



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 049.002
Date Revised: 7/17/2019

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

1.1 Product Identifier:

Trade Name (as labeled): L/C Bonding Agent (ADA) with Acetone and Ethanol

Product Form: Mixture

Part/Item Number: 211-0000-002

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

Recommended Use: Bonding Adhesive

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 solid composed of encapsulated chemical ingredients. No hazardous exposures are anticipated during normal product handling and use conditions.

GHS Classification:		
Health	Environmental	Physical
Eye irritation 2A (H319) Skin irritation 2 (H315) Skin sensitizer 1 (H317) Specific target organ toxicity – single exposure, central nervous system 3 (H336)	Acute Aquatic Toxicity 3 (H402)	Flammable liquid 2 (H225)

Specific target organ toxicity –
Single exposure, respiratory
tract 3 (H335)

2.2 Label Elements:

Hazard pictograms (GHS-US)



Signal Word: Warning, Danger

Hazard Phrases	Precautionary Phrases
<p>H225 – Highly flammable liquid and vapor H315 – Causes skin irritation H317 – May cause an allergic skin reaction H319 – Causes serious eye irritation H320 – Causes eye irritation H335 – May cause respiratory irritation H336 – May cause drowsiness or dizziness H402 – Harmful to aquatic life</p>	<p>P210 – Keep away from heat/sparks/open flames/ hot surfaces – No smoking. P233 – Protect from moisture. P240 – Ground/bond container and receiving equipment. P241 – Use explosion-proof equipment. P242 – Use only non-sparking tools. P243 – Take precautionary measures against static discharge. P261 – Avoid breathing dust/fume/gas/mist/vapors/spray. P264 – Wash hands thoroughly after handling. P271 – Use only outdoors or in a well-ventilated. P272 – Contaminated work clothing should not be allowed out of the workplace. P273 – Avoid release to the environment. P280 – Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 – IF ON SKIN: wash with plenty of soap and water. P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse SKIN with water/shower. P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 – Call a POISON CENTER or doctor/physician if you feel unwell. P321 – See Section 4 for specific treatment. P332+P313 – IF SKIN irritation occurs: Get medical advice/attention. P333+P313 – IF SKIN irritation or rash occurs: Get medical advice/attention. P337+P313 – IF eye irritation persists: Get medical advice/attention. P362 – Take off contaminated clothing and wash before reuse. P363 – Wash contaminated clothing before reuse. P370+P378 – In case of fire: use chemical foam, carbon dioxide, or dry chemical to extinguish. P391 – Collect spillage. Hazardous to the aquatic environment. P403+P233 – Store in a well-ventilated place. Keep container tightly closed. P403+P235 – Store in a well-ventilated place. Keep cool.</p>

	P405 – Store locked up. P501 – Dispose of contents/containers in accordance with local and national regulations.
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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 %
Acetone	67-64-1	Flammable liquids 2 (H225) Eye irritation 2A (H319) Specific target organ toxicity – single exposure 3, central nervous system (H336)	50-75%
Pyromellitic glycerol dimethacrylate	148019-46-9	Skin irritation 2 (H315) Eye irritation 2B (H319) Skin sensitization 1 (H317) Specific target organ toxicity – single exposure 3, respiratory tract (H335)	25-50%
2-Hydroxyethyl methacrylate	867-77-9	Skin sensitization 1B (H317) Eye irritation 2B (H320) Acute Aquatic Toxicity 3 (H402)	10-25%
Ethanol	64-17-5	Flammable liquids 2 (H225)	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:

Eye	Immediately flush victim's eyes with large quantities of water for several minutes, holding the eyelids apart. Get medical attention if irritation persists.
Skin	Remove contaminated clothing. Wash skin with soap and water. If irritation develops, get medical attention. Launder clothing before re-use.
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 and effects are described in the labelling (see section 2.2) and/or in section 11.

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

No data available.




Note to Physicians (Treatment, Testing, and Monitoring): May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media:	Chemical foam, carbon dioxide, or dry chemical.
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5.2 Special Hazards Arising from the Substance or Mixture:
Vapors may travel to ignition source and flash back. Explosive mixtures with air may occur at room temperature. Heated containers can build up pressure and explode. Cool fire exposed containers with water.

5.3 Advice for Fire-Fighters:
Fire Fighting Procedures: Cool fire exposed containers with water spray. General: Evacuate all personnel; use protective equipment for firefighting.
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:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into environment must be avoided.

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:
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

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

7.2 Conditions for Safe Storage, Including Any Incompatibilities:

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific End Use (s): Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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: Chemical safety goggles should be worn if needed to avoid eye contact.

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: Where risk assessment shows air purifying respirators are appropriate use a full face respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protections, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government.

Specific Thermal Hazards: Highly flammable. Keep away from sources of ignition.

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:	Liquid	Relative density:	No data available.
Appearance:	Clear	Explosive limits:	No data available.
Odor:	Fragrant, mint-like.	Vapor pressure (mmHg):	No data available.

Odor threshold:	Not determined.	Vapor density:	No data available.
pH:	No data available.	Solubility(ies):	Soluble in water.
Melting/freezing point:	No data available.	Partition coefficient: n-octanol/water:	No data available.
Initial boiling point and boiling range:	56°C	Auto-ignition temperature:	No data available.
Flash point:	6°C	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 at standard temperature and pressure.
10.3 Possibility of Hazardous Reactions: None known.
10.4 Conditions to Avoid: Temperatures over 40°C, sources of ignition and contamination.
10.5 Incompatible materials: Oxidizing agents, chlorine compounds, chloroform, alkalis, acids.
10.6 Hazardous Decomposition Products: Will not occur.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Acetone:

Acute Toxicity:	
LD50 Oral - Rat	5,800mg/kg
Remarks:	Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Tremor. Behavioral: Headache. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
LC50 Inhalation – Rat – 8h	50,100mg/m ³
LD50 Dermal – Guinea pig	7,426 mg/kg
Skin corrosion/irritation	
Skin - Rabbit	Mild skin irritation – 24h
Serious eye damage/eye irritation	
Eyes - Rabbit	Eye irritation – 24h
Additional Information	
Kidney	Irregularities – Based on Human Evidence
Skin	Dermatitis – Based on Human Evidence

2-Hydroxyethyl methacrylate:

Acute Toxicity:	
LD50 Oral – Rat	>5,000mg/kg
LF50 Dermal – Rabbit	>5,000mg/kg
Caustic burning/irritation of skin LD 50 – Rabbit	Not irritating
Serious eye damage/ eye irritation Rabbit, Draize	Irritating
Respiratory/skin sensitization Guinea pig	Sensitizing (Cases of sensitization also observed in humans.)

Ethanol:

Oral LD50 Rat	7,060 mg/kg
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12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Acetone:

Toxicity to fish: LC50 – *Oncorhynchus mykiss* (rainbow trout) – 5,540 mg/L – 96h

Toxicity to daphnia and other aquatic invertebrates: LC50 – *Daphnia magna* (water flea) – 8,800 mg/L – 48h

2-Hydroxyethyl methacrylate:

Toxicity to fish: LC50 *Oryzias latipes*, OECD 203, semi-static, 96h – >100 mg/L

Toxicity to daphnia and other aquatic invertebrates:

NOEC *Daphnia magna*, OECD 202 part 2, flow through, 21 d – 24.1 mg/L

EC50 *Daphnia magna*, OECD 202 part 1, static test, 48h – 380 mg/L

Toxicity to algae and other aquatic plants:

EC50 *selenastrum capricornutum*, OECD 201, 72h – 836 mg/L

NOEC *selenastrum capricornutum*, OECD 201, 72h – 400 mg/L

Toxicity to microorganisms – EC50 *Pseudomonas fluorescens*, DEV L8, 16h – >3,000 mg/L

Ethanol:

96 hour LC50 *Oncorhynchus mykiss*: 12,900 mg/L (flow-through) (30 days old)

96 hour LC50 *Pimephales promelas*: 14.2 mg/L

5 min EC50 *Photobacterium phosphoreum*: 35,470 mg/L

30 min EC50 *Photobacterium phosphoreum*: 34,634 mg/L

48 hour EC50 *Daphnia magna*: 9,268 mg/L

24 hour EC50 *Daphnia magna*: 10,800 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: Flammable.

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

14. TRANSPORT INFORMATION

14.1. UN number

UN1993

14.2. UN proper shipping name

Flammable Liquid, n.o.s.

14.3. Transport hazard class(es)

3

14.4. Packing group

III

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

Pyromellitic glycerol dimethacrylate:

TSCA	Listed
SARA 311/312	Acute health hazard, Reactive hazard

Ethanol:

TSCA	Listed
SARA 311/312	Fire, Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

Acetone:

SARA 311/312	Fire hazard, Acute health hazard, Chronic health hazard
Massachusetts Right to Know Components	Acetone (CAS-No. 67-64-1)
Pennsylvania Right to Know Components	Acetone (CAS-No. 67-64-1)
New Jersey Right to Know Components	Acetone (CAS-No. 67-64-1)

2-Hydroxyethyl methacrylate:

SARA 311/312	Acute health hazard
REACH (EU)	Listed or exempted
TSCA (USA)	Listed or exempted
DSL (CDN)	Listed or exempted
AICS (AUS)	Listed or exempted
METI (J)	Listed or exempted
ECL (KOR)	Listed or exempted
PICCS (RP)	Listed or exempted
IECSC (CN)	Listed or exempted
HSNO (NZ)	Listed or exempted
ECS (Taiwan)	Listed or exempted

15.2 Chemical Safety Assessment: None required.

16. OTHER INFORMATION

HMIS Hazard Rating:

Health: 1	Flammability: 3	Reactivity: 1
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Full text of Classification abbreviations used in Section 2 and 3:

H225	Highly flammable liquid and vapor.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H320	Causes eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H402	Harmful to aquatic life.

Supersedes: MSDS-049 Rev001

Date updated: 7/17/2019

Change Control Document #: DCN 6846

Revision Summary: July 17th, 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.