SAFETY DATA SHEET
according to OSHA HCS

Issue Date: 09/25/2017

1. Identification

- **Product identifier**
  Trade name: Ribbond Wetting Resin

- **Application of the substance or the preparation**
  Dental product: Unfilled Resin

- **Manufactured for:**
  Ribbond, Inc.
  1904 Third Ave Suite 330
  Seattle, WA 98101
  USA
  Tel: (206) 340-8870
  Fax: (206) 382-9354
  E-mail: ribbond@ribbond.com

2. Hazards Identifications

The preparation of this document has been carried out according to the U.S. OSHA Hazard Communication Standard. Therefore, all the known hazards of the product or components have to be included regardless the potential risk.

- **Hazard classification**
  Serious eye damage/Irritation: Category 2B.
  Skin Sensitizer: Category 1B.

- **Label elements**
  Signal word: Warning.
  Symbols: Exclamation mark.
  Pictograms

  Restricted use by dental professional only.

- **Hazard statement**
  Causes eye irritation.
  May cause an allergic skin reaction.

- **Precautionary statements**
  Prevention:
  Avoid breathing dust/mist/vapour/spray.
  Wear protective gloves and protective clothing.
  Wash thoroughly after handling.
  Keep in original container only.
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Response:
IF ON SKIN: Wash with plenty of water and soap. In case skin irritation occurs, seek medical attention. Contaminated clothing must be washed before reuse.
IF IN EYES: Rinse with caution with plenty of water for several minutes. In case contact lenses are worn remove and continue rinsing. If eye irritation persists seek medical attention.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Classification System
NFPA ratings (scale 0 – 4)
- Health = 2
- Fire = 1
- Reactivity = 0

HMIS ratings (scale 0 – 4)
- Health = 2
- Fire = 1
- Reactivity = 0

Hazard not otherwise classified
None

Other hazards
Results of PBT and MPT assessment.
PBT: not applicable
MPT: not applicable

3. Composition/Information on ingredients

Chemical characterization
Mixture of substances with methacrylate ester monomers.

<table>
<thead>
<tr>
<th>C.A.S. No.</th>
<th>Component</th>
<th>% Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-16-0</td>
<td>Dimethacrylate</td>
<td>2.5 – 10</td>
</tr>
<tr>
<td>1565-94-2</td>
<td>Dimethacrylate</td>
<td>2.5 – 10</td>
</tr>
<tr>
<td>41637-38-1</td>
<td>Dimethacrylate</td>
<td>2.5 – 10</td>
</tr>
<tr>
<td>10287-53-3</td>
<td>Parbenate</td>
<td>&lt; 1</td>
</tr>
</tbody>
</table>

4. First aid measures

Description of first aid measures

After inhalation
Remove person to fresh air. Get medical attention if you feel unwell.

After contact with skin
Immediately flush with water and then wash with soap and water. In case skin irritation persists, get medical attention. Remove contaminated clothing and wash before reuse.

After contact with eyes
Rinse, opened eye, with copious amounts of water for at least 15 minutes. Remove contact lenses, if possible. Get medical attention.

After ingestion

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Flush mouth with water. Get medical attention immediately.

5. Fire-fighting measures

- Suitable extinguishing media
  Water spray, foam, carbon dioxide, dry chemicals depending on the materials involved in the fire.

- Extinguishing media to avoid
  None

- Special hazards arising from combustion
  No relevant information is available for this product.

- Special protective equipment for fire-fighters
  A self-contained breathing apparatus.

6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Ventilate area. Wear safety glasses, gloves, and lab coat.

- Environmental precautions
  Avoid release to the environment. Do not allow to enter sewers or ground water.

- Methods for cleaning up/collection
  Collect mechanically. The product may be absorbed by liquid-binding material (sand, diatomite, acid binders). Wash spill area with alcohol or water and soap.

7. Handling and storage

- Precautions for safe handling
  Adequately trained personnel should handle this product. Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Contaminated clothing should not be allowed out of the workplace and in any case it should be washed before reuse. Keep container tightly closed.

- Conditions for safe storage, including any incompatibilities
  Store product in a cool and dry place. Keep in original container with the cap always tightly closed. Protect from exposure to light, heat and direct sunlight.

8. Exposure controls/personal protection

- Control parameters

  Occupational exposure limits
  In case a component is shown in section 3 but it does not appear in the table below, there are not any available data for this component.

<table>
<thead>
<tr>
<th>C.A.S. No.</th>
<th>Component</th>
<th>Agency</th>
<th>Limit</th>
</tr>
</thead>
</table>
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Exposure control
Personal protective equipment (PPE)
Ventilation: Ensure adequate ventilation of the premises where the product is stored and/or handled.
Respiratory protection: Not required.
Hand protection: Suitable protective gloves should be worn.
Eye protection: Safety glasses should be worn.
Skin protection: Do not eat, drink or smoke when using the product.
Other: Lab coat is suggested when using the product.

9. Physical and chemical properties

Information on basic physical and chemical properties
Appearance: Liquid
Colour: Off-white
Odour: Characteristic
Odour threshold: Not available
pH value: Not available
Melting point: Not available
Boiling point: Not available
Flash point: Not available
Evaporation rate: No data available
Flammability (solid, gas): Not applicable
Density: Approximately 1.3 g/cm³
Vapour pressure: Not applicable
Vapour density: Not applicable
Viscosity: Not determined
Solubility: Insoluble
Auto ignition: Product is not self igniting
Boiling point: Not applicable
Viscosity: No data available

10. Stability and reactivity

Reactivity
The product is considered to be non reactive under normal use conditions.

Chemical stability
Stable under normal storage and handle conditions.

Hazardous decomposition products
None, if used in accordance with instructions.

Conditions and/or materials to avoid
Avoid storing the product at extreme temperatures (>27 °C and <5 °C) and direct sunlight. Avoid reducing and oxidizing agents, peroxides and amines.

Possibility of hazardous reactions
Hazardous polymerization will not occur.

11. Toxicological information
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It is required by the U.S. OSHA Hazard Communication Standard to include all the known hazards of
the product or components included regardless the potential risk.
The risks of the hazards communicated in this document may vary depending on the potential of
exposure.

Information on toxicological effects

Inhalation: Not expected to be an inhalation hazard despite the characteristic odour that it may have.
Skin contact: Mild Skin Irritation. Signs/symptoms may include localized redness, swelling, itching, and
dryness. Allergic Skin Reaction. Signs/symptoms may include redness, swelling, blistering, and itching.
Eye contact: Moderate Eye Irritation. Signs/symptoms may include redness, swelling, pain, tearing, and
blurred or hazy vision.
Ingestion: Gastrointestinal Irritation. Signs/symptoms may include abdominal pain, stomach upset,
nausea, vomiting and diarrhea.

Additional toxicological information

Carcinogenicity: -

Toxicological data:
In case a component is shown in section 3 but it does not appear in the table below, either there are not
any available data for this component or the data are insufficient for classification.

Acute toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>Dermal</td>
<td>Professional</td>
<td>LD50 estimated &gt; 5,000 mg/Kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>judgement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 10,837 mg/Kg</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td></td>
<td>LD50 estimated 2,000 – 5,000 mg/Kg</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Dermal</td>
<td>Professional</td>
<td>LD50 estimated 2,000 – 5,000 mg/Kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>judgement</td>
<td></td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Dermal</td>
<td>Professional</td>
<td>LD50 &gt; 5,000 mg/Kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>judgement</td>
<td></td>
</tr>
<tr>
<td>Parbenate</td>
<td>Dermal</td>
<td>Rat</td>
<td>LD50 &gt; 2,000 mg/Kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ingestion</td>
<td>LD50 &gt; 2,000 mg/Kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>Guinea pig</td>
<td>Mild irritation</td>
</tr>
<tr>
<td>Parbenate</td>
<td>Rabbit</td>
<td>Not significant irritation</td>
</tr>
</tbody>
</table>

Serious eye damage/Irritation

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>Professional judgment</td>
<td>Moderate irritation</td>
</tr>
<tr>
<td>Parbenate</td>
<td>Rabbit</td>
<td>Mild irritation</td>
</tr>
</tbody>
</table>

Skin sensitization

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>Human and animal</td>
<td>Sensitizing</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Guinea pig</td>
<td>Sensitizing</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

Respiratory sensitization:

Germ cell mutagenicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>In vitro</td>
<td>Some positive data exist but there</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>In vitro</td>
<td>Some positive data exist but there are insufficient for classification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>In vitro</td>
<td>Not mutagenic</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Carcinogenicity
In case a component is shown in section 3 but it does not appear in the table below, either there are not any available data for this component or the data are insufficient for classification.

<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>Dermal</td>
<td>Mouse</td>
<td>Not carcinogenic</td>
</tr>
</tbody>
</table>

Reproduced toxicity:
In case a component is shown in section 3 but it does not appear in the table below, either there are not any available data for this component or the data are insufficient for classification.

Reproduced and/or development effects

<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td>Not toxic to female reproduction</td>
<td>Mouse</td>
<td>NOAEL 1 mg/kg/d</td>
<td>1 generation</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td>Not toxic to male reproduction</td>
<td>Mouse</td>
<td>NOAEL 1 mg/kg/d</td>
<td>1 generation</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td>Not toxic to development</td>
<td>Mouse</td>
<td>NOAEL 1 mg/kg/d</td>
<td>1 generation</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td>Not toxic to female reproduction</td>
<td>Mouse</td>
<td>NOAEL 0.8 mg/kg/d</td>
<td>premating &amp; during gestation</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td>Not toxic to male reproduction</td>
<td>Mouse</td>
<td>NOAEL 0.8 mg/kg/d</td>
<td>premating &amp; during gestation</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td>Not toxic to development</td>
<td>Mouse</td>
<td>NOAEL 0.8 mg/kg/d</td>
<td>premating &amp; during gestation</td>
</tr>
</tbody>
</table>

Target organ(s):
In case a component is shown in section 3 but it does not appear in the table below, either there are not any available data for this component or the data are insufficient for classification.

Specific target organ toxicity – single exposure
In case a component is shown in section 3 but it does not appear in the table below, either there are not any available data for this component or the data are insufficient for classification.

Specific target organ toxicity – repeated exposure
In case a component is shown in section 3 but it does not appear here, there are not any available data for this component.

<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Target organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethacrylate</td>
<td>Dermal</td>
<td>Kidney and/or bladder</td>
<td>Some positive data exist but there are insufficient for classification</td>
<td>Mouse</td>
<td>NOAEL 833 mg/kg/d</td>
<td>78 weeks</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Dermal</td>
<td>Blood</td>
<td>All data are negative</td>
<td>Mouse</td>
<td>NOAEL 833 mg/kg/d</td>
<td>78 weeks</td>
</tr>
<tr>
<td>Dimethacrylate</td>
<td>Ingestion</td>
<td>Endocrine system, liver, nervous system,</td>
<td>All data are negative</td>
<td>Mouse</td>
<td>NOAEL 0.8 mg/kg/d</td>
<td>premating &amp; during gestation</td>
</tr>
</tbody>
</table>
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| kidney and/or bladder |

Aspiration hazard:  
In case a component is shown in section 3 but it does not appear here, there are not any available data for this component.

12. Ecological information

If material is properly used and handled no ecological problems are to be anticipated.  
Do not discard material into drains/sewers or aquatic environment as it may cause pH variations.

13. Disposal considerations

Polymerize prior disposal. Disposal must be carried out in accordance to the local and national regulations currently in force.

14. Transport information

| UN-Number DOT, ADR, ADN, IMDG, IATA | None |
| UN proper shipping name DOT, ADR, ADN, IMDG, IATA | None |
| Transport hazard class DOT, ADR, ADN, IMDG, IATA | None |
| Packing group DOT, ADR, IMDG, IATA | None |

15. Regulatory information

The product is a medical device according to EC directive 93/42/EEC.  
This product is classified as a medical device under US regulations and it has been reviewed by the US Food and Drug Administration (FDA).

16. Other information

CAUTION: PRODUCT FOR PROFESSIONAL USE ONLY
The information provided above is based on our present knowledge and experience. This safety data sheet refers explicitly to the product indicated and comprises no guarantee of particular quality. Any use of this product in any way not indicated on this safety data sheet will be exclusively under the user’s responsibility.