

## **SAFETY DATA SHEETS**

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

074299772

**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).**

074298998 074299756 074299764 074299780 074310538 074314266 074319307

## Section 1. Identification

**GHS product identifier** : Optibond™ Solo Plus

**Other means of identification** : Not available.

**Product type** : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

**Product use** : Dental product

**Area of application** : Professional applications.

**Manufacturer** : **Kerr Corporation**  
1717 West Collins Avenue  
Orange, CA 92867-5422  
Telephone no.: 1-800-KERR-123

**e-mail address of person responsible for this SDS** : edwin.varela@kavokerrgroup.com

**Emergency telephone number (with hours of operation)** : CHEMTREC® (24 hours) U.S. : 1-800-424-9300 International: +1-703-527-3887

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Health effects are based on the uncured material.

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 2  
SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
SKIN SENSITIZATION - Category 1  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 51.4%

### GHS label elements

**Hazard pictograms**



**Signal word** : Danger

## Section 2. Hazards identification

- Hazard statements** : 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 statements**
- Prevention** : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
- Response** : Get medical attention if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical attention. 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.
- Storage** : Store locked up. Store in a well-ventilated place. Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Avoid contact with skin and clothing. Wash thoroughly after handling.
- Hazards not otherwise classified** : Prolonged or repeated contact may dry skin and cause irritation.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

### CAS number/other identifiers

- CAS number** : Not applicable.
- Product code** : Not available.

| Ingredient name                           | Other names                               | %     | CAS number |
|-------------------------------------------|-------------------------------------------|-------|------------|
| ethanol                                   | ethanol                                   | 10-30 | 64-17-5    |
| 2-hydroxyethyl methacrylate               | 2-hydroxyethyl methacrylate               | 10-30 | 868-77-9   |
| 2-hydroxy-1,3-propanediyl bismethacrylate | 2-hydroxy-1,3-propanediyl bismethacrylate | 1-5   | 1830-78-0  |
| alkali fluorosilicates(Na)                | disodium hexafluorosilicate               | 0.1-1 | 16893-85-9 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.**

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : No special measures are required. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
- Inhalation** : No special measures required. If inhaled, remove to fresh air. Get medical attention if symptoms occur.
- Skin contact** : No special measures required. In case of contact, immediately flush skin with plenty of water. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Get medical attention if adverse health effects persist or are severe.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. 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.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : In case of major fire and large quantities: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus oxides  
halogenated compounds  
metal oxide/oxides

- Special protective actions for fire-fighters** : In case of major fire and large quantities: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Low release. For professional use only. Handling of product in very small amounts or in situations where release is highly unlikely
- For emergency responders** : Low release. See also the information in "For non-emergency personnel".

- Environmental precautions** : Low release. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.
- Large spill** : Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : No special measures are required for small quantities under normal and intended conditions of product use. For professional use only. Put on appropriate personal protective equipment (see Section 8). Handle with care and dispose in a safe manner.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name            | Exposure limits                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ethanol                    | <b>ACGIH TLV (United States, 6/2013).</b><br>STEL: 1000 ppm 15 minutes.<br><b>OSHA PEL 1989 (United States, 3/1989).</b><br>TWA: 1000 ppm 8 hours.<br>TWA: 1900 mg/m <sup>3</sup> 8 hours.<br><b>NIOSH REL (United States, 10/2013).</b><br>TWA: 1000 ppm 10 hours.<br>TWA: 1900 mg/m <sup>3</sup> 10 hours.<br><b>OSHA PEL (United States, 2/2013).</b><br>TWA: 1000 ppm 8 hours.<br>TWA: 1900 mg/m <sup>3</sup> 8 hours. |
| alkali fluorosilicates(Na) | <b>ACGIH TLV (United States, 6/2013).</b><br>TWA: 2.5 mg/m <sup>3</sup> , (as F) 8 hours.<br><b>OSHA PEL 1989 (United States, 3/1989).</b><br>TWA: 2.5 mg/m <sup>3</sup> , (as F) 8 hours.<br><b>OSHA PEL Z2 (United States, 2/2013).</b><br>TWA: 2.5 mg/m <sup>3</sup> 8 hours. Form: Dust<br><b>OSHA PEL (United States, 2/2013).</b><br>TWA: 2.5 mg/m <sup>3</sup> , (as F) 8 hours.                                    |

**Appropriate engineering controls** : No special measures are required for small quantities under normal and intended conditions of product use.

**Environmental exposure controls** : No special measures are required for small quantities under normal and intended conditions of product use.

### Individual protection measures

**Hygiene measures** : No special measures are required for small quantities under normal and intended conditions of product use.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : No special measures are required for small quantities under normal and intended conditions of product use.

## Section 8. Exposure controls/personal protection

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : No special measures are required for small quantities under normal and intended conditions of product use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Paste.]
- Color** : Yellow. [Light]
- Odor** : Fruity.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: 18°C (64.4°F) [Ethanol]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not applicable.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : ~1.25
- Solubility** : Partially soluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Not available.

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.  
Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : Keep away from heat, sparks and flame.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name     | Result                | Species | Dose                     | Exposure |
|-----------------------------|-----------------------|---------|--------------------------|----------|
| ethanol                     | LC50 Inhalation Vapor | Rat     | 124700 mg/m <sup>3</sup> | 4 hours  |
|                             | LD50 Oral             | Rat     | 7 g/kg                   | -        |
| 2-hydroxyethyl methacrylate | LD50 Oral             | Rat     | 4230 mg/kg               | -        |
| alkali fluorosilicates(Na)  | LD50 Oral             | Rat     | 125 mg/kg                | -        |

**Conclusion/Summary** : Based on the criteria of the protocol, this product is considered non-cytotoxic per ISO 10993-5.

#### Irritation/Corrosion

| Product/ingredient name    | Result                   | Species | Score | Exposure                           | Observation |
|----------------------------|--------------------------|---------|-------|------------------------------------|-------------|
| ethanol                    | Eyes - Mild irritant     | Rabbit  | -     | 24 hours 500 milligrams            | -           |
|                            | Eyes - Moderate irritant | Rabbit  | -     | 0.066666667 minutes 100 milligrams | -           |
|                            | Eyes - Moderate irritant | Rabbit  | -     | 100 microliters                    | -           |
|                            | Eyes - Severe irritant   | Rabbit  | -     | 500 milligrams                     | -           |
|                            | Skin - Mild irritant     | Rabbit  | -     | 400 milligrams                     | -           |
|                            | Skin - Moderate irritant | Rabbit  | -     | 24 hours 20 milligrams             | -           |
| alkali fluorosilicates(Na) | Skin - Mild irritant     | Rabbit  | -     | 500 milligrams                     | -           |

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Classification

| Product/ingredient name    | OSHA | IARC | NTP |
|----------------------------|------|------|-----|
| ethanol                    | -    | 1    | -   |
| alkali fluorosilicates(Na) | -    | 3    | -   |

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)



## Section 11. Toxicological information

| Name                                      | Category   | Route of exposure | Target organs                                     |
|-------------------------------------------|------------|-------------------|---------------------------------------------------|
| ethanol                                   | Category 3 | Not applicable.   | Respiratory tract irritation and Narcotic effects |
| 2-hydroxyethyl methacrylate               | Category 3 | Not applicable.   | Respiratory tract irritation                      |
| 2-hydroxy-1,3-propanediyl bismethacrylate | Category 3 | Not applicable.   | Respiratory tract irritation                      |

### Specific target organ toxicity (repeated exposure)

| Name                       | Category   | Route of exposure | Target organs   |
|----------------------------|------------|-------------------|-----------------|
| ethanol                    | Category 2 | Not determined    | liver           |
| alkali fluorosilicates(Na) | Category 1 | Not determined    | bones and teeth |

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. 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.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
dryness  
cracking
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.

## Section 11. Toxicological information

**Potential delayed effects** : Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**General** : 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.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

| Route               | ATE value    |
|---------------------|--------------|
| Oral                | 3581.7 mg/kg |
| Dermal              | 14580 mg/kg  |
| Inhalation (vapors) | 145.8 mg/l   |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name     | Result                               | Species                                                                | Exposure |
|-----------------------------|--------------------------------------|------------------------------------------------------------------------|----------|
| ethanol                     | Acute EC50 17.921 mg/l Marine water  | Algae - Ulva pertusa                                                   | 96 hours |
|                             | Acute EC50 2000 µg/l Fresh water     | Daphnia - Daphnia magna                                                | 48 hours |
|                             | Acute LC50 25500 µg/l Marine water   | Crustaceans - Artemia franciscana - Larvae                             | 48 hours |
|                             | Acute LC50 42000 µg/l Fresh water    | Fish - Oncorhynchus mykiss                                             | 4 days   |
| 2-hydroxyethyl methacrylate | Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa                                                   | 96 hours |
|                             | Chronic NOEC 0.375 µl/L Fresh water  | Fish - Gambusia holbrooki - Larvae                                     | 12 weeks |
|                             | Acute LC50 227000 µg/l Fresh water   | Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
|                             | Acute LC50 49000 µg/l Fresh water    | Fish - Lepomis macrochirus                                             | 96 hours |

### Persistence and degradability

| Product/ingredient name     | Test                                                 | Result                | Dose | Inoculum |
|-----------------------------|------------------------------------------------------|-----------------------|------|----------|
| 2-hydroxyethyl methacrylate | 301C Ready Biodegradability - Modified MITI Test (I) | 92 to 100 % - 14 days | -    | -        |

## Section 12. Ecological information

| Product/ingredient name     | Aquatic half-life | Photolysis | Biodegradability |
|-----------------------------|-------------------|------------|------------------|
| ethanol                     | -                 | -          | Readily          |
| 2-hydroxyethyl methacrylate | -                 | -          | Readily          |

### Bioaccumulative potential

| Product/ingredient name     | LogP <sub>ow</sub> | BCF | Potential |
|-----------------------------|--------------------|-----|-----------|
| ethanol                     | -0.35              | -   | low       |
| 2-hydroxyethyl methacrylate | 0.42               | -   | low       |

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

## Section 14. Transport information

|                            | DOT Classification                                                                                                                                                                                                                                      | IMDG                                                                                          | IATA                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UN number                  | UN1170                                                                                                                                                                                                                                                  | UN1170                                                                                        | UN1170                                                                                                                                                                                                                                                                                                                                                               |
| UN proper shipping name    | Ethanol solution                                                                                                                                                                                                                                        | ETHANOL SOLUTION                                                                              | Ethanol solution                                                                                                                                                                                                                                                                                                                                                     |
| Transport hazard class(es) | 3<br>                                                                                                                                                                | 3<br>      | 3<br>                                                                                                                                                                                                                                                                           |
| Packing group              | II                                                                                                                                                                                                                                                      | II                                                                                            | II                                                                                                                                                                                                                                                                                                                                                                   |
| Environmental hazards      | No.                                                                                                                                                                                                                                                     | No.                                                                                           | No.                                                                                                                                                                                                                                                                                                                                                                  |
| Additional information     | <p><b>Limited quantity</b><br/>Yes.</p> <p><b>Packaging instruction</b><br/><b>Passenger aircraft</b><br/>Quantity limitation: 5 L</p> <p><b>Cargo aircraft</b><br/>Quantity limitation: 60 L</p> <p><b>Special provisions</b><br/>24, IB2, T4, TP1</p> | <p><b>Emergency schedules (EmS)</b><br/>F-E, S-D</p> <p><b>Special provisions</b><br/>144</p> | <p><b>Passenger and Cargo Aircraft</b><br/>Quantity limitation: 5 L<br/>Packaging instructions: 353</p> <p><b>Cargo Aircraft Only</b>Quantity limitation: 60 L<br/>Packaging instructions: 364</p> <p><b>Limited Quantities - Passenger Aircraft</b>Quantity limitation: 1 L<br/>Packaging instructions: Y341</p> <p><b>Special provisions</b><br/>A3, A58, A180</p> |

## Section 14. Transport information

**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 of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) PAIR**: mequinol  
**Commerce control list precursor**: alkali fluorosilicates(Na)  
**United States inventory (TSCA 8b)**: Not determined.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Fire hazard  
 Immediate (acute) health hazard  
 Delayed (chronic) health hazard

#### Composition/information on ingredients

| Name                                      | %     | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|-------------------------------------------|-------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| ethanol                                   | 10-30 | Yes.        | No.                        | No.      | Yes.                            | Yes.                            |
| 2-hydroxyethyl methacrylate               | 10-30 | No.         | No.                        | No.      | Yes.                            | No.                             |
| 2-hydroxy-1,3-propanediyl bismethacrylate | 1-5   | No.         | No.                        | No.      | Yes.                            | No.                             |
| alkali fluorosilicates(Na)                | 0.1-1 | No.         | No.                        | No.      | Yes.                            | Yes.                            |

### SARA 313

Not applicable.

### State regulations

**Massachusetts** : The following components are listed: ETHYL ALCOHOL; SODIUM SILICA FLUORIDE; MINERAL WOOL FIBER

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: ETHYL ALCOHOL; ALCOHOL; SODIUM FLUOROSILICATE; SILICATE(2-), HEXAFLUORO-, DISODIUM

**Pennsylvania** : The following components are listed: DENATURED ALCOHOL

**Date of issue/Date of revision** : 10/16/2014 **Date of previous issue** : No previous validation **Version** : 1 11/13

## Section 15. Regulatory information

### California Prop. 65

**WARNING:** This product contains a chemical or chemicals known to the State of California to cause birth defects or other reproductive harm.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level                       |
|-----------------|--------|--------------|---------------------------|-------------------------------------------------------|
| methanol        | No.    | Yes.         | No.                       | 23000 µg/day (ingestion)<br>47000 µg/day (inhalation) |

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

|                  |   |
|------------------|---|
| Health           | 2 |
| Flammability     | 4 |
| Physical hazards | 0 |
|                  |   |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.)



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### History

|                                |                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date of issue/Date of revision | : 10/16/2014                                                                                                                                                                                                                                                                                                                                               |
| Date of previous issue         | : No previous validation                                                                                                                                                                                                                                                                                                                                   |
| Version                        | : 1                                                                                                                                                                                                                                                                                                                                                        |
| Prepared by                    | : IHS                                                                                                                                                                                                                                                                                                                                                      |
| Key to abbreviations           | : ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient |

|                                |              |                        |                          |         |     |       |
|--------------------------------|--------------|------------------------|--------------------------|---------|-----|-------|
| Date of issue/Date of revision | : 10/16/2014 | Date of previous issue | : No previous validation | Version | : 1 | 12/13 |
|--------------------------------|--------------|------------------------|--------------------------|---------|-----|-------|

## Section 16. Other information

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

### References

: HCS (U.S.A.)- Hazard Communication Standard  
International transport regulations

Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

## 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<br>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  $P_{ow}$  -0.35, potential of bioaccumulative is low

2-hydroxyethyl methacrylate has a BCF of 1.3 – 1.5, log  $P_{ow}$  0.47, potential of 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.

|                                      |
|--------------------------------------|
| <b>Section 16. Other Information</b> |
|--------------------------------------|

**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.