

## **SAFETY DATA SHEETS**

**This SDS packet was issued with item:**

074299764

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

074309613 074315818

**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).**

074261004 074290896 074298998 074299756 074299772 074299780 074310538 074314266 074319307

## SAFETY DATA SHEET

### Section 1. Product And Company Identification

**Product Name:** OptiBond™ Solo Plus

**Product Use:** Dental product

**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:** January 28, 2019

### Section 2. Hazards Identification

**GHS Classification:**

Flammable Liquid 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 heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

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 vapor.  
 Wash 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: Take off immediately all contaminated clothing. Wash with plenty of soap and water.  
 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 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 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%
Alkali fluorosilicates(Na)	16893-85-9	0.1-1%

### Section 4. First Aid Measures

**Inhalation:** Immediately remove victim to fresh air. 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. Can cause central nervous system depression. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. If swallowed, may be irritating to mouth, throat, and stomach.

**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 dust or 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 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 vapor. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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
Alkali fluorosilicates(Na)	2.5 mg/m <sup>3</sup> TWA ACGIH TLV

**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

<b>Appearance:</b>	Light yellow liquid	<b>Odor:</b>	Fruity
<b>Odor Threshold:</b>	Not available	<b>pH:</b>	Not available
<b>Melting/Freezing Point:</b>	Not available	<b>Boiling Point/Range:</b>	Not available
<b>Flash Point:</b>	18°C (64.4°F) (Ethanol)	<b>Evaporation Rate:</b>	Not available
<b>Flammability: (Solid, Gas)</b>	Not applicable	<b>Flammability Limits:</b>	LEL: Not applicable UEL: Not applicable
<b>Vapor Pressure:</b>	Not available	<b>Vapor Density:</b>	Not available
<b>Relative Density:</b>	1.25	<b>Solubilities:</b>	Partially soluble in water
<b>Partition Coefficient: (N-Octanol/Water)</b>	Not available	<b>Autoignition Temperature:</b>	Not available
<b>Decomposition Temperature:</b>	Not available	<b>Viscosity:</b>	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 heat, sparks and 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 if inhaled. May cause drowsiness and dizziness. May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin Contact:** Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

**Eye Contact:** Causes serious eye irritation.

**Ingestion:** Swallowing can cause central nervous system depression, irritating to mouth, throat and stomach.

**Chronic Hazards:** None expected.

**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:** None of the 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 may cause respiratory tract irritation. Single exposure to ethanol may cause narcotic effects.

**Specific Target Organ Toxicity (Repeated Exposure):** Repeated exposure to ethanol may affect liver. Repeated exposure to alkali fluorosilicates(Na) may affect bones and teeth.

**Aspiration Toxicity:** Not an aspiration hazard.

**Acute Toxicity Values:**

Product ATE: 145.8 mg/L (Inhalation as vapors), 3581.7 mg/kg (Oral), 14580 mg/kg (Dermal)

Ethanol: LC50 Inhalation rat: 124700 mg/m<sup>3</sup>/4 hr; LD50 Oral rat: 7060 mg/kg;

LD50 Dermal rabbit: >20000 mg/m<sup>3</sup>

2-hydroxyethyl methacrylate: LD50 Oral rat: 5050 mg/kg; LD50 Dermal rabbit: >3000 mg/kg

Alkali fluorosilicates(Na): LD50 Oral rat: 125 mg/kg

**Section 12. Ecological Information****Toxicity:**

Ethanol: 96 hr LC50 Pimephales promelas 13500 mg/L; 48 hr EC50 Daphnia magna 54000 mg/L;

72 hr IC50 Skeletonema costatum >10.9 mg/L

2-hydroxyethyl methacrylate: 96 hr LC50 Pimephales promelas 227 mg/L

Alkali fluorosilicates(Na): 96 hr LC50 Lepomis macrochirus 49 mg/L

**Persistence and degradability:** Ethanol and 2-hydroxyethyl methacrylate are readily biodegradable.

**Bioaccumulative Potential:**

Ethanol: log P<sub>ow</sub> -0.35, potential of bioaccumulative is low

2-hydroxyethyl methacrylate has a BCF of 1.3 – 1.5, log P<sub>ow</sub> 0.47, potential of bioaccumulative is low.

**Mobility in Soil:** No data available.

**Other Adverse Effects:** No data available.

<b>Section 13. Disposal Considerations</b>
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**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.

<b>Section 14. Transport Information</b>
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	UN Number	UN Proper Shipping Name	Hazard Class(s)	Packing Group	Environmental Hazards
<b>US DOT</b>	UN1170	Ethanol solution	3	II	None
<b>EU ADR/RID</b>	UN1170	Ethanol solution	3	II	None
<b>IMDG</b>	UN1170	Ethanol solution	3	II	None
<b>IATA/ICAO</b>	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.

<b>Section 15. Regulatory Information</b>
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**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.

<b>Section 16. Other Information</b>
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**Effective Date:** January 28, 2019

**Supersedes Date:** October 16, 2014

**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.



## SAFETY DATA SHEET

### Section 1. Product And Company Identification

**Product Name:** Gel Etchant

**Product Use:** Etching gel

**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:** December 27, 2018

### Section 2. Hazards Identification

**GHS Classification:**

Skin Corrosion Category 1A

Eye Damage Category 1

**Label Elements:**

Danger!



**Hazard Phrases**

Causes severe skin burns and eye damage.

**Precautionary Phrases:**

Wash thoroughly after handling.

Wear protective gloves, eye protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rise skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor.

Dispose of contents and container in accordance with local and national regulations.

### Section 3. Composition/Information on Ingredients

Component	CAS No.	Amount
Phosphoric acid	7664-38-2	35-40%
Cobalt alumina blue spinel	1345-16-0	< 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 severe skin burns and eye damage.

**Indication of immediate medical attention and special treatment, if needed:** No immediate medical attention is required.

## 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, phosphorus oxides, metal oxide, hydrogen.

**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.

**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. Soak up spills with inert solids and place in container for disposal according to local regulations.

## 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. 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
Phosphoric acid	1 mg/m <sup>3</sup> TWA ACGIH TLV 3 mg/m <sup>3</sup> STEL OSHA PEL
Cobalt alumina blue spinel	0.02 mg/m <sup>3</sup> TWA ACGIH

**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

<b>Appearance:</b>	Blue gel	<b>Odor:</b>	Odorless
<b>Odor Threshold:</b>	Not available	<b>pH:</b>	0.5 – 1.5
<b>Melting/Freezing Point:</b>	Not available	<b>Boiling Point/Range:</b>	100°C
<b>Flash Point:</b>	Not flammable	<b>Evaporation Rate:</b>	Not available
<b>Flammability: (Solid, Gas)</b>	Not applicable	<b>Flammability Limits:</b>	LEL: Not applicable UEL: Not applicable

<b>Vapor Pressure:</b>	760 mmHg	<b>Vapor Density:</b>	Not available
<b>Relative Density:</b>	1.2	<b>Solubilities:</b>	Soluble in water
<b>Partition Coefficient:</b>	Not available	<b>Autoignition Temperature:</b>	Not available
<b>(N-Octanol/Water)</b>		<b>Viscosity:</b>	Not available
<b>Decomposition Temperature:</b>	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 extremely high or low temperatures.

**Incompatible Materials:** Oxidizing materials, reducing materials, metals, acids, alkalis, moisture, peroxides, amines.

**Hazardous decomposition products:** None if stored normally.

## Section 11. Toxicological Information

### Potential Health Effects:

**Inhalation:** May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

**Skin Contact:** Causes severe skin burns.

**Eye Contact:** Causes serious eye damage.

**Ingestion:** Corrosive to the digestive tract. Causes burns. May cause burns to mouth, throat and stomach.

**Chronic Hazards:** None expected.

**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 are mutagenic.

### Carcinogen:

Cobalt alumina blue spinel is listed as "Possibly Carcinogenic to Humans" (Group 2B) 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):** No data available.

**Specific Target Organ Toxicity (Repeated Exposure):** No data available.

**Aspiration Toxicity:** Not an aspiration hazard.

**Acute Toxicity Values:**

Product ATE: 3198.8 mg/kg mg/L (Oral); 7198.8 mg/kg (Dermal)  
Phosphoric acid: Dermal rat LD50: 2740 mg/kg; Oral rat LD50: 1.25 g/kg  
Cobalt aluminate blue spinel: Oral rat LD50: >5000 mg/kg

**Section 12. Ecological Information**

**Toxicity:**

Phosphoric acid: 96 hr LC50 *Lepomis macrochirus* 60 ppm; 48 hr EC50 *Daphnia magna* 105 ppm.

**Persistence and degradability:** Biodegradation is not applicable to inorganic substances.

**Bioaccumulative Potential:** No data available.

**Mobility in Soil:** Slightly soluble.

**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	UN1805	Phosphoric acid solution	8	III	None
EU ADR/RID	UN1805	Phosphoric acid solution	8	III	None
IMDG	UN1805	Phosphoric acid solution	8	III	None
IATA/ICAO	UN1805	Phosphoric acid solution	8	III	None

**Special Precautions for User:** Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**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.

<b>Section 16. Other Information</b>
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**Effective Date:** December 27, 2018

**Supersedes Date:** December 12, 2014

**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.