The information contained herein is based upon data considered true and accurate. However, OMEGA makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of OMEGA, OMEGA assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to OMEGA's Terms and Conditions of Sale, including those limiting warranties and remedies contained herein, it is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.
SECTION 4. FIRST AID MEASURES CONTINUED

EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

INGESTION: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5. FIREFIGHTING MEASURES

FLASH POINT: >93.3°C (>199.94°F)
AUTOIGNITION TEMPERATURE: Not Available
FLAMMABLE/EXPLOSIVE LIMITS - LOWER: Not applicable
FLAMMABLE/EXPLOSIVE LIMITS - UPPER: Not applicable
EXTINGUISHING MEDIA: Water spray (fog), foam, dry chemical or carbon dioxide. Do not use high volume water jet.
SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus and full protection clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.
UNUSUAL FIRE OR EXPLOSION HAZARD: Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the affected area and deny entry to unnecessary and unprotected equipment.

ENVIRONMENTAL PRECAUTIONS: Do not allow product to enter sewer or waterways.
CLEAN-UP METHODS: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universe binder, sawdust). Store in a partly filled, closed container until disposal. Refer to Section 8 “Exposure Controls/Personal Protection” prior to clean-up.

SECTION 7. HANDLING AND STORAGE

HANDLING: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breath vapor and mist. Wash thoroughly after handling. Refer to Section 8.

STORAGE: Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.
SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Employees should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>AIHA WEEL</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Silica, amorphous, fumed, crystal-free dust, 3 mg/m3 TWA</td>
<td>10 mg/m3 TWA</td>
<td>20 MPPCF TWA</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

**ENGINEERING CONTROLS:** Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

**RESPIRATOR PROTECTION:** Use NIOSH approved respirator if there is potential to exceed exposure.

**EYE/FACE PROTECTION:** Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

**SKIN PROTECTION:** Use impermeable gloves and protective clothing as necessary to prevent skin contact.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICAL STATE</td>
<td>Liquid</td>
</tr>
<tr>
<td>COLOR</td>
<td>White</td>
</tr>
<tr>
<td>ODOR</td>
<td>Slight</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH</td>
<td>Not Available</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>Negligible vapor pressure at ambient temperature</td>
</tr>
<tr>
<td>BOILING POINT/RANGE</td>
<td>Not determined</td>
</tr>
<tr>
<td>MELTING POINT/RANGE</td>
<td>Not Available</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>1.21</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>&gt;1.0 (Air=1)</td>
</tr>
<tr>
<td>FLASH POINT</td>
<td>&gt;93.3°C (199.94°F)</td>
</tr>
<tr>
<td>FLAMMABLE/EXPLOSIVE LIMITS - LOWER</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>FLAMMABLE/EXPLOSIVE LIMITS - UPPER</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>AUTOIGNITION TEMPERATURE</td>
<td>Not Available</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>Not Available</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>Insoluble</td>
</tr>
<tr>
<td>PARTITION COEFFICIENT (N-OCTANOL/WATER)</td>
<td>Not Available</td>
</tr>
<tr>
<td>VOC CONTENT</td>
<td>5.8 g/l</td>
</tr>
</tbody>
</table>
SECTION 10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions of storage and use.
HAZARDOUS REACTIONS: None under normal processing.
INCOMPATIBLE MATERIALS: Strong oxidizing agents. Strong acids and strong bases.
CONDITIONS TO AVOID: Elevated temperatures. Store away from incompatible materials.

SECTION 11. TOXICOLOGICAL INFORMATION

HAZARDOUS COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>NPT CARCINOGEN</th>
<th>IARC CARCINOGEN</th>
<th>OSHA CARCINOGEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Silica, amorphous, fumed, chrysalis-free</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

HEALTH EFFECTS/TARGET ORGANS

<table>
<thead>
<tr>
<th>Component</th>
<th>Health Effect</th>
<th>Target Organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>Allergen, Irritant</td>
<td></td>
</tr>
<tr>
<td>Silica, amorphous, fumed, chrysalis-free</td>
<td>Nuisance Dust</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Do not empty into drains/surface water/ground water.

SECTION 13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.
RECOMMENDED METHOD OF DISPOSAL: Follow all local, state, federal and provincial regulations for disposal.
HAZARDOUS WASTE NUMBER: Not a RCRA hazardous waste.

SECTION 14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION GROUND (49CFR)

PROPER SHIPPING NAME: Not Regulated
HAZARD CLASS OR DIVISION: None
IDENTIFICATION NUMBER: None
PACKING GROUP: None

INTERNATIONAL AIR TRANSPORTATION (ICAO/IATA)

PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, n. o. s. (Epoxy resin)
HAZARD CLASS OR DIVISION: 9
IDENTIFICATION NUMBER: UN3082
PACKING GROUP: III

WATER TRANSPORTATION (IMO/IMDG)

PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, n. o. s. (Epoxy resin)
HAZARD CLASS OR DIVISION: 9
IDENTIFICATION NUMBER: UN3082
PACKING GROUP: III
MARINE POLLUTANT: Epoxy resin
**SECTION 10. STABILITY AND REACTIVITY**

**STABILITY:**
Stable under normal conditions of storage and use.

**HAZARDOUS REACTIONS:**
None under normal processing.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

**INCOMPATIBLE MATERIALS:**
Strong oxidizing agents. Strong acids and strong bases.

**CONDITIONS TO AVOID:**
Elevated temperatures. Store away from incompatible materials.

**SECTION 11. TOXICOLOGICAL INFORMATION**

**HAZARDOUS COMPONENTS**

<table>
<thead>
<tr>
<th>Component</th>
<th>NPT CARCINOGEN</th>
<th>IARC CARCINOGEN</th>
<th>OSHA CARCINOGEN (Specifically Regulated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Silica, amorphous, fumed, chrystal-free</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

**HEALTH EFFECTS/TARGET ORGANS**

<table>
<thead>
<tr>
<th>Component</th>
<th>Allergen, Irritant</th>
<th>Nuisance Dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silica, amorphous, fumed, chrystal-free</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 12. ECOLOGICAL INFORMATION**

**ECOLOGICAL INFORMATION:**
Do not empty into drains/surface water/ground water.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Information provided is for unused product only.

**RECOMMENDED METHOD OF DISPOSAL:**
Follow all local, state, federal and provincial regulations for disposal.

**HAZARDOUS WASTE NUMBER:**
Not a RCRA hazardous waste.

**SECTION 14. TRANSPORTATION INFORMATION**

**U.S. DEPARTMENT OF TRANSPORTATION GROUND (49CFR)**

<table>
<thead>
<tr>
<th>PROPER SHIPPING NAME:</th>
<th>Not Regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARD CLASS OR DIVISION:</td>
<td>None</td>
</tr>
<tr>
<td>IDENTIFICATION NUMBER:</td>
<td>None</td>
</tr>
<tr>
<td>PACKING GROUP:</td>
<td>None</td>
</tr>
</tbody>
</table>

**INTERNATIONAL AIR TRANSPORTATION (ICAO/IATA)**

<table>
<thead>
<tr>
<th>PROPER SHIPPING NAME:</th>
<th>Environmentally hazardous substance, liquid, n. o. s. (Epoxy resin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARD CLASS OR DIVISION:</td>
<td>9</td>
</tr>
<tr>
<td>IDENTIFICATION NUMBER:</td>
<td>UN3082</td>
</tr>
<tr>
<td>PACKING GROUP:</td>
<td>III</td>
</tr>
</tbody>
</table>

**WATER TRANSPORTATION (IMO/IMDG)**

<table>
<thead>
<tr>
<th>PROPER SHIPPING NAME:</th>
<th>Environmentally hazardous substance, liquid, n. o. s. (Epoxy resin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARD CLASS OR DIVISION:</td>
<td>9</td>
</tr>
<tr>
<td>IDENTIFICATION NUMBER:</td>
<td>UN3082</td>
</tr>
<tr>
<td>PACKING GROUP:</td>
<td>III</td>
</tr>
</tbody>
</table>

**MARINE POLLUTANT:**
Epoxy resin
SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Employees should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

HAZARDOUS COMPONENT

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>AIHA WEEL</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxy resin</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Silica, amorphous, fumed, crystal-free dust</td>
<td>10 mg/m³ TWA inhalable Respirable fraction</td>
<td>20 MPPCF TWA</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

ENGINEERING CONTROLS: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

RESPIRATOR PROTECTION: Use NIOSH approved respirator if there is potential to exceed exposure.

EYE/FACE PROTECTION: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.

SKIN PROTECTION: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICAL STATE</td>
<td>Liquid</td>
</tr>
<tr>
<td>COLOR</td>
<td>White</td>
</tr>
<tr>
<td>ODOR</td>
<td>Slight</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH</td>
<td>Not Available</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>Negligible vapor pressure at ambient temperature</td>
</tr>
<tr>
<td>BOILING POINT/RANGE</td>
<td>Not determined</td>
</tr>
<tr>
<td>MELTING POINT/RANGE</td>
<td>Not Available</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>1.21</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>&gt;1.0 (Air=1)</td>
</tr>
<tr>
<td>FLASH POINT</td>
<td>&gt;93.3°C (199.94°F)</td>
</tr>
<tr>
<td>FLAMMABLE/EXPLOSIVE LIMITS - LOWER</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>FLAMMABLE/EXPLOSIVE LIMITS - UPPER</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>AUTOIGNITION TEMPERATURE</td>
<td>Not Available</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>Not Available</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>Insoluble</td>
</tr>
<tr>
<td>PARTITION COEFFICIENT (N-OCTANOL/WATER)</td>
<td>Not Available</td>
</tr>
<tr>
<td>VOC CONTENT</td>
<td>5.8 g/l</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES CONTINUED

EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

INGESTION: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5. FIREFIGHTING MEASURES

FLASH POINT: >93.3°C (>199.94°F)
AUTOIGNITION TEMPERATURE: Not Available
FLAMMABLE/EXPLOSIVE LIMITS - LOWER: Not applicable
FLAMMABLE/EXPLOSIVE LIMITS - UPPER: Not applicable
EXTINGUISHING MEDIA: Water spray (fog), foam, dry chemical or carbon dioxide. Do not use high volume water jet.
SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus and full protection clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.
UNUSUAL FIRE OR EXPLOSION HAZARD: Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the affected area and deny entry to unnecessary and unprotected equipment.

ENVIRONMENTAL PRECAUTIONS: Do not allow product to enter sewer or waterways.
CLEAN-UP METHODS: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universe binder, sawdust). Store in a partly filled, closed container until disposal. Refer to Section 8 "Exposure Controls/Personal Protection" prior to clean-up.

SECTION 7. HANDLING AND STORAGE

HANDLING: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breath vapor and mist. Wash thoroughly after handling. Refer to Section 8.
STORAGE: Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.
The information contained herein is based upon data considered true and accurate. However, OMEGA makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user’s consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of OMEGA, OMEGA assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to OMEGA’s Terms and Conditions of Sale, including those limiting warranties and remedies contained herein, it is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.

© Copyright 2013 OMEGA ENGINEERING, INC., ALL RIGHTS RESERVED. PRINTED IN U.S.A.
SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: OMEGABOND 101 (Part B)

CHEMICAL FAMILY: Epoxy Adhesive (Hardener)

GENERAL DESCRIPTION: Two-part Epoxy Resin; “B” Component (White)

SUPPLIER: OMEGA Engineering, Inc.

ADDRESS: PO Box 4047
Stamford, CT 06907

TELEPHONE: (203) 359-1660

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!
Possible cancer hazard.
CORROSIVE. CAUSES SEVERE OR PERMANENT DAMAGE TO THE EYES.
SEVERE SKIN IRRITANT. MAY CAUSE PERMANENT DAMAGE.
HARMFUL IF INHALED. EYE IRRITANT.
HARMFUL IF SWALLOWED. RESPIRATORY SENSITIZER.
SKIN SENSITIZER. White Paste Amine Odor

EYE: Extremely severe irritant/corrosive. May cause severe burns which could lead to permanent damage or total loss of vision. The vapor and the liquid may cause burning, intense irritation and excessive watering of the eye.

SKIN CONTACT: Severely irritating; may cause permanent skin damage. Can be rapidly absorbed through skin. Repeated and/or prolonged contact may cause skin sensitization.

INHALATION: Vapor or aerosol, if generated, can cause irritation of the eyes, nose, and respiratory tract. Possible respiratory sensitizer. Avoid breathing vapors or mists. Exposure to high concentrations may produce lung damage.

INGESTION: Severe irritation to mouth, throat, and stomach.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY: Formulated Epoxy Resin

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS NUMBER</th>
<th>CONCENTRATION (% by weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>&gt;50</td>
</tr>
<tr>
<td>3,3’ Oxybis(ethylenoxy)bis(propylamine)</td>
<td>4246-51-9</td>
<td>10-20</td>
</tr>
<tr>
<td>Epoxy resin</td>
<td>PROPRIETARY</td>
<td>5-10</td>
</tr>
<tr>
<td>Silicon dioxide, crystaline free</td>
<td>112945-52-5</td>
<td>1-5</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>&lt;0.5</td>
</tr>
</tbody>
</table>

The information contained herein is based upon data considered true and accurate. However, OMEGA makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of OMEGA, OMEGA assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to OMEGA's Terms and Conditions of Sale, including those limiting warranties and remedies contained herein, it is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.
SECTION 4. FIRST AID MEASURES

EYE: Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

SKIN CONTACT: Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. Obtain immediate medical attention.

INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention.

INGESTION: If individual is conscious, give water to dilute stomach contents. Get prompt medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

AUTOIGNITION: Not Available

FLASH POINT: >200°F

EXTINGUISHING MEDIA: CO₂; Dry Chemical; Water Spray

SPECIAL FIREFIGHTER PROCEDURES: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

FIRE & EXPLOSION HAZARDS: A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

HAZARDOUS COMBUSTIBLE PRODUCTS: Carbon dioxide, carbon monoxide, oxides of nitrogen and unknown organics. Aldehydes

LOWER EXPLOSION LIMIT (%): Not Applicable

HIGHER EXPLOSION LIMIT (%): Not Applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Absorb spillages onto sand, earth, or any suitable absorbent material. Sweep up and shovel into waste drums. Wash the spillage area with water.

For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

SECTION 14. TRANSPORTATION INFORMATION (CON’T)

The information provided herein may not include the impact of additional regulatory requirements (e.g., for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/or marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

SECTION 15. REGULATORY INFORMATION

TSCA: All components are on the TSCA inventory

Canadian Domestic Substance List (DSL): Is on DSL

China (IECSC): On the IECSC Inventory

Philippines (PICCS): On the PICCS Inventory

EINECS: All components of this product are listed in EINECS or ELINCS, or otherwise exempt from EU notification requirements.

SARA - Section 313 (Superfund Amendments and Reauthorization act of 1986 - 40CFR 372)

COMPONENT
Aluminum oxide
CAS NUMBER 1344-28-1

CALIFORNIA PROPOSITION 65
WARNING: This product contains following chemicals that are known to the state of California to cause cancer, birth defects or other reproductive harm. Unless a concentration is specified in Section 2 of the MSDS, the below chemical/s are present in trace amounts.

COMPONENT
Phenyl glycidyl ether
Epichlorohydrin
CAS NUMBER
122-60-1
106-89-8
SECTION 7. HANDLING AND STORAGE

STORAGE TEMPERATURE: 25°C
SHELF LIFE (Days): 365
HANDLING/STORAGE: Store in cool, dry place. Keep in a well ventilated place.
SENSITIVITY TO STATIC ELECTRICITY: No
SPECIAL SENSITIVITY: Keep away from heat.
SENSITIVITY TO MECHANICAL IMPACT: No

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>10 mg/m3 PEL (total dust); 5 mg/m3 PEL (respirable fraction, listed under Particulates not otherwise regulated)</td>
<td>15 mppcf TWA (respirable fraction); 5 mg/m3 TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m3 TWA (total dust)</td>
</tr>
<tr>
<td>Silicon dioxide, crystalline free</td>
<td>10 mg/m3 PEL (total dust); 5 mg/m3 PEL (respirable fraction, listed under Particulates not otherwise regulated)</td>
<td>15 mppcf TWA (respirable fraction); 5 mg/m3 TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m3 TWA (total dust)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>10 mg/m3 TWA</td>
<td>15 mg/m3 TWA (total dust)</td>
</tr>
</tbody>
</table>

VENTILATION REQUIREMENTS: Local exhaust.
EYE PROTECTION REQUIREMENTS: Wear safety glasses with side shields.
GLOVE REQUIREMENTS: The use of chemically resistant gloves is recommended.
CLOTHING REQUIREMENTS: Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.
CHANGE/REMOVAL OF CLOTHING: Remove contaminated clothing and launder before reuse.
WASH REQUIREMENTS: Wash before eating, drinking, or using toilet facilities.
RESPIRATOR REQUIREMENTS: Local exhaust.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PURE SUBSTANCE OR MIXTURE: Mixture
PHYSICAL FORM: Paste
COLOR: White
ODOR: Amine
ODOR THRESHOLD: Not Available
OXIDIZING PROPERTIES: Not Applicable
SOLUBILITY IN WATER: Soluble
PARTITION COEFFICIENT (n-octanol/water): Not determined
SPECIFIC GRAVITY (Water=1): 2.000
EVAPORATION RATE: Not Applicable
VAPOR PRESSURE (mmHg): Negligible @ 25°C
VAPOR DENSITY (air=1): Not Applicable
VOLATILES: Negligible
VOLATILE ORGANIC COMPOUNDS: Negligible
AUTOIGNITION: Not Available
FLASH POINT: >200°F

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable
Stability Detail: Material is stable under normal storage temperatures and pressures.
Materials to Avoid: Strong oxidizers, Strong Lewis acids, Mineral acids
Conditions to Avoid: Elevated Temperatures
Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen and unknown organics. Aldehydes

SECTION 11. TOXICOLOGICAL INFORMATION

Route of Entry: Skin Contact; Eye Contact; Ingestion
CARCINOGEN IARC NTP OSHA SUBSTANCE

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>IARC (group)</th>
<th>NTP</th>
<th>OSHA SUBSTANCE Specific Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Yes (2B)</td>
<td>No</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

CHRONIC (Long Term) EFFECTS OF EXPOSURE

TARGET ORGANS:
Eyes; Skin; Respiratory system.

RESPIRATORY SENSITIZATION:
Sensitizer. May cause allergic reaction.

SKIN SENSITIZATION:
Sensitizer. May cause allergic reaction.

PRODUCT TOXICOLOGY:
This health hazard assessment is based on consideration of the composition of this product.

PRODUCT INFORMATION:

COMPONENT ORAL TOXICITY NOTES ON ORAL TOXICITY

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ORAL TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>No hazard in normal industrial use. Ingestion may cause irritation of the gastrointestinal tract. Non-toxic.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DERMAL TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>Slight/mild irritant. Corrosive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DERMAL TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxybis (ethyleneoxy) bis(propylamine)</td>
<td>Corrosive to mouth, throat and stomach.</td>
</tr>
<tr>
<td>Epoxy Resin</td>
<td>Unlikely to be hazardous if swallowed.</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>Unlikely to be hazardous if swallowed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DERMAL TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>Slight/mild irritant.</td>
</tr>
<tr>
<td>Oxybis (ethyleneoxy) bis(propylamine)</td>
<td>Corrosive</td>
</tr>
<tr>
<td>Epoxy Resin</td>
<td>Repeat or prolonged skin contact may result in moderate irritation. Repeat and/or prolonged contact may cause skin sensitization.</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>May cause mechanical irritation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DERMAL TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>Dust may cause irritation. Inhalation of dust or vapor may cause severe irritation to the nasal passages and/or the respiratory and/or the respiratory sysm.</td>
</tr>
</tbody>
</table>

Inhalation Toxicity Notes on Inhalation Toxicity: Dust may cause irritation. Inhalation of dust or vapor may cause severe irritation to the nasal passages and/or the respiratory and/or the respiratory system.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

MIXTURE OR SUBSTANCE: Mixture

PHYSICAL FORM: Paste
COLOR: White
ODOR: Amine
ODOR THRESHOLD: Not Available
OXIDIZING PROPERTIES: Not Applicable
SOLUBILITY IN WATER: Soluble
PARTITION COEFFICIENT (n-octanol/water): Not determined
SPECIFIC GRAVITY (Water=1): 2.000
EVAPORATION RATE: Not Applicable
VAPOR PRESSURE (mmHg): Negligible @ 25°C
VAPOR DENSITY (air=1): Not Applicable
VOLATILES: Negligible
VOLATILE ORGANIC COMPOUNDS: Negligible
AUTOIGNITION: Not Available
FLASH POINT: >200°F

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable
Stability Detail: Material is stable under normal storage temperatures and pressures.

Materials to Avoid: Strong oxidizers, Strong Lewis acids, Mineral acids
Conditions to Avoid: Elevated Temperatures
Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen and unknown organics. Aldehydes

SECTION 11. TOXICOLOGICAL INFORMATION

Route of Entry: Skin Contact; Eye Contact; Ingestion

Carcinogen: 

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>IARC (group)</th>
<th>NTP</th>
<th>OSHA SUBSTANCE Specific Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>Yes (2B)</td>
<td>No</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

CHRONIC (Long Term) EFFECTS OF EXPOSURE

TARGET ORGANS: Eyes; Skin; Respiratory system.
RESPIRATORY SENSITIZATION: Sensitizer. May cause allergic reaction.
SKIN SENSITIZATION: Sensitizer. May cause allergic reaction.
PRODUCT TOXICOLOGY:
PRODUCT INFORMATION:

COMPONENT ORAL TOXICITY

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ORAL TOXICITY</th>
<th>NOTES ON ORAL TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>Oral LD50: Rat 3160 mg/kg</td>
<td>No hazard in normal industrial use. Ingestion may cause irritation of the gastrointestinal tract. Non-toxic.</td>
</tr>
<tr>
<td>3.3'-Oxybis (ethyleneoxy) bis(propylamine)</td>
<td>Oral LD50: Rat &gt;5000 mg/kg</td>
<td>Unlikely to be hazardous if swallowed.</td>
</tr>
<tr>
<td>Epoxy Resin</td>
<td>Oral LD50: Rat &gt;10000 mg/kg</td>
<td>Unlikely to be hazardous if swallowed.</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>Oral LD50: Rat &gt;10000 mg/kg</td>
<td>Unlikely to be hazardous if swallowed.</td>
</tr>
</tbody>
</table>

COMPONENT DERMAL TOXICITY

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DERMAL TOXICITY</th>
<th>NOTES ON DERMAL TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>Dermal LD50: Rat &gt;2500 mg/kg</td>
<td>Slight/mild irritant.</td>
</tr>
<tr>
<td>3.3'-Oxybis (ethyleneoxy) bis(propylamine)</td>
<td>Dermal LD50: Rat &gt;2150 mg/kg</td>
<td>Corrosive</td>
</tr>
<tr>
<td>Epoxy Resin</td>
<td>Dermal LD50: Rat &gt;6000 mg/kg</td>
<td>Repeat or prolonged skin contact may result in moderate irritation. Repeat and/or prolonged contact may cause skin sensitization.</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>Dermal LD50: Rabbit &gt;10000 mg/kg</td>
<td>May cause mechanical irritation.</td>
</tr>
</tbody>
</table>

COMPONENT INHALATION TOXICITY

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>INHALATION TOXICITY</th>
<th>NOTES ON INHALATION TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>Dust may cause irritation. Inhalation of dust or vapor may cause severe irritation to the nasal passages and/or the respiratory system.</td>
<td>Dust may cause irritation. Inhalation of dust or vapor may cause severe irritation to the nasal passages and/or the respiratory system.</td>
</tr>
<tr>
<td>3.3'-Oxybis (ethyleneoxy) bis(propylamine)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 of 8
SECTION 7. HANDLING AND STORAGE

STORAGE TEMPERATURE: 25°C
SHELF LIFE (Days): 365
HANDLING/STORAGE: Store in cool, dry place. Keep in a well ventilated place.
SENSITIVITY TO STATIC ELECTRICITY: No
SPECIAL SENSITIVITY: Keep away from heat.
SENSITIVITY TO MECHANICAL IMPACT: No

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT | EXPOSURE LIMITS | OSHA | Mfg Working Standard
--- | --- | --- | ---
Aluminum oxide | 10 mg/m³ PEL (total dust); 5 mg/m³ PEL (respirable fraction | 15 mppcf TWA (respirable fraction); 5 mg/m³ TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m³ TWA (total dust) | Manufacturer; 6 mg/m³
Silicon dioxide, crystalline free | 10 mg/m³ PEL (total dust); 5 mg/m³ PEL (respirable fraction, listed under Particulates not otherwise regulated) | 15 mppcf TWA (respirable fraction); 5 mg/m³ TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m³ TWA (total dust) | 15 mg/m³ TWA (total dust)

SECTION 11. TOXICOLOGICAL INFORMATION (CONT’D)

Epoxy Resin | Likely to be hazardous by inhalation because of the low vapor pressure of the material at ambient temperature.
Titanium dioxide | Inhalation LC₅₀ (4hr); Rat. 6.8 mg/l

COMPONENT | NOTES ON EYE IRRITATION
--- | ---
Aluminum oxide | Slight/mild irritant. Particulates may scratch eye surfaces and cause mechanical irritation.
3.3’-Oxybis (ethyleneoxy) bis (propylamine) | Extremely severe irritant/corrosive. May cause severe burns which could lead to permanent damage or total loss of vision.
Epoxy Resin | May cause eye irritation. Particulates may scratch eye surfaces and cause mechanical irritation.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Disposal should be in accordance with local, state, or national legislation.
EMPTY CONTAINER WARNINGS: Empty containers may contain product residue; follow MSDS and label warnings even after they have been emptied.

SECTION 14. TRANSPORTATION INFORMATION

This section provided for general information only. The shipping description below may not represent requirements for all modes of transportation, packaging, shipping methods or locations outside the United States.
FOR MORE COMPLETE TRANSPORTATION REGULATORY INFORMATION PLEASE REFER TO THE SHIPPING DOCUMENTS ACCOMPANYING THE SHIPMENT OF THIS PRODUCT.
DOT CLASSIFICATION: Not Regulated

EYE PROTECTION REQUIREMENTS: Wear safety glasses with side shields.
GLOVE REQUIREMENTS: The use of chemically resistant gloves is recommended.
CLOTHING REQUIREMENTS: Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.
CHANGE/REMOVAL OF CLOTHING: Remove contaminated clothing and launder before reuse.
WASH REQUIREMENTS: Wash before eating, drinking, or using toilet facilities.
RESPIRATOR REQUIREMENTS: Local exhaust.
SECTION 4. FIRST AID MEASURES

EYE: Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

SKIN CONTACT: Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. Obtain immediate medical attention.

INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention.

INGESTION: If individual is conscious, give water to dilute stomach contents. Get prompt medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

AUTOIGNITION: Not Available
FLASH POINT: >200°F
EXTINGUISHING MEDIA: CO2; Dry Chemical; Water Spray
SPECIAL FIREFIGHTER PROCEDURES: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

FIRE & EXPLOSION HAZARDS: A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

HAZARDOUS COMBUSTIBLE PRODUCTS: Carbon dioxide, carbon monoxide, oxides of nitrogen and unknown organics. Aldehydes

LOWER EXPLOSION LIMIT (%): Not Applicable
HIGHER EXPLOSION LIMIT (%): Not Applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES: Absorb spillages onto sand, earth, or any suitable absorbent material. Sweep up and shovel into waste drums. Wash the spillage area with water.

For safety and environmental precautions, please review entire Material Safety Data Sheet for necessary information.

SECTION 14. TRANSPORTATION INFORMATION (CON’T)

The information provided herein may not include the impact of additional regulatory requirements (eg., for materials meeting the definition of a hazardous waste under RCRA, hazardous substances under CERCLA, and/or marine pollutants under CWA or other similar federal, state or local laws) or any associated exceptions or exemptions under regulations applicable to the transport of this material.

SECTION 15. REGULATORY INFORMATION

TSCA: All components are on the TSCA inventory
Canadian Domestic Substance List (DSL): Is on DSL
China (IECSC): On the IECSC Inventory
Philippines (PICCS): On the PICCS Inventory
EINECS: All components of this product are listed in EINECS or ELINCS, or otherwise exempt from EU notification requirements.

SARA - Section 313 (Superfund Amendments and Reauthorization act of 1986 - 40CFR 372)

COMPONENT | CAS NUMBER
--- | ---
Aluminum oxide | 1344-28-1

CALIFORNIA PROPOSITION 65

WARNING: This product contains following chemicals that are known to the state of California to cause cancer, birth defects or other reproductive harm. Unless a concentration is specified in Section 2 of the MSDS, the below chemical/s are present in trace amounts.

COMPONENT | CAS NUMBER
--- | ---
Phenyl glycidyl ether | 122-60-1
Epichlorohydrin | 106-89-8
SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: OMEGBOND 101 (Part B)
CHEMICAL FAMILY: Epoxy Adhesive (Hardener)
GENERAL DESCRIPTION: Two-part Epoxy Resin; "B" Component (White)
SUPPLIER: OMEGA Engineering, Inc.
ADDRESS: PO Box 4047
Stamford, CT 06907
TELEPHONE: (203) 359-1660

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!
Possible cancer hazard.
CORROSIVE. CAUSES SEVERE OR PERMANENT DAMAGE TO THE EYES.
SEVERE SKIN IRRITANT. MAY CAUSE PERMANENT DAMAGE.
HARMFUL IF INHALED. EYE IRRITANT.
HARMFUL IF SWALLOWED. RESPIRATORY SENSITIZER.
SKIN SENSITIZER. White Paste Amine Odor

EYE: Extremely severe irritant/Corrosive. May cause severe burns which could lead to permanent damage or total loss of vision. The vapor and the liquid may cause burning, intense irritation and excessive watering of the eye.

SKIN CONTACT: Severely irritating; may cause permanent skin damage. Can be rapidly absorbed through skin. Repeated and/or prolonged contact may cause skin sensitization.

INHALATION: Vapor or aerosol, if generated, can cause irritation of the eyes, nose, and respiratory tract. Possible respiratory sensitizer. Avoid breathing vapors or mists. Exposure to high concentrations may produce lung damage.

INGESTION: Severe irritation to mouth, throat, and stomach.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY: Formulated Epoxy Resin

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS NUMBER</th>
<th>CONCENTRATION (% by weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>&gt;50</td>
</tr>
<tr>
<td>3.3' Oxybis(ethylenoxy)bis(propylamine)</td>
<td>4246-51-9</td>
<td>10-20</td>
</tr>
<tr>
<td>Epoxy resin</td>
<td>PROPRIETARY</td>
<td>5-10</td>
</tr>
<tr>
<td>Silicon dioxide, crystalline free</td>
<td>112945-52-5</td>
<td>1-5</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>&lt;0.5</td>
</tr>
</tbody>
</table>

The information contained herein is based upon data considered true and accurate. However, OMEGA makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user’s consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of OMEGA, OMEGA assumes no responsibility for injury to the user or third persons. The material described herein is sold only pursuant to OMEGA’s Terms and Conditions of Sale, including those limiting warranties and remedies contained herein, it is the responsibility of the user to determine whether any use of this data and information is in accordance with applicable federal, state or local laws and regulations.