DENTAL TECHNOLOGIES

Safety Data Sheet

Safety Data Sheet (in compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010)

Document Number: SDS-016.005
Date Revised: 8/22/2019

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

1.1 Product Identifier:

Trade Name (as labeled): **Light-Cure Pit & Fissure Sealant**

Product Form: **Mixture**

Part/Item Number: **401-0100**

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

Recommended Use: **Restorative**

Restrictions on Use: **For Professional Use Only**

1.3 Details of the Supplier of the Safety Data Sheet:

Manufacturer/Supplier Name: **Dental Technologies, Inc.**

Manufacturer/Supplier Address: **6901 N. Hamlin Avenue**
Lincolnwood, IL 60712

Manufacturer/Supplier Telephone Number: **800-835-0885 or 847-677-5500 (Product Information)**

Email address: **info@dentaltech.com**

1.4 Emergency Telephone Number:

Emergency Contact Telephone Number: **Chemtrec**
800-424-9300 (USA)
001-703-527-3887 (Outside USA)

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture:

The product as manufactured is a liquid composed of encapsulated chemical ingredients. No hazardous exposures are anticipated during normal product handling and use conditions.

GHS Classification:

Health	Environmental	Physical
Acute oral toxicity, category 4,H302 Skin Irritation, Category 3, H315 Skin Sensitization, Category 1, H317 Specific Target Organ Toxicity (Single Exposure): Respiratory System, Category 3, H335	Acute Aquatic Toxicity, Category 3, H402 Chronic Aquatic Toxicity, Category 3, H412	Not hazardous

2.2 Label Elements:

Hazard pictograms (GHS-US)

GHS-07

Signal Word: Warning

Hazard Phrases	Precautionary Phrases
H302 – Harmful if swallowed H315 – Causes skin irritation H317 – May cause an allergic skin reaction H319 – Causes serious eye irritation H335 – May cause respiratory irritation	P261 – Avoid breathing dust/fume/gas/mist/vapors/spray. P264 – Wash hands thoroughly after handling. P270 – Do not eat, drink, or smoke when using this product. P272 – Contaminated work clothing should not be allowed out of the workplace. P280 – Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 – IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell. P302+P352 – IF ON SKIN: wash with plenty of soap and water. P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P321 – See section 4 for specific treatment. P330 – Rinse mouth. P332+P313 – IF SKIN irritation occurs: Get medical advice/attention. P333+P313 – IF SKIN irritation or rash occurs: Get medical advice/attention. P362 – Take off contaminated clothing and wash before reuse. P363 – Wash contaminated clothing before reuse. P403+P233 – Store in a well-ventilated place. Keep cool. P405 –Store locked up. P501 – Dispose of contents/container in accordance with local and national regulations.

2.3 Other Hazards: None known.

2.4 Unknown acute toxicity (GHS-US): No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: None.

3.2 Mixture:

Hazardous Components	C.A.S. #	Classification	WT %
Tetrahydrofurfuryl methacrylate	2455-24-5	Flammable liquid, Category 4, H227 Skin Sensitization, Category 1, H317 Eye Irritation, Category 2B, H319 Reproductive Toxicity, Category 2, H361 Specific Target Organ Toxicity (Single Exposure): Respiratory System, Category 3, H335	25-50%
Diurethane Dimethacrylate	72869-86-4	Skin Sensitization, Category 1, H317 Acute aquatic toxicity, Category 3, H402 Chronic Aquatic Toxicity, Category 3, H412	25-50%

2-Propenoic acid, 2-methyl-, (1-methylethylidene) bis [4,1-phenyleneoxy(2-hydroxy- 3,1-propanediyl)] ester	1565-94-2	Skin Irritation, Category 3, H315 Eye Irritation, Category 2B, H319	10-25%
Silane, dichlorodimethyl-, reaction products with silica	68611-44-9	Not Classified.	1-10%
Titanium Dioxide	13463-67-7	Skin Irritation, Category 2, H315 Eye Irritation, Category 2B, H319 Specific Target Organ Toxicity (Single Exposure): respiratory tract, Category 3, H335	1-10%
1,6-Hexanediol Dimethacrylate	6606-59-3	Skin Irritation, Category 2, H315 Eye Irritation, Category 2B, H319 Specific Target Organ Toxicity (Single Exposure): Respiratory Tract, Category 3, H335	1-10%
Mono Hema Phthalate	27697-00-3	Skin Irritation, Category 2, H315 Serious Eye Damage, Category 1, H318 Specific Target Organ Toxicity (Single Exposure): Respiratory Tract, Category 3, H335	1-10%
Bisphenol A Dimethacrylate	3253-39-2	Skin Irritation, Category 2, H315 Eye Irritation, Category 2A, H319 Specific Target Organ Toxicity (Single Exposure): Respiratory Tract, Category 3, H335	1-10%
2-Dimethylaminoetheyl methacrylate	2867-47-2	Flammable liquids, Category 4, H227 Acute Oral Toxicity, Category 4, H302 Acute Dermal Toxicity, Category 4, H312 Skin Corrosion, Category 1B, H314 Serious eye damage, Category 1, H318 Skin Sensitization, Category 1, H317 Reproductive Toxicity, Category 2, H361 Acute Aquatic Toxicity, Category 3, H402	1-10%
Trimethylolpropane Trimethacrylate	3290-92-4	Acute Aquatic Toxicity, Category 2, H401 Chronic Aquatic Toxicity, Category 2, H411	1-10%

The exact concentration is being withheld as a trade secret.

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

4. FIRST AID MEASURES

4.1 Description of First Aid Measures:	
Eye	Immediately flush victim's eyes with large quantities of water for several minutes, holding the eyelids apart. Get medical attention.
Skin	Remove contaminated clothing. Wash skin with water. Get immediate medical attention.
Inhalation	Remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration and get immediate medical attention.
Ingestion	Rinse out mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or drowsy person. Get immediate medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed:
The most important known symptoms are described in the labelling (see section 2.2) and/or in section 11. Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals. Signs and symptoms of exposure include: burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed:
Immediate medical attention should be received in cases of ingestion or contact with the skin or eyes.
Note to Physicians (Treatment, Testing, and Monitoring): Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media:	Water spray, carbon dioxide, or dry chemical powder.

5.2 Special Hazards Arising from the Substance or Mixture:
Emits toxic fumes under fire conditions.

5.3 Advice for Fire-Fighters:	
Fire Fighting Procedures:	Cool fire exposed containers with water spray. General: Evacuate all personnel; use protective equipment for fire-fighting.
Precautions for Fire Fighters:	Firefighters should wear full emergency equipment and approved positive pressure self-containing breathing apparatus.

Recommended Protective Equipment for Fire Fighters:			
EYES/FACE	**HANDS**	**RESPIRATORY**	**THERMAL**
			

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:			
Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Avoid contact with skin, eyes or clothing. Wear appropriate protective clothing as described in Section 8.			
Recommended Personal Protective Equipment for Containment and Clean-up:			
EYES/FACE	**HANDS**	**RESPIRATORY**	**SKIN**
			

6.2 Environmental Precautions:
Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Avoid contact with skin, eyes, or clothing. Wear appropriate protective clothing as described in Section 8.

6.3 Methods and Material for Containment and Cleaning up:

Clean up with absorbent material and remove residue with alcohol damp wipe. Rinse spill area with water. Use non-sparking tools and equipment.

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:

Wash thoroughly after handling. Provide appropriate ventilation. For precautions see section 2.2.

7.2 Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, well-ventilated area away from heat, direct sunlight, and all sources of ignition. Store away from incompatible materials. Keep container closed to prevent contamination.

7.3 Specific End Use (s): No specific end use other than that described in Section 1.2.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters: No additional information available.

8.2 Exposure Controls:

Appropriate Engineering Controls: None required under normal product handling conditions.

Individual Protection Measures (PPE)

Specific Eye/face Protection: Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards.

Specific Skin Protection: Wear impervious gloves such as natural rubber or neoprene if needed to avoid skin contact. Consult glove supplier for thickness and breakthrough times.

Specific Respiratory Protection: None should be needed under normal use. If exposure limits are exceeded an approved respirator or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form, and concentration. Follow applicable regulations and good industrial hygiene practice.

Specific Thermal Hazards: None required.

Recommended Personal Protective Equipment

EYES/FACE	HANDS	RESPIRATORY	SKIN
			

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties:

Physical state:	Homogeneous Liquid	**Relative density:**	1.12 – 1.20
Appearance:	White	**Explosive limits:**	No data available
Odor:	No data available	**Vapor pressure (mmHg):**	No data available
Odor threshold:	No data available	**Vapor density:**	No data available
pH:	No data available	**Solubility(ies):**	No data available
Melting/freezing point:	No data available	**Partition coefficient: n-octanol/water:**	No data available
Initial boiling point and boiling range:	No data available	**Auto-ignition temperature:**	No data available
Flash point:	No data available	**Decomposition temperature:**	No data available
Evaporation rate:	No data available	**Viscosity:**	No data available
Flammability (solid, gas):	No data available	**Oxidizing Properties:**	No data available
Explosive Properties:	No data available		

9.2 Other Information: None.

10. STABILITY AND REACTIVITY

10.1 Reactivity: Stable at ambient temperature and under normal conditions of use.
10.2 Chemical Stability: Stable under recommended storage conditions.
10.3 Possibility of Hazardous Reactions: None known.
10.4 Conditions to Avoid: Keep away from light, heat, sparks, flames, and other sources of ignition.
10.5 Incompatible materials: Keep away from light, reducing agents, oxidizing agents, peroxides, amines and open flames.
10.6 Hazardous Decomposition Products: Oxides of Carbon when burned.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Tetrahydrofurfuryl methacrylate:

Acute Toxicity:	
Oral (Estimate) – LD50	4003 mg/kg

Diurethane Dimethacrylate

Acute Oral Toxicity LD50 – Rat	> 2,000 mg/kg
Caustic burning/irritation of skin – rabbit – 4h	Not irritating
Serious eye damage/eye irritation – rabbit	Not irritating
Respiratory/skin sensitization	Sensitizing

Silicon dioxide:

Acute oral toxicity – Rat – LD50	> 5,000 mg/kg
Acute inhalation toxicity – Rat – LC0 – 4h	0.477 mg/L

Mono Hema Phthalate:

Acute Toxicity	
Oral – Rat – LD50	> 2,000 mg/kg
Dermal – rabbit – LD50	> 10,000 mg/kg
Inhalation – rat – LC50 – 4h	12.2 mg/L

2-(Dimethylamino) ethyl methacrylate:

Acute Toxicity:	
LD50 – Oral – Rat	1,751 mg/kg
Skin corrosion/irriation – Rabbit – 24h	Causes burns
Serious eye damage/irritation – Rabbit – 2h	Corrosive
Respiratory or skin sensitization – guinea pig	May cause sensitization by skin contact

Trimethylolpropane Trimethacrylate:

Acute Oral Toxicity – Rat – LD50	> 2,000 mg/kg
Acute Dermal Toxicity – Rat – LD50	> 2,000 mg/kg
Specific target organ toxicity – single exposure – oral - rat	NOAEL 800 mg/kg
Repeated dose toxicity – oral – rat	NOAEL > 900 mg/kg

12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Tetrahydrofurfuryl methacrylate:
Fathead Minnow – LC50 – 96h: 34.7 mg/L

Diurethane Dimethacrylate:
Acute aquatic toxicity category 3 (UN-GHS)
Chronic aquatic toxicity category 3 (UN-GHS)
LC50 Brachydanio rerio – 96h > 100 mg/L

Silicon Dioxide
LC50 – Brachydanio rerio – 96h: > 10,000 mg/L
EC50 – Daphnia magna – 24h: >10,000 mgl/L
IC50 – Desmodesmus subspicatus – 72h: > 10,000 mg/L

Mono Hema Phthalate:
Gambusia affins – LC50 – 96h: 180 mg/L
Scenedesmus quadricauda – EC50 – growth inhibition: 10 mg/L

2-(Dimethylamino) ethyl methacrylate:
LC50 – Oryzias latipes – 96h: 19.1 mg/L
Immobilization EC50 – Daphnia magna – 48h: 33 mg/L
Growth inhibition EC50 – Scenedesmus capricornutum – 72h: 69.7 mg/L

Trimethylolpropane Trimethacrylate:
Acute aquatic toxicity category 2

Chronic aquatic toxicity category 2 LC50 - Rainbow trout – 96h: 2 mg/L EC50 – Daphnia magna – 48h: > 9.22 mg/L EC50 – Pseudokirchneriella subcapitata – 96h: 4.43 mg/L NOEC Pseudokirchneriella subcapitata – 96h: 0.177 mg/L EC10 Pseudomonas putida – 16h: > 5,000 mg/L
12.2 Persistence and Degradability: No data available.
12.3 Bio-accumulative Potential: No data available.
12.4 Mobility in Soil: No data available.
12.5 Results of PBT and vPvB Assessment: No data available.
12.6 Other Adverse Effects: No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Regulations: Dispose in accordance with all national and local regulations.
Properties (Physical/Chemical) Affecting Disposal: None currently known.
Waste Treatment Recommendations: Dispose in accordance with national and local regulations.

14. TRANSPORT INFORMATION

14.1. UN number
N/A
14.2. UN proper shipping name
N/A
14.3. Transport hazard class(es)
N/A
14.4. Packing group
N/A
14.5. Environmental hazards
No data available
14.6. Special precautions for user
No data available
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No data available

15. REGULATORY INFORMATION

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

U.S. Federal Regulations

Poly(oxy-1,2-ethanediyl),.alpha.,.alpha.' –[1-methylethylidene) di-4,1-phenylene] bis[.omega.-[(2-methyl – 1-oxo-2-propenyl)]-:

TSCA	Listed
DSL	Listed
NDSL	Not Listed
EINECS	Listed
SARA 311/312 Hazard Categories	None
SARA 313 Components	None

Diurethane Dimethacrylate:

REACH	Pre-registered
TSCA	Listed or exempted
DSL	Not listed
AICS	Listed or exempted
ECL	Listed or exempted
IECSC	Listed or exempted
HSNO	Listed or exempted
SARA 302 Components	None
SARA 313 Components	None
SARA 311/312 Hazards	None
Pennsylvania Right to Know Components	Diurethane Dimethacrylate (Cas No. 72869-86-4)

2-Propenoic acid, 2-methyl-, (1-methylethylidene) bis [4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] ester

TSCA	Listed
DSL	Listed
NDSL	Not Listed
EINECS	Listed
SARA 311/312 Hazard Categories	Acute Health Hazard

Titanium Dioxide

AICS	Listed
DSL	Listed
NDSL	Not Listed
IECSC	Listed
EINECS	Listed
ELINCS	Not Listed
ENCS	Listed
ECL	Listed
New Zealand Inventory	Listed
PICCS	Listed
TSCA	Listed
US California Proposition 65 – Carcinogens & Reproductive Toxicty (CRT): Listed substance	Titanium Dioxide (Cas No. 13463-67-7)
US – Massachusetts RTK	Titanium Dioxide (Cas No. 13463-67-7)
US – New Jersey RTK	Titanium Dioxide (Cas No. 13463-67-7)
US – Pennsylvania RTK	Titanium Dioxide (Cas No. 13463-67-7)

1,6-Hexanediol Dimethacrylate:

TSCA	Listed
DSL	Not Listed
NDSL	Listed
EINECS	Listed
SARA 311/312 Hazard Categories	Acute health hazard, reactive hazard

Bisphenol A Dimethacrylate:

TSCA	Listed
DSL	Listed

2-(Dimethylamino) ethyl methacrylate:

SARA 302 Components	None
SARA 311/213 Hazards	Fire Hazard, Acute Health Hazard
Massachusetts State Right to Know Regulations	2-(Dimethylamino) ethyl methacrylate (CAS 2867-47-2)
Pennsylvania State Right to Know Regulations	2-(Dimethylamino) ethyl methacrylate (CAS 2867-47-2)
New Jersey State Right to Know Regulations	2-(Dimethylamino) ethyl methacrylate (CAS 2867-47-2)

Trimethylolpropane Trimethacrylate:

REACH	Registered
TSCA	Listed or exempted
DSL	Listed or exempted
AICS	Listed or exempted

15.2 Chemical Safety Assessment: None required.

16. OTHER INFORMATION

HMIS Hazard Rating:

Health: 1	Flammability: 1	Reactivity: 1

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

H227	Combustible liquid
H302	Harmful if swallowed
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	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Supersedes: MSDS-016 Rev004
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Revision Summary: August 22nd, 2019 : Converted MSDS to Reach SDS. Updated all sections.
Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, IUCLID Dataset EU Chemical Bureau, ESIS, Country websites for occupational exposure limits.

Manufacturer disclaimer:
FOR DENTAL USE ONLY. The information and recommendations are taken from sources (raw material MSDS(s), SDS(s) and manufacturers knowledge) believed to be accurate; however, the manufacturer makes no warranty with respect to the accuracy of the information or the suitability of the recommendation and assumes no liability to any user thereof. Each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.