MATERIAL SAFETY DATASHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT (TRADE) NAME: OB-100 (Part B, Curing Agent)
CHEMICAL FAMILY: Bisphenol A/Epichlorohydrin-Based Epoxy Resin
SUPPLIER: OMEGA Engineering, Inc.
ADDRESS: P. O. Box 4047
Stamford, CT 06907
TELEPHONE: (203) 359-1660
1-800-255-3924 or International 01-813-248-0585

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
IMMEDIATE CONCERNS: May cause sensitization, Mild skin irritant, Can cause mild eye irritation. Can be harmful if swallowed.

POTENTIAL HEALTH EFFECTS
EYES: Contact may cause eye irritation.
SKIN: May cause skin irritation. Allergic reactions are possible.
INGESTION: Small amounts (a tablespoonful) swallowed during normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

SIGNS AND SYMPTOMS OF OVEREXPOSURE
EYES: Eyes may become irritated, red or itchy.
SKIN: Skin may become itchy, red or irritated.
INGESTION: May cause vomiting.

ACUTE TOXICITY: Prolonged contact with this product can cause reddening, swelling, rash scaling or blistering. In those who have developed skin sensitization, these symptoms can develop as a result of contact with very small amount of the liquid material.

CHRONIC EFFECTS: Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

SENSITIZATION: May cause allergic skin reaction.

HEALTH HAZARDS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

COMMMENTS: Keep container closed when not in use Keep away from heat and flame Keep out of reach of children Practice good housekeeping procedures

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Wt.%</th>
<th>CAS</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A/Epichlorohydrin Resin</td>
<td>&lt; 95</td>
<td>25068-38-6</td>
<td>500-033-5</td>
</tr>
</tbody>
</table>

(Full text of R-Phrases can be found under heading 16)

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MATERIAL SAFETY DATASHEET

OB-100 (Part A, Epoxy Resin)
Rev. Date 03/11/13
Supersedes: 10/19/12

SECTION 4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

SKIN: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

INGESTION: Swallowing less than an ounce will not cause significant harm. For larger amounts, do not induce vomiting, but give one or two glasses of water to drink and get medical attention.

INHALATION: No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

SECTION 5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: (220°F)

EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, or fine water spray when fighting fires involving this material.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon, aldehydes, amines, aniline, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

FIRE FIGHTING PROCEDURES: Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities are involved, evacuate area and fight fire with an eyewash facility and a safety shower.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with paper towels or other absorbent material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with Federal, State and local regulations.

LARGE SPILL: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including ignitible vapors, have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

RELEASE NOTES: Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

SECTION 7. HANDLING AND STORAGE

GENERAL PROCEDURES: Minimize contact with unprotected skin and eyes and ensure that adequate ventilation is provided in the work area. Store material in a cool, dry place.

HANDLING: Keep container closed when not in use, avoid contact with eyes and prolonged or repeated contact with skin. Maintain good housekeeping practices.

STORAGE: Keep container closed when not in use, store in a cool dry place away from heat and flames. Keep out of the reach of children and do not re-use this container.
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**SKIN:** Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**INGESTION:** If swallowed, do NOT induce vomiting. Give Victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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**EXTINGUISHING MEDIA:** Use foam, dry chemical, carbon dioxide, or fine water spray when fighting fires involving this material.

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**SECTION 8. EXPOSURES CONTROLS/PERSONAL PROTECTION**

**EXPOSURE GUIDELINES**

**OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)**

**EXPOSURE LIMITS**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
</table>

**FOOTNOTES:** 1. Not Established

**PERSONAL PROTECTIVE EQUIPMENT**

**EYES AND FACE:** Wear safety glasses with side shields (or goggles) and a face shield.

**SKIN:** Wear impervious gloves and appropriate protective clothing or equipment to prevent prolonged or repeated contact with skin. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using restroom facilities. Promptly remove contaminated clothing and launder thoroughly before reuse.

**RESPIRATORY:** Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation, especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 chemicals below their PEL/TLV values. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**WORK HYGIENIC PRACTICES:** Maintain good housekeeping practices, minimize contact with skin and eyes, and provide appropriate ventilation.

**OTHER USE PRECAUTIONS:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL STATE:** Liquid

**APPEARANCE:** Clear

**COLOR:** Clear

**FLASH POINT AND METHOD:** (220°F)

**SOLUBILITY IN WATER:** Slight

**SPECIFIC GRAVITY:** 1.170 gm/cm³

**SECTION 10. STABILITY AND REACTIVITY**

**STABLE:** Yes

**HAZARDOUS POLYMERIZATION:** No

**STABILITY:** Stable under normal handling and storage conditions.

**POLYMERIZATION:** It will not vigorously polymerize, decompose, condense or not become self-reactive under conditions of shocks, pressure, or temperature. Uncontrolled mixing with curing agents may cause hazardous polymerization.

**CONDITIONS TO AVOID:** Reaction with water may form Carbon Dioxide.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, aldehydes, amines, aniline, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.
SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE ORAL LD$_{50}$ DERMAL

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD$_{50}$ (rat)</th>
<th>LD$_{50}$ (rabbit)</th>
</tr>
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<tbody>
<tr>
<td>Bisphenol A/epichlorohydrin Resin</td>
<td>&gt;2000 mg/kg</td>
<td>&gt;2000 mg/kg</td>
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EYE EFFECTS: Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

SKIN EFFECTS: Contains materials that cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions that may be severe in certain individuals. Symptoms include rash, itching, hives, swelling.

SECTION 12. ECOLOGICAL PROTECTION

ENVIRONMENTAL DATA: Do not flush to sewer.

SECTION 13. DISPOSAL CONSIDERATION

DISPOSAL METHOD: Dispose of container and unused contents in accordance with federal, state, and local requirements.

EMPTY CONTAINER: Do not re-use this container. Keep away from heat, flames or sparks. Do not cut, puncture or weld on or near this container.

SECTION 14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION) - Proper Shipping Name: Not restricted by DOT

ROAD AND RAIL (ADR/RID) - Proper Shipping Name: Not restricted.

AIR (ICAO/ATA/DOT) - Shipping Name: Not restricted

VESSEL (IMO/IMDG) - Shipping Name: Not restricted

SECTION 15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

ACUTE: Yes   CHRONIC: Yes

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name: Bisphenol A/epichlorohydrin Resin   CAS: 25068-38-6

CALIFORNIA PROPOSITION 65: Phenyl Glycidyl Ether (CAS# 122-60-1) is present at <6 ppm. This material is known to the State of California to cause cancer.

SECTION 16. OTHER INFORMATION

RELEVANT R-PHRASES: R36/38: Irritating to eyes and skin. R43: May cause sensitization by skin contact. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. REVISION SUMMARY: New MSDS

HMIS RATING: Health 2, Flammability 1, Physical Hazard 0, Personal Protection C

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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<th>CAS</th>
<th>EINECS</th>
<th>Classification</th>
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<tbody>
<tr>
<td>Mercaptan Terminated Polymer</td>
<td>&lt; 95</td>
<td>Proprietary</td>
<td>90-72-2</td>
<td>R22, R36/38</td>
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<tr>
<td>2, 4, 6-tris (dimethylaminomethyl) phenol</td>
<td>&lt; 3</td>
<td>Proprietary</td>
<td>202-013-9</td>
<td></td>
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<td>Phenol, [dimethylamino] methyl-</td>
<td>&lt; 3</td>
<td>25338-65-0</td>
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Phenol, [(dimethylamino) methyl]-

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SECTION 8. EXPOSURES CONTROLS/PERSOAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)

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</tr>
<tr>
<td>STEL</td>
<td>[1]</td>
<td>[1]</td>
</tr>
<tr>
<td>TWA</td>
<td>[1]</td>
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Footnotes: 1. Not Established

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EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield.

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OTHER USE PRECAUTIONS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

APPEARANCE: Clear

COLOR: Clear

FLASH POINT AND METHOD: (220°F) SOLUBILITY IN WATER: Slight

SPECIFIC GRAVITY: 1.170 gm/cm³

SECTION 10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: Stable under normal handling and storage conditions.

POLYMERIZATION: It will not vigorously polymerize, decompose, condense or not become self-reactive under conditions of shocks, pressure, or temperature. Uncontrolled mixing with curing agents may cause hazardous polymerization.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Pungent

APPEARANCE: Clear

VAPOR PRESSURE: <1mmHg at 25°C

VAPOR DENSITY: >1

BOILING POINT: Not Determined

SOLUBILITY IN WATER: Slight

SPECIFIC GRAVITY: 1.130 at 25°C

SECTION 10. STABILITY AND REACTIVITY

STABILITY: Stable under normal handling and storage conditions.

POLYMERIZATION: It will not vigorously polymerize, decompose, condense or not become self-reactive under conditions of shocks, pressure, or temperature. Uncontrolled mixing with resins may cause hazardous polymerization.

CONDITIONS TO AVOID: Contact with acidic, basic, or oxidizing materials. Avoid storage in open containers, exposure to open flame or uncontrolled heat, uncontrolled mixing or exposure to incompatible substances.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon, aldehydes, amines, aniline, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

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POLYMERIZATION: It will not vigorously polymerize, decompose, condense or not become self-reactive under conditions of shocks, pressure, or temperature. Uncontrolled mixing with resins may cause hazardous polymerization.

CONDITIONS TO AVOID: Contact with acidic, basic, or oxidizing materials. Avoid storage in open containers, exposure to open flame or uncontrolled heat, uncontrolled mixing or exposure to incompatible substances.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon, aldehydes, amines, aniline, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

STORAGE: Keep out of reach of children and do not re-use this container.

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MATERIAL SAFETY DATASHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT (TRADE) NAME: OMEGABOND® 100 Cement (Part A, Epoxy Resin)
CHEMICAL FAMILY: Bisphenol A/Epichlorohydrin-Based Epoxy Resin
SUPPLIER: OMEGA Engineering, Inc.
ADDRESS: P. O. Box 4047, Stamford, CT 06907
TELEPHONE: (203) 359-1660

SECTION 2. HAZARDS IDENTIFICATION

IMMEDIATE CONCERNS: May cause sensitization. Mild skin irritant. Can cause mild eye irritation. Can be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

EYES: Contact may cause eye irritation. May cause sensitization. Mild skin irritant. Can cause mild eye irritation. Can be harmful if swallowed.

SKIN: May cause skin irritation. Allergic reactions are possible.

INGESTION: May cause vomiting. Prolonged contact with this product can cause reddening, swelling, rashscaling or blistering. In those who have developed skin sensitization, these symptoms can develop as a result of contact with very small amount of the liquid material.

CHRONIC EFFECTS: Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

SENSITIZATION: May cause allergic skin reaction.

HEALTH HAZARDS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.


SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

RELEVANT R-PHRASES: R22: Harmful if swallowed. R36/38: Irritating to eyes and skin.

HMIS RATING: Health 3, Flammability 1, Physical Hazard 0, Personal Protection C

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Full text of R-Phrases can be found under heading 16.

SECTION 4. FIRST AID Measures

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: May cause sensitization. Mild skin irritant. Can cause mild eye irritation. Can be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

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SENSITIZATION: May cause allergic skin reaction.

HEALTH HAZARDS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.


SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Water, carbon dioxide, dry chemical, dry chemical, or alcohol-resistant foam

SECTION 6. ACCIDENTAL RELEASE MEASURES

DISPOSAL METHOD: Dispose of container and unused contents in accordance with federal, state, and local requirements.

DISPOSAL OF WASTE: Disposal to be made in accordance with federal, state, and local requirements.

SECTION 7. HANDLING AND STORAGE

HANDLING: Practice good housekeeping procedures. Keep out of reach of children.

STORAGE: Keep container closed when not in use. Store in a cool, dry place. Keep away from heat and flame.

SECTION 8. EXPOSURE LIMITS

OSHA PELs: Harmful if swallowed.

NIOSH RELs: Harmful if swallowed.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid

CHEMICAL FORMULA: C22H22Cl2O

SECTION 10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITION TO AVOID: Heating to decomposition.

INCOMPATIBILITY: Strong oxidizers.

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE HEALTH EFFECTS:

INGESTION: Small amounts (a tablespoonful) swallowed during normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

SKIN: Skin may become itchy, red or irritated.

EYES: Eyes may become irritated, red or itchy.

POTENTIAL HEALTH EFFECTS:

IMMEDIATE CONCERNS: May cause sensitization. Mild skin irritant. Can cause mild eye irritation. Can be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

EYES: Contact may cause eye irritation. May cause sensitization. Mild skin irritant. Can cause mild eye irritation. Can be harmful if swallowed.

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SENSITIZATION: May cause allergic skin reaction.

HEALTH HAZARDS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.


SECTION 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Do not flush to sewer.

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of container and unused contents in accordance with federal, state, and local requirements.

EMPTY CONTAINER: Do not re-use this container. Keep away from heat, flames or sparks. Do not cut, puncture or weld on or near this container.

SECTION 14. TRANSPORTATION INFORMATION

DOT (Department of Transportation) - Proper Shipping Name: Aviation Regulated Liquid, N.O.S.
ROAD AND RAIL (ADR/RID) - Not restricted ground transport 48 continental states USA to 66 lbs total gross weight per package.
AIR (ICAO/IATA/DOT) - Proper Shipping Name: Aviation Regulated Liquid, N.O.S.
TECHNICAL NAME: Mercaptan-terminated polymer
UN/NA NUMBER: 3334 PRIMARY HAZARD CLASS/DIVISION: 9

SECTION 15 - REGULATORY INFORMATION

UNITED STATES TSCA (TOXIC SUBSTANCE CONTROL ACT)
Chemical Name: 2, 4, 6-tris (dimethylaminomethyl) phenol
Chemical Name: Phenol [(dimethylamino)methyl]
CAS: 90-72-2 CAS: 25338-55-0

SECTION 16 - OTHER INFORMATION

RELEVANT R-PHRASES: R22: Harmful if swallowed. R36/38: Irritating to eyes and skin.

HMIS RATING: Health 3, Flammability 1, Physical Hazard 0, Personal Protection C

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