

MATERIAL SAFETY DATA SHEET

PREMISE

Low Shrinkage Composite System

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 Prepared: January 23, 2004

2 - COMPOSITION INFORMATION

Hazardous Ingredients

	<u>CAS #</u>	<u>PEL</u>	<u>TLV</u>	<u>%</u>
Uncured methacrylate ester monomers	109-16-0	N/A	N/A	20-35

Other Ingredients

Inert mineral fillers, activators and stabilizers

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/D
Specific Gravity (H₂O = 1): 2.5
Vapor Pressure (mm Hg): N/D
Vapor Density (AIR = 1): N/D
Solubility in Water: Insoluble
Appearance and Odor: Colored paste with fruity ester-like odor.

4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/D
Flammable Limits: LEL: N/A UEL: N/D
Extinguishing Media: Chemical foam, CO₂ and dry chemical
Special Fire Fighting Procedures: Wear self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: Heat can cause polymerization with rapid release of energy.

5 - REACTIVITY DATA

Stability: Stable if stored as directed.
Conditions to Avoid: Heat, light, aging and contamination
Incompatibility (Material to Avoid): Reducing and oxidizing agents, peroxides and amines
Hazardous Decomposition Byproducts: Oxides of carbon
Hazardous Polymerization: May occur

6 - HEALTH HAZARD DATA

Routes of Entry:
Skin: Prolonged or repeated exposure to uncured material may cause irritation or skin rash especially in sensitive individuals.
Eyes: May cause irritation and damage if not removed promptly.
Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.
Ingestion: Uncured material may be harmful if swallowed.
Carcinogenicity - NTP: No
IARC Monographs: No **OSHA Regulated Carcinogen:** No

7 - EMERGENCY FIRST AID PROCEDURES

Skin: Wash skin thoroughly with soap and water.
Eyes: Flush with water for 15 minutes including under the eyelids. If irritation persists, seek medical attention.
Inhalation: Remove to fresh air. If irritation persists, seek medical attention.
Ingestion: Rinse mouth with water. Do not induce vomiting. Seek medical attention.

8 - PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled: Absorb spills with inert material. Keep spilled material out of sewers.
Waste Disposal Method: Unpolymerized (uncured) material may be RCRA hazardous waste. Incinerate uncured material in accordance with federal, state and local regulations.
Precautions to be taken in handling and storing: Store in a cool, dry place away from heat, light and ignition sources

9 - CONTROL MEASURES

Respiratory Protection: Avoid prolonged or excessive breathing of vapors of uncured material.
VENTILATION:
Local Exhaust: Good general ventilation should be sufficient to control airborne levels of vapors released by uncured material.
Mechanical (General): Good general ventilation recommended.
Protective Gloves: Impervious gloves recommended when contacting uncured material.
Eye Protection: Safety glasses recommended
Work/Hygiene Practices: Handle in accordance with good personal hygiene and safety practices. These practices include avoiding unnecessary exposure to uncured material.

10 - TRANSPORTATION INFORMATION

Not DOT regulated.

11 - SPECIAL INFORMATION

HMS (Hazardous Material Identification System) Rating:
H2 F1 R2 PPE – gloves and safety glasses. Hazard information relates only to uncured material.
[HMS 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.

MATERIAL SAFETY DATA SHEET

OPTIBOND SOLO PLUS

Single Component Dental 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 Prepared: July 27, 2000

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	20-25

Other Ingredients

Alkyl dimethacrylate resins	55-60
Barium aluminoborosilicate glass	5-10
Fumed silica (silicon dioxide)	5-10
Sodium hexafluorosilicate	0.5-1

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/E
Specific Gravity (H₂O = 1): ~ 1.25
Vapor Pressure (mm Hg): N/E
Vapor Density (AIR = 1): N/E
Solubility in Water: Partial 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: Ethanol 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.

MATERIAL SAFETY DATA SHEET

GEL ETCHANT

1 - IDENTIFICATION

Manufacturer: Kerr Corporation
Address: 1717 West Collins Avenue
City, State, Zip: Orange, CA 92867-5422
Telephone: 1-800-KERR-123
Emergency: Chemtrec 1-800-424-9300
Date Prepared: July 27, 2000

2 - COMPOSITION INFORMATION

Hazardous Ingredients

	<u>CAS #</u>	<u>PEL</u>	<u>TLV</u>	<u>%</u>
Phosphoric Acid	7664-38-2	1mg/m ³	1 mg/m ³	37.5

Other Ingredients

Water, fumed silica, dye colorant

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 212 °F
Specific Gravity (H₂O = 1): ≈1.2
Vapor Pressure (mm Hg): N/A
Melting Point: N/A
Vapor Density (AIR = 1): N/A
Solubility in Water: Partially soluble
Reactivity in Water: N/A
Appearance and Odor: Odorless, dark blue gel.

4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A
Flammable Limits: LEL: N/A **UEL:** N/A
Extinguishing Media: Not considered to be a fire hazard
Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: None

5 - REACTIVITY DATA

Stability: Stable
Conditions to Avoid: N/A
Incompatibility (Material to Avoid): Strong caustics, metals, sulfides and sulfites.
Hazardous Decomposition Products: Toxic fumes of phosphorous oxides.
Hazardous Polymerization: Will not occur

6 - HEALTH HAZARD DATA

Routes of Entry:
Skin: Corrosive. May cause redness, pain and skin burns.
Eyes: Corrosive. May cause redness, pain and eye burns.
Inhalation: Inhalation is not an expected hazard unless misted or heated to high temperatures.
Ingestion: Corrosive. May cause sore throat and burns of the mouth and throat.
Carcinogenicity - NTP: No
IARC Monographs:No OSHA Regulated Carcinogen: No

7 - EMERGENCY FIRST AID PROCEDURES

Skin: Immediately flush skin with plenty of water for at least 15 minutes. Get medical attention.
Eyes: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.
Inhalation: Remove to fresh air.
Ingestion: Do not induce vomiting. Give large quantities of water and get medical attention.

8 - PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled: Absorb spills with inert material and transfer to suitable container for disposal.
Waste Disposal Method: Incinerate in proper equipment. Dispose of in accordance with local regulations.
Precautions to be taken in handling and storing: Store at normal room temperature (65°F-75°F).
Other precautions: Use according to directions. Contact with skin, soft tissue, eyes and cut dentine should be avoided and can cause surface damage to soft tissue.

9 - CONTROL MEASURES

Respiratory Protection (Specify Type): N/A
VENTILATION:
Local Exhaust: N/A
Mechanical (General): Usually sufficient
Protective Gloves: Protective gloves recommended.
Eye Protection: Safety glasses or goggles
Other Protective Clothing or Equipment: None
Work/Hygiene Practices: Handle in accordance with good personal hygiene and safety practices. These practices include avoiding unnecessary exposure.

10 - TRANSPORTATION INFORMATION

Regulated: DOT, IATA, IMO
Proper Shipping Name: Phosphoric Acid
Hazard Class: 8
Identification Number: 1805
Packing Group: III
Label: Corrosive
Note: See 49 CFR 173.4

11 - SPECIAL INFORMATION

HMS (Hazardous Material Identification System) Rating:
H3 F0 R0
[HMS Index: 4 - Severe Hazard; 3 - Serious Hazard;
2 - Moderate Hazard; 1 - Slight Hazard; 0 - Minimum Hazard]

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 in this MSDS is, to the best of our knowledge, believed to be accurate.

MATERIAL SAFETY DATA SHEET

SELF-ETCH PRIMER

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: Chemtec 1-800-424-9300
Date Prepared: February 15, 2002

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	35-40

Other Ingredients

Water	33-36
Alkyl dimethacrylate resins	25-28
Stabilizers and Activators	1-4

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/D
Specific Gravity (H₂O = 1): ~ 1.25
Vapor Pressure (mm Hg): N/D
Vapor Density (AIR = 1): N/D
Solubility in Water: Partial for uncured material.
Appearance and Odor: Pale yellow liquid 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: Corrosive liquid. May cause burns.
Eyes: Corrosive liquid. May cause burns.
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: Flammable Liquid, Corrosive N.O.S
Hazard Class: 3
Identification Number: UN 2924
Packing Group: I
Label: Flammable Liquid, Corrosive
Note: See 49 CFR 173.4

11 - SPECIAL INFORMATION

HMIS (Hazardous Material Identification System) Rating:
H2 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.

MATERIAL SAFETY DATA SHEET

OPTIGUARD

Surface Sealant

1 - IDENTIFICATION

Manufacturer: Kerr Corporation
Address: 1717 West Collins Avenue
City, State, Zip: Orange, CA 92867-5422
Telephone: 1-800-KERR-123
Emergency: Chemtrec 1-800-424-9300
Date Prepared: July 27, 2000

2 - COMPOSITION INFORMATION

Hazardous Ingredients

	CAS #	PEL	TLV	%
Uncured Methacrylate Ester Monomers	109-16-0	N/A	N/A	90-95

Other Ingredients

Photoinitiators and stabilizers 5-10

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/D
Specific Gravity (H₂O = 1): 1.1
Vapor Pressure (mm Hg): N/D
Vapor Density (AIR = 1): N/D
Evaporation Rate: N/D
Solubility in Water: Insoluble
Reactivity in Water: N/D
Appearance and Odor: Light yellow liquid with fruity ester-like odor.

4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/D
Flammable Limits: LEL: N/D **UEL:** N/D
Extinguishing Media: Chemical foam, CO₂, dry chemical
Special Fire Fighting Procedures: Wear self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: Heat can cause polymerization with rapid release of energy.

5 - REACTIVITY DATA

Stability: Stable if stored as directed
Conditions to Avoid: Heat, light, aging and contamination
Incompatibility (Material to Avoid): Reducing and oxidizing agents, peroxides and amines.
Hazardous Decomposition Products: Oxides of Carbon
Hazardous Polymerization: Will not occur with amounts used clinically.

6 - HEALTH HAZARD DATA

Routes of Entry:
Skin: Prolonged or repeated exposure to uncured material may cause irritation or skin rash especially in sensitive individuals. Skin rash indicates allergenic response.
Eyes: May cause irritation and damage if not removed promptly.
Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation. Upper respiratory tract irritation -- coughing, sore throat, inflammation.
Ingestion: Uncured material may be harmful or fatal if swallowed.
Carcinogenicity - NTP: No
IARC Monographs: No **OSHA Regulated Carcinogen:** No

7 - EMERGENCY FIRST AID PROCEDURES

Skin: Wash thoroughly with soap and water.
Eyes: Flush with water for 15 minutes including under eyelids.
Inhalation: Remove patient to fresh air; get medical attention if discomfort persists.
Ingestion: Rinse mouth out with water. Do not induce vomiting. Seek medical attention.

8 - PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled: Absorb spills with inert material. Keep spilled material out of sewers.
Waste Disposal Method: Unpolymerized (uncured) material may be RCRA hazardous waste. Incinerate uncured material in accordance with all Federal, State and local regulations.
Precautions to be taken in handling and storing: Store in a cool, dry place away from heat light and ignition sources.

9 - CONTROL MEASURES

Respiratory Protection (Specify Type): Avoid prolonged or excessive breathing of vapors of uncured material.
VENTILATION:
Local Exhaust: Good general ventilation should be sufficient to control airborne levels of vapors released by uncured material.
Mechanical (General): Good general ventilation should be sufficient.
Protective Gloves: Impervious rubber gloves recommended when contacting uncured material.
Eye Protection: Safety glasses recommended
Other Protective Clothing or Equipment: N/A
Work/Hygiene Practices: Handle in accordance with good personal hygiene and safety practices. These practices include avoiding unnecessary exposure to uncured material.

10 - TRANSPORTATION INFORMATION

Not DOT regulated.

11 - SPECIAL INFORMATION

HMS (Hazardous Material Identification System) Ratings:
H2 F1 R1 PPE-Gloves and safety glasses.
[HMS Index: 4 - Severe Hazard; 3 - Serious Hazard;
2 - Moderate Hazard; 1 - Slight Hazard; 0 - Minimum Hazard]

Note: Hazard information contained on this MSDS form 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.

MATERIAL SAFETY DATA SHEET

GEL ETCHANT

1 - IDENTIFICATION

Manufacturer: Kerr Corporation
Address: 1717 West Collins Avenue
City, State, Zip: Orange, CA 92867-5422
Telephone: 1-800-KERR-123
Emergency: Chemtrec 1-800-424-9300
Date Prepared: July 27, 2000

2 - COMPOSITION INFORMATION

Hazardous Ingredients

	<u>CAS #</u>	<u>PEL</u>	<u>TLV</u>	<u>%</u>
Phosphoric Acid	7664-38-2	1mg/m ³	1 mg/m ³	37.5

Other Ingredients

Water, fumed silica, dye colorant

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 212 °F
Specific Gravity (H₂O = 1): ≈1.2
Vapor Pressure (mm Hg): N/A
Melting Point: N/A
Vapor Density (AIR = 1): N/A
Solubility in Water: Partially soluble
Reactivity in Water: N/A
Appearance and Odor: Odorless, dark blue gel.

4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A
Flammable Limits: LEL: N/A **UEL:** N/A
Extinguishing Media: Not considered to be a fire hazard
Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: None

5 - REACTIVITY DATA

Stability: Stable
Conditions to Avoid: N/A
Incompatibility (Material to Avoid): Strong caustics, metals, sulfides and sulfites.
Hazardous Decomposition Products: Toxic fumes of phosphorous oxides.
Hazardous Polymerization: Will not occur

6 - HEALTH HAZARD DATA

Routes of Entry:
Skin: Corrosive. May cause redness, pain and skin burns.
Eyes: Corrosive. May cause redness, pain and eye burns.
Inhalation: Inhalation is not an expected hazard unless misted or heated to high temperatures.
Ingestion: Corrosive. May cause sore throat and burns of the mouth and throat.
Carcinogenicity - NTP: No
IARC Monographs:No OSHA Regulated Carcinogen: No

7 - EMERGENCY FIRST AID PROCEDURES

Skin: Immediately flush skin with plenty of water for at least 15 minutes. Get medical attention.
Eyes: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.
Inhalation: Remove to fresh air.
Ingestion: Do not induce vomiting. Give large quantities of water and get medical attention.

8 - PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled: Absorb spills with inert material and transfer to suitable container for disposal.
Waste Disposal Method: Incinerate in proper equipment. Dispose of in accordance with local regulations.
Precautions to be taken in handling and storing: Store at normal room temperature (65°F-75°F).
Other precautions: Use according to directions. Contact with skin, soft tissue, eyes and cut dentine should be avoided and can cause surface damage to soft tissue.

9 - CONTROL MEASURES

Respiratory Protection (Specify Type): N/A
VENTILATION:
Local Exhaust: N/A
Mechanical (General): Usually sufficient
Protective Gloves: Protective gloves recommended.
Eye Protection: Safety glasses or goggles
Other Protective Clothing or Equipment: None
Work/Hygiene Practices: Handle in accordance with good personal hygiene and safety practices. These practices include avoiding unnecessary exposure.

10 - TRANSPORTATION INFORMATION

Regulated: DOT, IATA, IMO
Proper Shipping Name: Phosphoric Acid
Hazard Class: 8
Identification Number: 1805
Packing Group: III
Label: Corrosive
Note: See 49 CFR 173.4

11 - SPECIAL INFORMATION

HMS (Hazardous Material Identification System) Rating:
H3 F0 R0
[HMS Index: 4 - Severe Hazard; 3 - Serious Hazard;
2 - Moderate Hazard; 1 - Slight Hazard; 0 - Minimum Hazard]