

SAFETY DATA SHEET

Section 1. Product And Company Identification

Product Name: OptiBond Universal

Product Use: Dental Adhesive

Manufacturer: Kerr Corporation
1717 W. Collins Ave.
Orange, CA 92867-5422
U.S.A.

Information Phone Number: 1-800-KERR-123

Chemical Emergency Phone Number (Chemical Spills, Leaks, Fire, Exposure or Accident only):
CHEMTREC 1-800-424-9300 (in the US) 1-703-527-3887 (Outside the US)

SDS Date of Preparation/Revision: January 15, 2018

Section 2. Hazards Identification

GHS / HAZCOM 2012 Classification:

Flammable Liquid Category 2

Skin Irritation Category 2

Skin Sensitization Category 1

Eye Irritation Category 2

Specific Target Organ Toxicity Single Exposure Category 3 (Respiratory Irritation/Nervous System)

Label Elements

Danger!



Hazard Phrases

Highly flammable liquid and vapor.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

May cause respiratory irritation.

May cause drowsiness or dizziness.

Precautionary Phrases:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment

Use explosion-proof electrical, ventilating and lighting equipment.

Use non-sparking tools.

Take action to prevent static discharge.
Avoid breathing vapors or mists.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves and eye protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with soap and water.
If skin irritation or rash occurs: Get medical attention. Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
In case of fire: Use water fog, alcohol foam carbon dioxide or dry chemical to extinguish.
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Dispose of contents and container in accordance with local and national regulations.

Section 3. Composition/Information on Ingredients

Component	CAS No.	Amount
Acetone	67-64-1	30-60%
Ethanol	64-17-5	1-10%
2-Hydroxyethyl methacrylate	868-77-9	1-10%
Glycerol Phosphate Dimethacrylate	Proprietary	1-10%
Glycerol Dimethacrylate	1830-78-0	1-10%

Section 4. First Aid Measures

Inhalation: Move to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get medical attention if breathing is difficult or symptoms of exposure persist.

Skin Contact: Immediately flush skin with water for several minutes while removing contaminated clothing. Wash with soap and water. Get medical attention if irritation or rash develops. Launder contaminated clothing before reuse.

Eye Contact: Flush eyes with water for 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Get medical attention if irritation persists.

Ingestion: If conscious, rinse mouth with water. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms and effects, acute and delayed: Causes eye irritation. Prolonged skin contact may cause irritation. May cause allergic skin reaction. Inhalation of mists may cause upper respiratory tract irritation and central nervous system effects such as dizziness and drowsiness. Ingestion may cause gastrointestinal irritation, nausea and vomiting.

Indication of immediate medical attention and special treatment, if needed: Immediate medical attention is not required.

Section 5. Fire Fighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use water fog, alcohol foam, carbon dioxide or dry chemical to extinguish. Cool fire exposed containers with water.

Specific Hazards Arising from the Chemical: This product is highly flammable and forms explosive mixtures with air. Vapors are heavier than air and will travel along surfaces to remote ignition sources and flash back. Closed containers may explode if exposed to extreme heat. Combustion may produce carbon and phosphorous oxides

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

Section 6: Accidental Release Measures

Personal precautions, Protective equipment, and Emergency procedures: Wear appropriate protective clothing and equipment. Remove all sources of ignition. Avoid breathing vapors or mists. Ventilate area with explosion proof equipment. Avoid contact with the eyes, skin and clothing.

Environmental Precautions: Avoid release to the environment. Report spill as required by local and federal regulations.

Methods and Materials for Containment and Cleaning up: Contain and collect using inert absorbent materials and place in appropriate containers for disposal. Use non-sparking tools and equipment. If spill has not ignited, use water spray to disperse the vapors and protect personnel attempting to stop leak. Do not flush to sewer!

Section 7. Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes, skin and clothing. Wear appropriate eye protection and gloves when handling (see Section 8). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Keep product away from heat, sparks, flames and all other sources of ignition. Do not permit smoking in use or storage areas. Use with non-sparking tools and explosion proof equipment. Electrically bond and ground containers for transfer.

Empty containers retain product residues which can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including any Incompatibilities: Store in accordance with regulations for the storage of flammable liquids. Store in a cool, dry, well-ventilated area away from heat, direct sunlight and all sources of ignition. Store away from oxidizers and other incompatible materials.

Section 8. Exposure Controls / Personal Protection

Exposure Limits

Chemical	Exposure Limit
Acetone	1000 ppm TWA OSHA PEL 250 ppm TWA, 500 ppm STEL ACGIH TLV
Ethanol	1000 ppm TWA OSHA PEL 1000 ppm STEL ACGIH TLV
2-Hydroxyethyl methacrylate	None Established
Glycerol Phosphate Dimethacrylate	None Established
Glycerol Dimethacrylate	None Established

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits. Use explosion proof equipment where required.

Respiratory Protection None needed under normal use conditions. In operations where exposure levels are exceeded, an approved respirator with organic vapor or supplied air respirator should be used. Equipment selection depends on contaminant type and concentration. Select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Hand protection: Impervious gloves such as butyl rubber are recommended if contact is possible.

Eye Protection: Chemical safety goggles are recommended if contact is possible.

Skin Protection: Wear protective clothing as needed to avoid skin contact and contamination of personal clothing.

Hygiene measures: Suitable eye and skin washing facilities should be available in the work area.

Section 9. Physical and Chemical Properties

Appearance:	Light Yellow liquid.	Odor:	Fruity odor
Odor Threshold:	4.58 ppm (acetone)	pH:	Not available
Melting/Freezing Point:	Not available	Boiling Point/Range:	133°F (56.08°C) (acetone)
Flash Point:	-4°F (-22°C) (acetone)	Evaporation Rate:	Not available
Flammability: (Solid, Gas)	Not applicable	Flammability Limits:	LEL: 2.5 (acetone) UEL: 19 (ethanol)
Vapor Pressure:	Not available	Vapor Density:	Not available
Relative Density:	Not available	Solubilities:	Partially soluble in water
Partition Coefficient: (N-Octanol/Water)	Not available	Autoignition Temperature:	685°F (363°C) (ethanol)
Decomposition Temperature:	Not available	Viscosity:	Not available

Section 10. Stability and Reactivity

Reactivity: Loss of inhibitor may allow the product to polymerize.

Chemical Stability: Stable.

Possibility of Hazardous Reactions: Excessive heat and ultraviolet light may allow the product to polymerize.

Conditions to avoid: Highly flammable liquid. Keep product away from heat, sparks, flames and all other sources of ignition.

Incompatible Materials: Strong oxidizing agents, reducing agents, alkalis, amines, sulfur compounds, peroxides, free radical imitators, inert gases and oxygen scavengers.

Hazardous decomposition products: Thermal decomposition will produce carbon and phosphorus oxides.

Section 11. Toxicological Information

Potential Health Effects:

Inhalation: Inhalation of vapors or mists may cause respiratory tract irritation and central nervous system effect such headache, dizziness and drowsiness.

Skin Contact: Causes skin irritation with redness and drying of the skin. May cause an allergic skin reaction,

Eye Contact: Causes eye irritation with redness, tearing and pain.

Ingestion: Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Hazards: None currently known.

Skin/Eye Irritation/Corrosion: Acetone, glycerol phosphate dimethacrylate and glycerol dimethacrylate are irritating to the eyes and skin.

Skin Sensitization: The product has not been tested. 2-Hydroxyethyl methacrylate was positive in a Modified Buehler test with guinea pigs.

Carcinogen: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH, or OSHA.

Reproductive Toxicity: None of the components have shown to cause reproductive or developmental effects.

Mutagenic Toxicity: None of the components are germ cell mutagens.

Acute Toxicity Values: No toxicity data is available for the product.

Acute Toxicity Estimate (ATE): Oral: >5000, Dermal: >2000 mg/kg

Acetone: Oral rat LD50 58 mg/kg, Inhalation rat LC50 76 mg/L/4 hr, Dermal rabbit LD50 >7426 mg/kg

Ethanol: Oral rat LD50 10470 mg/kg, Inhalation rat LC50 116.9 mg/L/4 hr,

2-Hydroxyethyl methacrylate: Oral rat LD50 5564 mg/kg, Dermal rabbit LD50 >5000 mg/kg

Glycerol Phosphate Dimethacrylate: No toxicity data available

Glycerol Dimethacrylate: No toxicity data available

Section 12. Ecological Information

Toxicity: No toxicity data available for product.

Acetone: 96 hr LC50 *Oncorhynchus mykiss* 5540 mg/L, 48 hr LC50 *Artemia salina* 2100 mg/L

Ethanol: 96 hr LC50 *Pimephales promelas* 13.8 mg/L, 48 hr EC50 *daphnia magna* 12340 mg/L, 72 hr EC50 *Selenastrum capricornutum* 12900 mg/L

2-Hydroxyethyl Methacrylate: 96 hr LC50 *Oryzias latipes* >100 mg/kg, 48 hr EC50 *daphnia magna* 380 mg/L, 72 hr EC50 *Pseudokirchneriella subcapitata* 345 mg/L

Glycerol Phosphate Dimethacrylate: No data available

Glycerol Dimethacrylate: No data available

Persistence and degradability: 2-Hydroxyethyl methacrylate, acetone and ethanol are readily biodegradable.

Bioaccumulative Potential: 2-Hydroxyethyl methacrylate has a logKow of 0.42 and ethanol has a log Kow of 3. Acetone has a BCF of 3. This suggests the potential for bioaccumulation is low.

Mobility in Soil: Acetone and ethanol are highly mobile in soil.

Other Adverse Effects: None known.

Section 13. Disposal Considerations

Disposal: For unused product, dispose of in accordance with Federal, State, and local regulations. For used Product, the waste solution must be characterized by the generator and disposed of in accordance with Federal, State, and local regulations.

Container Disposal: Rinse empty container thoroughly with water and offer for recycling, if available.

Section 14. Transport Information

	UN Number	UN Proper Shipping Name	Hazard Class(s)	Packing Group	Environmental Hazards
US DOT	UN1133	Adhesives, flammable (ethanol, acetone)	3	II	None
Canada TDG	UN1133	Adhesives, flammable (ethanol, acetone)	3	II	None
IMDG	UN1133	Adhesives, flammable (ethanol, acetone)	3	II	None
IATA/ICAO	UN1133	Adhesives, flammable (ethanol, acetone)	3	II	None

Section 15. Regulatory Information

U.S. Federal Regulations:

EPA SARA 311/312 Hazard Classification: Refer to Section 2 for OSHA Hazard Classification

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements under SARA Title III, Section 313 (40 CFR 372): None



Protection of Stratospheric Ozone: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: This product has a Reportable Quantity (RQ) of 8,333 lbs. (based on the RQ for Acetone of 5,000 lbs). Releases above the RQ 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.

California Proposition 65: This product does not contain a chemical known to the State of California to cause cancer or reproductive toxicity.

International Inventories

US EPA TSCA Inventory: This product is regulated under the Federal Drug Administration (FDA) so it is exempt from the TSCA regulation.

Section 16. Other Information

NFPA Rating: Fire: 3

Health: 2

Instability: 0

Effective Date: January 15, 2018

Supersedes Date: New SDS

Revision Summary: New SDS

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