


## Safety Data Sheet

Trade Name: **DenTASTIC UNO-DUO**

1.0 Commercial Product Name and Supplier				
1.1	Commercial product name / designation	DenTASTIC UNO-DUO		
1.2	Application / Use	Dental bonding agent for use by dentists.		
1.2.2	SIC	851 Human health activity		
1.2.3	Use Category	55		
1.3	Manufacturer	<p><b>Pulpdent Corporation</b>            80 Oakland Street, P.O. Box 780            Watertown, MA 02472 USA</p> <p>Telephone: 1 617 926-6666            Fax: 1- 617 926-6262            Email: <a href="mailto:Pulpdent@pulpdent.com">Pulpdent@pulpdent.com</a></p>		
1.4	Emergency Telephone Number	1-800-535-5053 (24 Hour / USA)		
1.5	Authorized European Representative	<p>Advena Ltd.            Pure Offices, Plato Close            Warwick, CV34 6WE            United Kingdom</p>		
2.0 Hazards Identification				
2.1	Classification			
2.1.1	<b>Classification according to Regulation (EC) No. 1272/2008 [CLP]</b>	<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Hazard Statement</u>
		Flammable liquid	2	H225
		Eye irritation	2	H319
		STOT SE	3	H335
		Skin irritation	2	H315; EUH066
		Skin sensitization	1	H317
2.1.2	<b>Classification according to Directive 67/548/EEC</b> (See SECTION 16 for full text of risk phrases)	Flammable (F), Irritant (Xi). R11- 36 / 37 / 38; R 43; R66		
2.2	<b>GHS Label Elements</b> 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.			
	H315: Causes skin irritation. Category 2.			
	EUH066: Repeated exposure may cause skin dryness or cracking.			
	H317: May cause an allergic skin reaction. Category 2.			
	<b>Precautionary Statements:</b>			
	P210: Keep away from heat, sparks, open flame, hot surfaces. No smoking.			

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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 per 67/548/EEC	Classification per Regulation (EC) No.1272/2008 (CLP).
67-64-1	Acetone	50% to 80%	Flammable (F); Irritant (Xi). R11- 36/ 37/38-66	Flammable liquid; Category 2 Eye irritation; Category 2 STOT SE; Category 3 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 and flush with running water for 15+ minutes. Get medical attention.
4.3	Skin Contact	Remove any 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	
	Symptoms	Irritation, pain or redness in eyes, throat or on skin. Headache, fatigue. Nervous system depressant.

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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.
<b>5.0 Fire Fighting Measures</b>	
5.1 Suitable extinguishing media	Use dry chemical, alcohol foam, or carbon dioxide. Water may be ineffective, but should be used to keep fire-exposed containers cool.
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
<b>6.0 Accidental Release Measures</b>	
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	For small quantities (as in this product): Wear gloves and safety glasses. Wipe up with absorbent material, such as paper or cloth. Rinse area of spill with soap and water. Place all absorbent material in closed container away from heat, sparks, sun and oxidizers.
<b>7.0 Handling and Storage</b>	
7.1 Handling	For professional use only. Avoid cross-contamination. Avoid sources of ignition, intense light. Empty containers may retain residual product; handle appropriately. Keep tightly capped in original container.
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 adhesive
<b>8.0 Exposure Controls / Personal Protection</b>	
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. Surgical gloves will limit contact.
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	Appearance / Color	
9.1.1	Color	UNO: Yellow resinous liquid; DUO: Pale yellow to amber thin liquid
9.1.2	Odor	Characteristic, sweet, mint-like acetone 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 UNO: 0.788; DUO: 0.795
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**

11.1	Acute toxicity	Minimal health hazard under normal conditions of dental practice. For large quantities/prolonged exposure, acetone is a significant health hazard. LD <sub>50</sub> in rats: 10.7 ml/kg orally. Exposure to >750 ppm may irritate respiratory tract.
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 may cause sensitization.

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11.4	Sub-acute, sub-chronic and prolonged toxicity	No chronic health hazard under normal conditions of use. Prolonged and/or repeated exposure to methacrylates may cause sensitization. Prolonged and/or 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 Ecological Information</b>		
12.1	Ecotoxicity	Follow good working practices and all government regulations. Avoid release into environment.
<b>13.0 Disposal Considerations</b>		
13.1	Regulations	Follow all local and national government regulations in disposing material or contaminated packaging.
<b>14.0 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 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 Other information</b>		
16.1	List of relevant R phrases	R11: Highly flammable R 36 / 37 / 38: Irritating to eyes, respiratory system and skin. R43: May cause sensitization by skin contact R66: Repeated exposure may cause skin dryness or cracking.
16.2	Hazard Statements	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. H315: Causes skin irritation. Category 2. EUH066: Repeated exposure may cause skin dryness or cracking. H317: May cause an allergic skin reaction. Category 2.

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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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