

SAFETY DATA SHEETS

This SDS packet was issued with item:

074298964

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

071065523

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

074290904 074297065 074297073 074297081 074297099

MATERIAL SAFETY DATA SHEET

OPTIBOND XTR ADHESIVE

1 - IDENTIFICATION

Manufacturer: Kerr Corporation
Address: 1717 West Collins Avenue
City, State, Zip: Orange, CA 92867-5422
Telephone: 1-800-KERR-123
24-Hour Emergency: Chemtrec 1-800-424-9300
Date Reviewed: July 2010

2 - COMPOSITION INFORMATION

Hazardous Ingredients

	<u>CAS #</u>	<u>PEL</u>	<u>TLV</u>	<u>%</u>
Ethyl alcohol	64-17-5	1000 ppm	1000 ppm	20-30

Other Ingredients

Alkyl dimethacrylate resins	47-68
Barium aluminoborosilicate glass	5-15
Fumed silica (silicon dioxide)	3-10
Sodium hexafluorosilicate	0.5-3

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/E
Specific Gravity (H₂O = 1): ~ 1.2
Vapor Pressure (mm Hg): N/E
Vapor Density (AIR = 1): N/E
Solubility in Water: Partially soluble for uncured material.
Appearance and Odor: Pale yellow paste with a fruity odor

4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): 64 °F/18 °C (Ethanol)
Flammable Limits: LEL: N/E UEL: N/E
Extinguishing Media: CO₂ and dry chemical foam
Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: None

5 - REACTIVITY DATA

Stability: Stable
Conditions to Avoid: Heat, sparks and open flame
Incompatibility (Material to Avoid): Strong oxidizing agents
Hazardous Decomposition Byproducts: Carbon monoxide, carbon dioxide
Hazardous Polymerization: Will not occur

6 - HEALTH HAZARD DATA

Routes of Entry:
Skin: May cause mild irritation.
Eyes: May cause mild irritation.
Inhalation: May cause irritation of the throat.
Ingestion: May be poisonous by ingestion.
Carcinogenicity - NTP: No
IARC Monographs: No **OSHA Regulated Carcinogen:** No

7 - EMERGENCY FIRST AID PROCEDURES

Skin: Wash skin thoroughly with soap and water. Use hand cream.
Eyes: Flush with water for 15 minutes. If irritation persists, seek medical attention.
Inhalation: Remove to fresh air. If irritation persists, seek medical attention.
Ingestion: Do not give liquids if person is unconscious. Seek medical attention.

8 - PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled: Dilute with water, wipe up with cloth and transfer to a suitable container for disposal.
Waste Disposal Method: Material should not be allowed to drain to sewers. Incinerate liquid in proper equipment. Dispose of in accordance with federal, state and local regulations.
Precautions to be taken in handling and storing: Store in a cool, dry place away from ignition sources.

9 - CONTROL MEASURES

Respiratory Protection: Not needed
VENTILATION:
Local Exhaust: Recommended to keep exposure under 1000 ppm.
Mechanical (General): Usually sufficient
Protective Gloves: Impervious gloves recommended
Eye Protection: Safety glasses with side shield
Work/Hygiene Practices: Handle in accordance with good personal hygiene and safety practices. These practices include avoiding unnecessary exposure to material.

10 - TRANSPORTATION INFORMATION

Regulated: DOT, IATA and IMO
Proper Shipping Name: Ethyl Alcohol Solution
Hazard Class: 3
Identification Number: UN 1170
Packing Group: II
Label: Flammable Liquid
Note: See 49 CFR 173.4

11 - SPECIAL INFORMATION

HMIS (Hazardous Material Identification System) Rating:
H0 F3 R0
[HMIS Hazard Index: 4 – Severe Hazard; 3 – Serious Hazard;
2 – Moderate Hazard; 1 – Slight Hazard; 0 – Minimum Hazard]

Note: Hazard information contained on this MSDS relates only to material in its uncured state. Thorough biocompatibility and toxicity testing of the cured material and its extracts have demonstrated that the material is non-toxic.

Note: This MSDS was prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is to be used only for this product. The information contained in this MSDS is, to the best of our knowledge, believed to be accurate.

SAFETY DATA SHEET

Section 1. Product And Company Identification

Product Name: OptiBond XTR Adhesive

Product Use: Dental product: Bonding agent

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

Information Phone Number: 1-800-841-1428 (Customer Service)

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: February 13, 2019

Section 2. Hazards Identification

GHS Classification:

Flammable Liquids Category 2

Skin Irritation Category 2

Eye Irritation Category 2A

Skin Sensitization Category 1

Specific Target Organ Toxicity Single Exposure Category 3

Specific Target Organ Toxicity Repeated Exposure Category 1

Label Elements:

Danger!



Hazard Phrases

Highly flammable liquid and vapor.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

May cause drowsiness and dizziness.

Causes damage to organs through prolonged or repeated exposure.

Precautionary Phrases:

Keep away from open flames, sparks, heat, hot surfaces. – No smoking.

Use explosion-proof electrical/ventilating/lighting and all material-handling equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe vapors.

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or a rash occurs: Get medical attention.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/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 advice/attention.

Store in a well-ventilated place. 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
Ethanol	64-17-5	10-30%
2-hydroxyethyl methacrylate	868-77-9	10-30%
2-hydroxy-1,3-propanediyl bismethacrylate	1830-78-0	1-5%
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	28961-43-5	1-5%
Disodium hexafluorosilicate	16893-85-9	0.1-1%

Section 4. First Aid Measures

Inhalation: Immediately remove victim to fresh air. If breathing is difficult, oxygen should be administered by qualified personnel. If breathing has stopped, administer artificial respiration. Get immediate medical attention.

Skin Contact: Flush thoroughly with water. Get medical attention if irritation or symptoms of exposure develop. Remove and launder contaminated clothing before re-use.

Eye Contact: Rinse thoroughly with water. Get medical attention if irritation occurs and persists.

Ingestion: Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Keep the victim calm and warm. Get immediate medical attention.

Most important symptoms and effects, acute and delayed: Causes serious eye irritation and skin irritation. May cause an allergic skin reaction. Inhalation may cause drowsiness, dizziness, and respiratory irritation. Ingestion and inhalation can cause central nervous system depression.

Indication of immediate medical attention and special treatment, if needed: None required under normal conditions of use.

Section 5. Fire Fighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use any media appropriate for the surrounding fire. Cool fire exposed containers with water.

Specific Hazards Arising from the Chemical: Combustion may produce carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, halogenated compounds, and metal 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. Cool fire-exposed containers with water. Contain water used in firefighting from entering sewers or natural waterways.

Section 6: Accidental Release Measures

Personal precautions, Protective equipment, and Emergency procedures: Evacuate spill area and keep unprotected personnel away. Avoid contact with eyes, skin and clothing. Wear appropriate protective clothing and equipment. Do not breathe vapors.

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

Methods and Materials for Containment and Cleaning up: Prompt cleanup and removal are necessary. Absorb spills with an inert material and place in an appropriate waste disposal container.

Section 7. Handling and Storage

Precautions for Safe Handling: Prevent contact with eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly with soap and water after handling. Do not eat, drink or smoke in the work area. Do not breathe vapors. Use with adequate ventilation. Remove and wash contaminated clothing before reuse.

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 a cool, dry, well-ventilated area away from direct sunlight. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

Section 8. Exposure Controls / Personal Protection

Exposure Limits

Chemical	Exposure Limit
Ethanol	1000 ppm TWA NIOSH REL
2-hydroxyethyl methacrylate	None Established
2-hydroxy-1,3-propanediyl bismethacrylate	None Established
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	None Established

Disodium hexafluorosilicate	2.5 mg/m ³ TWA ACGIH TLV
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Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Respiratory Protection: None under normal use conditions with adequate ventilation. For operations where the occupational exposure limits are exceeded, an approved respirator with particulate cartridges is recommended. Equipment selection depends on contaminant type and concentration. Select in accordance with applicable regulations and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Hand protection: Impervious gloves are suggested to prevent skin contact. Contact your glove supplier for selection assistance.

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 paste	Odor:	Fruity ester-like
Odor Threshold:	Not available	pH:	Not available
Melting/Freezing Point:	Not available	Boiling Point/Range:	Not available
Flash Point:	18°C (64.4°F) (Ethanol)	Evaporation Rate:	Not available
Flammability: (Solid, Gas)	Not applicable	Flammability Limits:	LEL: Not available UEL: Not available
Vapor Pressure:	Not available	Vapor Density:	Not available
Relative Density:	1.2	Solubilities:	Partially soluble in water
Partition Coefficient: (N-Octanol/Water)	Not available	Autoignition Temperature:	Not available
Decomposition Temperature:	Not available	Viscosity:	Not available

Section 10. Stability and Reactivity

Reactivity: The product is not expected to be reactive.

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to avoid: Avoid all possible sources of ignition (spark or flame).

Incompatible Materials: Oxidizing materials.

Hazardous decomposition products: None if stored normally.

Section 11. Toxicological Information**Potential Health Effects:**

Inhalation: Can cause central nervous system depression. May cause drowsiness, dizziness, and respiratory irritation.

Skin Contact: Causes skin irritation and may cause an allergic skin reaction.

Eye Contact: Causes serious eye irritation.

Ingestion: Swallowing can cause central nervous system depression.

Chronic Hazards: Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Skin Sensitization: No adverse effects expected. Components are not sensitizers.

Respiratory Sensitization: No data available. This product is not expected to cause respiratory sensitization.

Germ Cell Mutagenicity: None of the components have shown mutagenic activity in animal studies.

Carcinogen:

Ethanol is listed as "Carcinogenic to Humans" (Group 1) by IARC.

Disodium hexafluorosilicate is listed as "The Agent is not Classifiable as to its Carcinogenicity to Humans" (Group 3) by IARC.

None of the other components are listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH, or OSHA.

Developmental / Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental toxicity.

Specific Target Organ Toxicity (Single Exposure): Single exposure to ethanol, 2-hydroxyethyl methacrylate, and 2-hydroxy-1,3-propanediyl bismethacrylate can cause respiratory tract irritation. Single exposure to ethanol can also cause narcotic effects.

Specific Target Organ Toxicity (Repeated Exposure): Repeated exposure to ethanol may cause damage of the liver. Repeated exposure to disodium hexafluorosilicate can cause damage of the bones and teeth.

Aspiration Toxicity: Not an aspiration hazard.

Acute Toxicity Values:

Product ATE: 169.3 mg/L (Inhalation as vapors), 16930.5 mg/kg (Dermal), 4561.9 mg/kg (Oral)

Ethanol: LD50 Oral rat: 7060 mg/kg; LC50 Inhalation rat: 124.7 mg/L/4 hr

2-hydroxyethyl methacrylate: LD50 Oral rat: 4230 mg/kg

Propylidynetrimethanol, ethoxylated, esters with acrylic acid: LD50 Dermal rabbit: >13 g/kg

Disodium hexafluorosilicate: LD50 Oral rat: 125 mg/kg

Section 12. Ecological Information**Toxicity:**

Ethanol: 96 hr EC50 Ulva pertusa 17.921 mg/L; 48 hr EC50 Daphnia magna- 2000 µg/L;

48 hr LC50 Crustaceans 25.5 mg/L; 96 hr LC50 Oncorhynchus mykiss >10000 µg/L
2-hydroxyethyl methacrylate: 96 hr LC50 Pimephales promelas 227 mg/L

Persistence and degradability: Product is readily biodegradable.

Bioaccumulative Potential:

Ethanol: log P_{ow} -0.35, potential for bioaccumulative is low.

2-hydroxyethyl methacrylate: log P_{ow} 0.42, potential for bioaccumulative is low.

Propylidynetrimethanol, ethoxylated, esters with acrylic acid: log P_{ow} 2.89, potential for bioaccumulative is low.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

Section 13. Disposal Considerations

Disposal: For unused product, dispose of in accordance with Federal and local regulations.

Container Disposal: Dispose of empty container in accordance with Federal and local regulations.

Section 14. Transport Information

	UN Number	UN Proper Shipping Name	Hazard Class(s)	Packing Group	Environmental Hazards
US DOT	UN1170	Ethanol solution	3	II	None
EU ADR/RID	UN1170	Ethanol solution	3	II	None
IMDG	UN1170	Ethanol solution	3	II	None
IATA/ICAO	UN1170	Ethanol solution	3	II	None

Special Precautions for User: None identified

Transport in Bulk According to Annex II MARPOL 73/78 and the IBC Code: Not applicable – product is transported only in packaged form.

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 is not subject to CERCLA reporting requirements; however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

International Inventories

US EPA TSCA Inventory: All of the components of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory or exempt.

Canada CEPA: All of the components of this material are listed on the DSL or exempt.

Section 16. Other Information

Effective Date: February 13, 2019

Supersedes Date: April 2, 2015

Revision Summary: All Sections – New SDS format

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date of preparation, however, KERR Corporation makes no warranty with respect to the accuracy or suitability of the recommendations, and assumes no liability to any use thereof.