrylate: No data available

Benzotriazole Additive: Oral rat LD50- >10000 mg/kg, Inhalation rat LC50- >600 mg/m3, Skin rat LD50- >1000 mg/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^3. 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^3 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 by weight per 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
Methacrylate Ester: 72 hr ErC50 Desmodesmus subspicatus (green algae)- 2.28 mg/L, 21 days NOEC Daphnia magna- 0.291 mg/L
Benzotriazole Additive: 96 hr LC50 Rainbow trout->0.17 mg/L, 21 days NOEC Daphnia magna- 0.013 mg/L

12.2 Persistence and Degradability: Methyl mathacrylate is readily biodegradable - 88% after 28 days. Methacrylate Ester: Readily biodegradable- 74% in 28 days.

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

DOT	UN1247	Methyl Methacrylate Monomer, Inhibited	3	II	Not applicable
ADR/RID	UN1247	Methyl Methacrylate Monomer, Inhibited	3	II	Not applicable
IMDG	UN1247	Methyl Methacrylate Monomer, Inhibited	3	II	Not applicable
IATA/ICAO	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 1,111 lbs (based on the RQ for methyl methacrylate of 1,000 lbs present at 70-90%) 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: Acute Health, Fire Hazard

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	70-90%

State Regulations

California: This product contains substances known in the state of California to cause cancer and/or reproductive toxicity.

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: 1

Full Text of Hazard Statements and Abbreviations used In Section 3:
Aquatic Chronic 1 Aquatic Chronic Toxicity Category 1
Aquatic Chronic 3 Aquatic Chronic Toxicity Category 3
Eye Irrit. 2 Eye Irritant Category 2
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.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Supersedes: N/A
Date Updated: 8 August 2016
Revision Summary: New SDS.

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