

## Safety Data Sheet

Trade Name: **DenTASTIC DENTAL ADHESIVE SYSTEM**

| 1.0 Commercial Product Name and Supplier |   |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|--|---|------------------|-----------------|------------------|------------------|---|------|----------------|---|------|---------|---|------|-----------------|---|--------------|--------------------|---|------|
| 1.1                                      | Commercial product name / designation<br><i>DenTASTIC Adhesive System</i><br>including DASP-A, DASP-B, DASP-C, DASP-1 and DASP-2  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 1.2                                      | Application / Use<br>Dental bonding agent for use by dentists.  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 1.2.2                                    | SIC<br>851 Human health activity  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 1.2.3                                    | Use Category<br>55  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 1.3                                      | Manufacturer<br><b>Pulpdent Corporation</b><br>80 Oakland Street, P.O. Box 780<br>Watertown, MA 02472 USA<br>Telephone: 1 617 926-6666 / Fax: 1- 617 926-6262<br>Email: <a href="mailto:Pulpdent@pulpdent.com">Pulpdent@pulpdent.com</a>  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 1.4                                      | Emergency Telephone Number<br>1-800-535-5053 (24 Hour / USA)  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 1.5                                      | Authorized European Representative<br>Advena Limited<br>Tower Business Centre, 2nd Floor,<br>Tower Street,<br>Swatar, BKR 4013 Malta  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | UK Responsible Person<br>Advena Limited<br>Pure Offices, Plato Close<br>Warwick, CV34 6WE United Kingdom  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | CH Authorized Representative<br>MedEnvoy Switzerland<br>Gotthardstrasse 28, 6302 Zug, Switzerland   |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 2.0 Hazards Identification               |   |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 2.1                                      | Classification  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 2.1.1                                    | Classification according to Regulation (EC) No. 1272/2008 [CLP]   |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | <table border="1"> <thead> <tr> <th>Hazard Class</th> <th>Hazard Category</th> <th>Hazard Statement</th> </tr> </thead> <tbody> <tr> <td>Flammable liquid</td> <td>2</td> <td>H225</td> </tr> <tr> <td>Eye irritation</td> <td>2</td> <td>H319</td> </tr> <tr> <td>STOT SE</td> <td>3</td> <td>H335</td> </tr> <tr> <td>Skin irritation</td> <td>2</td> <td>H315; EUH066</td> </tr> <tr> <td>Skin sensitization</td> <td>1</td> <td>H317</td> </tr> </tbody> </table> | Hazard Class     | Hazard Category | Hazard Statement | Flammable liquid | 2 | H225 | Eye irritation | 2 | H319 | STOT SE | 3 | H335 | Skin irritation | 2 | H315; EUH066 | Skin sensitization | 1 | H317 |
| Hazard Class                             | Hazard Category   | Hazard Statement |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| Flammable liquid                         | 2   | H225             |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| Eye irritation                           | 2   | H319             |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| STOT SE                                  | 3   | H335             |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| Skin irritation                          | 2   | H315; EUH066     |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| Skin sensitization                       | 1   | H317             |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 2.1.2                                    | Classification according to Directive 67/548/EEC<br>(See SECTION 16 for full text of risk phrases)<br>Flammable (F), Irritant (Xi). R11-36/37/38; R 43; R66   |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
| 2.2                                      | <b>GHS Label Elements</b><br>Hazard Pictograms  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  |     |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | Signal Word: <b>DANGER</b>  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | <b>Restricted to use by dental professional only</b>  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | <b>Hazard Statements:</b>   |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | H225: Highly flammable liquid and vapor. Category 2.  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | H319: Causes serious eye irritation. Category 2.  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |
|  | H335: Specific Target Organ Toxicity (STOT), single exposure, respiratory tract, Category 3: May cause respiratory irritation.  |                  |                 |                  |                  |   |      |                |   |      |         |   |      |                 |   |              |                    |   |      |

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H315: Causes skin irritation. Category 2.

EUH066: Repeated exposure may cause skin dryness or cracking.

H317: May cause an allergic skin reaction. Category 2.

### Precautionary Statements:

P210: Keep away from heat, sparks, open flame, hot surfaces. No smoking.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P261: Avoid breathing fumes.

P280: Wear protective gloves/ clothing and eye protection.

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.

P303+P361+P353: If on skin or hair, remove contaminated clothing. Rinse skin with water.

P370+P378: In case of fire, use dry chemical, alcohol foam, or carbon dioxide for extinction.

### 3.0 Composition

3.1 Chemical characterization of the preparation: Methacrylate ester monomers in acetone vehicle.

3.2 Hazardous ingredients

| CAS Number | Name of the ingredient                      | Concentration | Classification according to 67/548/EEC               | Classification according to Regulation (EC) No.1272/2008 (CLP).  |
|------------|---|---------------|--|--|
| 67-64-1    | Acetone<br>(DASP-A, DASP-B,<br>DASP-C only) | 50% to 80%    | Flammable (F);<br>Irritant (Xi).<br>R11- 36/37/38-66 | Flammable liquid; Category 2<br>Eye irritation; Category 2<br>STOT SE; Category 3<br>Skin irritation; Category 2 |
| ----       | Methacrylate ester monomers                 | 5% to 50%     | Irritant (Xi). R 43                                  | Skin sensitization; Category 1   |

### 4.0 First Aid Measures

|     |                                  |  |
|-----|----------------------------------|--|
| 4.1 | General Information              | Acetone may cause irritation of eyes or skin on contact. Exposure to >750 ppm may cause irritation of respiratory tract, mucous membranes. Methacrylate may cause sensitization of skin with prolonged/repeated contact. Show this safety data sheet to medical personnel. Get medical attention in case of uncertainty. |
| 4.2 | Eye Contact                      | Keep eyelids apart; flush with running water for 15+ minutes. Get medical attention.   |
| 4.3 | Skin Contact                     | Remove contaminated clothing. Immediately wash skin well with mild soap and running water. Use hand cream. Get medical attention if irritation persists.   |
| 4.4 | Ingestion                        | Rinse mouth with water. Drink water to dilute, but only if person is conscious. Do not induce vomiting. Get immediate medical attention.   |
| 4.5 | Inhalation                       | Move to fresh air. If necessary, administer oxygen and/or artificial respiration and seek medical attention.   |
| 4.6 | Precautions for first responders | Ventilate the area. Wear safety glasses and gloves to prevent contact.   |
| 4.7 | Information for physicians       |  |

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|           |   |
|-----------|---|
| Symptoms  | Irritation, pain or redness in eyes, throat or on skin. Headache, fatigue. Nervous system depressant.   |
| Hazards   | Acetone may cause irritation of eyes or skin on contact. Exposure to >750 ppm may cause irritation of respiratory tract and mucous membranes. Persons with chronic respiratory or skin disease are at increased risk with prolonged exposure to acetone. Methacrylate may cause sensitization of skin with prolonged and/or repeated contact. |
| Treatment | Same as above under First Aid.  |

**5.0 Fire Fighting Measures**

|     |  |   |
|-----|--|---|
| 5.1 | Suitable extinguishing media                   | Use dry chemical, alcohol foam, or carbon dioxide.                    |
| 5.2 | Extinguishing media to avoid                   | Water may be ineffective, but will keep fire-exposed containers cool. |
| 5.3 | Special exposure hazards in a fire             | Thermal decomposition may produce toxic oxides of carbon.             |
| 5.4 | Special protective equipment for fire-fighters | Self-contained breathing apparatus                                    |

**6.0 Accidental Release Measures**

|     |                           |   |
|-----|---------------------------|---|
| 6.1 | Personal precautions.     | Wear chemical splash goggles, gloves and lab coat.  |
| 6.2 | Environmental precautions | Avoid releasing large quantities into environment.  |
| 6.3 | Method for clean up       | Wear gloves and safety glasses. Wipe up with paper towels or cloths. Rinse area of spill with soap and water. Place all absorbent material in closed container away from heat, sparks, sun and oxidizers. |

**7.0 Handling and Storage**

|     |               |   |
|-----|---------------|---|
| 7.1 | Handling      | Avoid cross-contamination. Avoid heat, ignition sources, and intense light. Empty containers may retain residual product; handle appropriately.   |
| 7.2 | Storage       | Replace cap over applicator tip immediately after use. Keep tightly capped in original container. Store at cool room temperature in a well-ventilated area. Avoid extremes of temperature (>27°C/80°F, <5°C/40°F), sparks, direct sunlight, oxidizing agents. Vapor may form flammable mixtures with air. |
| 7.3 | Specific uses | Dental adhesives  |

**8.0 Exposure Controls / Personal Protection**

|         |                                |  |
|---------|--------------------------------|--|
| 8.1     | Exposure limit values          | Acetone: 750 ppm   |
| 8.2     | Exposure controls              |  |
| 8.2.1   | Occupational exposure controls | Wear chemical splash goggles, gloves, lab coat. No other special equipment or ventilation required under normal conditions of use. For large quantities/prolonged exposure, use enclosure, local ventilation and dilution to reduce concentration below TLV. |
| 8.2.1.1 | Respiratory protection         | Good general ventilation is sufficient to control any airborne vapors.   |
| 8.2.1.2 | Hand protection                | No special requirements other than the usual surgical gloves.  |
| 8.2.1.3 | Eye protection                 | Safety glasses.  |
| 8.2.1.4 | Skin protection                | No special requirements.   |

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8.2.1.5 Other controls Emergency eye wash fountain should be close by. Do not eat, drink or smoke. Avoid contact with eyes, skin or clothing. Avoid breathing vapors. Wash hands after use.

8.2.2 Environmental exposure controls Follow all government regulations.

**9.0 Physical and Chemical Properties**

## 9.1 Characteristics

9.1.1 Appearance / Color / Physical state  
 DASP-A: Pale yellow to amber thin liquid  
 DASP-B: Yellow resinous liquid  
 DASP-C: Amber-colored thin liquid  
 DASP-1: Yellow, oily liquid  
 DASP-2: Slightly yellow, oily liquid

9.1.2 Odor  
 DASP-A, B, and C: Characteristic, sweet, mint-like acetone odor  
 DASP-1 and 2: Mild, characteristic resin odor

## 9.2 Important health, safety and environmental information

9.2.1 pH Not applicable  
 9.2.2 Boiling point Boiling Point: 56.5°C  
 9.2.3 Flash point -18°C (Tag closed cup)  
 9.2.4 Ignition temperature Not determined  
 9.2.5 Explosive properties Lower 2.5 Upper 12.8  
 9.2.6 Odor threshold 159 ppm  
 9.2.7 Vapor pressure 180 mm Hg / 239.98 mbar / Id: E  
 9.2.8 Specific gravity DenTASTIC A, B, C: 0.795  
 DenTASTIC 1, 2: 1.100  
 9.2.9 Solubility in water Acetone: Very soluble. Resins: Insoluble  
 9.2.10 Partition coefficient Not determined  
 9.2.11 Viscosity Not determined  
 9.2.12 Vapor density 2  
 9.2.13 Evaporation rate 6

**10.0 Stability and reactivity**

10.1 Conditions to avoid Heat, sparks, open flame, cross-contamination.  
 10.2 Materials to avoid Acetyl chloride, acids, bases, amines, bromines, chloroform, hydrogen peroxide, strong oxidizers, plastics, rayon, ketones, and acetaldehyde.  
 10.3 Hazardous decomposition products Thermal decomposition may produce toxic oxides of carbon.  
 10.4 Further information Stable if stored and used as directed.

**11.0 Toxicological information**

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|             |  |  |
|-------------|--|--|
| 11.1        | Acute toxicity                                       | Minimal health hazard under normal conditions of dental practice. Large quantities/prolonged exposure: acetone is a significant health hazard. LD <sub>50</sub> in rats: 10.7ml/kg orally. Respiratory irritant at >750 ppm. |
| 11.2        | Irritation and corrosiveness                         | May cause irritation of eyes or skin on contact. May cause irritation of respiratory tract if inhaled.   |
| 11.3        | Sensitization  | Prolonged or repeated exposure to methacrylates may cause sensitization.   |
| 11.4        | Sub-acute, sub-chronic and prolonged toxicity        | No chronic health hazard under normal conditions of use. Prolonged or repeated exposure to methacrylates may cause sensitization. Prolonged/repeated exposure to acetone may cause skin to dry and crack.                    |
| 11.5        | Carcinogenicity, Mutagenicity, Reproductive Toxicity | None known   |
| 11.6        | Empirical data                                       | None available   |
| 11.7        | Clinical experience                                  | Dental adhesives with an acetone base have been used for decades with a high benefit-to-risk ratio. There is no evidence of short-term or long-term risk or any problems after thousands of procedures.                      |
| <b>12.0</b> | <b>Ecological Information</b>                        |  |
| 12.1        | Ecotoxicity  | Follow good working practices and all government regulations. Avoid release into environment.  |
| <b>13.0</b> | <b>Disposal Considerations</b>                       |  |
| 13.1        | Regulations  | Follow all local and national government regulations in disposing material or contaminated packaging.  |
| <b>14.0</b> | <b>Transport Information</b>                         |  |
| 14.1        | UN Number  | 1090   |
| 14.2        | Technical name                                       | Acetone  |
| 14.3        | Packing group  | Packing Group II   |
| 14.4        | IATA class   | 3  |
| <b>15.0</b> | <b>Regulatory Information</b>                        |  |
| 15.1        | EU   | Class IIa Medical Devices under MDD 93/42/EEC.   |
| 15.2        | US FDA   | Class II Medical Devices.  |
| 15.3        | Health Canada  | Class III Medical Devices  |
| <b>16.0</b> | <b>Other information</b>                             |  |
| 16.1        | List of relevant R phrases                           | R11: Highly flammable<br>R 36 / 37 / 38: Irritating to eyes, respiratory system and skin.<br>R43: May cause sensitization by skin contact<br>R66: Repeated exposure may cause skin dryness or cracking.                      |

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|      |   |  |
|------|---|--|
| 16.2 | Hazard Statements                                     | <p>H225: Highly flammable liquid and vapor. Category 2.</p> <p>H319: Causes serious eye irritation. Category 2.</p> <p>H335: Specific Target Organ Toxicity (STOT), single exposure, respiratory tract, Category 3: May cause respiratory irritation.</p> <p>H315: Causes skin irritation. Category 2.</p> <p>EUH066: Repeated exposure may cause skin dryness or cracking.</p> <p>H317: May cause an allergic skin reaction. Category 2.</p>  |
| 16.3 | Precautionary Statements                              | <p>P210: Keep away from heat, sparks, open flame, hot surfaces. No smoking.</p> <p>P403+P233: Store in a well-ventilated place. Keep container tightly closed.</p> <p>P261: Avoid breathing fumes.</p> <p>P280: Wear protective gloves/ clothing and eye protection.</p> <p>P304+P340: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305+P351+P338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P303+P361+P353: If on skin or hair, remove contaminated clothing. Rinse skin with water.</p> <p>P370+P378: In case of fire, use dry chemical, alcohol foam, or carbon dioxide for extinction.</p> |
| 16.4 | Restrictions on use                                   | DenTASTIC dental adhesives are to be sold to and used by dental professionals only.  |
| 16.5 | Further information                                   | The information presented herein is believed to be factual as it has been derived from the works of persons believed to be qualified experts. However, nothing contained in this information is to be taken as a warranty or representation for which Pulpdent Corporation bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.   |
| 16.5 | Sources of key data                                   | <p>National Institute for Occupational Safety (NIOSH)</p> <p>US Occupational Safety and Health Administration (OSHA)</p> <p>Eur-Lex European Union Law: Regulation (EC) No. 1272/2008 (CLP) and Regulation (EC) No. 1907/2006 (REACH).</p> <p>Guidance on the compilation of safety data sheets. Version 1.1; December 2011. European Chemicals Agency</p>   |
| 16.6 | Information which has been added, deleted or revised. | This Safety Data Sheet has been revised to meet the requirements of the GHS SDS format and Regulations (EC) No. 1272/2008 (CLP) and (EC) No. 1907/2006 (REACH). Specifically, Sections 2.1, 2.2, 3.2, 16.2, 16.3 have been modified.   |

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