

**BREWER SCIENCE INC.
SAFETY DATA SHEET**

This Safety Data Sheet has been prepared to comply with the EC Directive, Canadian WHMIS and the OSHA Hazard Communication Standard.

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION
AND THE COMPANY/UNDERTAKING**

Product Name: WaferBOND® CR-200

Manufacturer: Brewer Science, Inc.
2401 Brewer Drive
Rolla, MO 65401

Information Phone Number: (573) 364-0300 **Fax:** (573) 368-3318

Email: msds@brewerscience.com

Emergency Phone Number:
Chemtrec Domestic North America: 800-424-9300
Chemtrec International: 703-527-3887

SDS Date of Preparation: 1/17/08

Product Use: Temporary Adhesive

SECTION 2: HAZARDS IDENTIFICATION

Clear, colorless liquid with a mild, pleasant odor.

EMERGENCY OVERVIEW: May cause skin, and eye irritation. Aspiration hazard: material may enter the lungs if swallowed and cause lung injury. Inhalation of vapors may cause headache, dizziness, nausea and other symptoms of central nervous system depression. Repeated skin exposure may cause defatting or drying of skin.

EU Preparation Classification (1999/45/EC): Harmful (Xn) R38, R65, R66, R67

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS# / EINECS#	%	EU Classification (67/548/EEC)	CLP Annex VI Classification
1-Dodecene	112-41-4 / 203-968-4	50-60	Xn R38, R65, R66, R67	None Assigned
Polymer Solids	Proprietary	40-50	No EU Classification or R phrase	None Assigned

See Section 16 for further information on EU Classification.

SECTION 4: FIRST AID MEASURES

Eye: Rinse thoroughly with water for at least 15 minutes, holding the eyelids open to be sure the material is washed out. Get immediate medical attention.

Skin: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before re-use.

Inhalation: Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Ingestion: Aspiration hazard: do not induce vomiting. Keep the victim calm and warm. Get immediate medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

Prepared By:	Safety & Environmental Units
Approved By:	Safety & Environmental Units
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Extinguishing Media: Use water fog or spray, foam, carbon dioxide or dry chemical.

Special Fire Fighting Procedures: Wear an approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

Unusual Fire Hazards: Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Vapors may form explosive mixtures with air in confined areas.

Hazardous Decomposition Products: Oxides of carbon and unknown materials.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill: Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed. Ventilate area. Cover with an inert absorbent material and collect into an appropriate container for disposal. Report spills and releases as required to appropriate authorities.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.

Storage: Store in a cool, dry, well-ventilated location away from incompatible materials. Keep containers closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits
1-Dodecene	None Established
Polymer Solids	None Established

Ventilation: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

Respiratory Protection: If needed, an approved respirator with organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

Skin Protection: Impervious gloves are recommended. Suggested materials for protective gloves include: Nitrile Rubber, or Viton.

Eye Protection: Chemical safety goggles recommended if splashing is possible.

Other Protective Equipment: Impervious clothing as needed to prevent skin contact and contamination of personal clothing. An eye wash facility and safety shower should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Clear, colorless liquid with a mild, pleasant odor.

pH: Not available

Boiling Point: 213°C (415°F) (1-Dodecene)

Vapor Pressure: 0.159 mm Hg @ 25°C (1-Dodecene)

Vapor Density: 5.81 (1-Dodecene)

Flash Point: 77.2°C (171°F) (1-Dodecene)

Specific Gravity: Not available

Melting Point: Not Applicable

Water Solubility: No data available

Evaporation Rate: Not available

Flammable Limits: LEL: 0.6 vol % (1-Dodecene)
UEL: 5.4 vol % (1-Dodecene)

SECTION 10: STABILITY AND REACTIVITY

Stability:

Stable: X

Unstable:

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Incompatibility/Conditions to Avoid: Strong oxidizing agents, acids, silver peroxide and reducing agents. Keep away from heat, sparks, flames, and other sources of ignition.

Hazardous Decomposition Products: Combustion will produce oxides of carbon and unknown materials.

Hazardous Polymerization: May Occur: Will not occur: X

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eye: May cause slight to moderate irritation with redness and blurred vision. Corneal injury is unlikely.

Skin: May cause redness, irritation, and dryness. Prolonged or repeated exposure may cause defatting and dermatitis.

Inhalation: Inhalation of vapors, mists or aerosols may cause central nervous system depression with symptoms of headache, dizziness, nausea, drowsiness and unconsciousness may also occur.

Ingestion: Swallowing may cause central nervous system depression with headache, nausea, dizziness and unconsciousness, gastrointestinal irritation with nausea, vomiting and diarrhea and injury to the lungs and brain. Aspiration hazard. May cause lung damage during swallowing or vomiting.

Chronic Hazards: No chronic effects are anticipated.

Carcinogen Status: None of the components of this product are listed as carcinogens by OSHA, IARC, NTP, ACGIH, or the EU Dangerous Substances Directive.

Medical Conditions Aggravated by Exposure: Pre-existing skin diseases.

Acute Toxicity Values:

1-Dodecene: Oral rat LD50- >10,000 mg/kg; Skin rabbit LD50- >10,000 mg/kg; Inhalation rat LC50 >4,400 mg/m³/6 hours
Polymer Solids: No toxicity data available

SECTION 12: ECOLOGICAL INFORMATION

No ecotoxicity data is available. This product is not expected to be harmful to aquatic organisms.

SECTION 13: DISPOSAL INFORMATION

Dispose in accordance with all local, state and federal regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name: Combustible liquid, n.o.s. (1-Dodecene) ERG #128

DOT Hazard Class: Combustible Liquid (Exempted from HazMat in Non-Bulk Packaging)

UN Number: NA1993

DOT Labels Required (49CFR172.101): None

Hazardous Substance (49CFR172.101): None

Reportable Quantity: N/A

IATA Shipping Name: Not Regulated

IATA Hazard Class: None

UN Number: N/A

IATA Hazard Labels Required: None

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

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CERCLA 103 Reportable Quantity: This product is not subject to reporting under CERCLA. Some states have more stringent reporting requirements. Report all spills in accordance with local, state, and federal regulations.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Fire Hazard

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None


EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

STATE REGULATIONS:

California Proposition 65: This product contains the following substances known to the State of California to cause cancer and/or reproductive toxicity: None

INTERNATIONAL REGULATIONS:

European Community Labeling Classification: Contains 1-Dodecene

 Harmful	R38 Irritating to skin. R65 Harmful: may cause lung damage if swallowed. R66 Repeated exposure may cause skin drying or cracking. S24 Avoid contact with skin. S36/37 Wear suitable protective clothing and gloves. S62 If swallowed do not induce vomiting: seek medical advice immediately and show this container of label. S35 This material and its container must be disposed of in a safe way.
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SECTION 16: OTHER INFORMATION

HMIS Ratings: Health – 2 Flammability – 2 Reactivity – 0

NFPA Ratings: Health – 2 Flammability – 2 Reactivity – 0

SDS Revision History:

- 1/17/08: New SDS
- 2/18/09: Changed MSDS to SDS. Updated wording for carcinogen status, California Proposition 65, and CERCLA.
- 3/25/09: Updated Skin Protection statement in Section 8.
- 8/16/10: Added “Contains: 1-Dodecene” under European Community Labeling: in Section 15. Revised S Phrases in Section 15. Revised acute toxicity data in Section 11.
- 9/10/10: Updated EU Classifications in sections 2, 3, 15, 16. Updated Boiling Point in section 9. Updated Hazardous Decomposition Products statement in section 10. Updated Acute Toxicity in section 11. Complete review of SDS. Converted SDS to a Universal GHS format.
- 8/24/12: Updated all sections.

GHS Classification for Reference (See Section 3):

None

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):

- Xn Harmful.
- R38 Irritating to skin.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin drying or cracking.
- R67 Vapors may cause drowsiness and dizziness.

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This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Brewer Science, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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