

**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**

1.1 Product Identifier

Trade Name WaferBOND® Remover
SDS Date of Preparation 1/31/06

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Product Use: Demount Dissolution Fluid

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Brewer Science, Inc.
2401 Brewer Drive
Rolla, MO 65401
Information Phone Number: (573) 364-0300
Fax Number (573) 368-3318
E-mail msds@brewerscience.com

1.4 Emergency Telephone Number

Emergency Spill Information Chemtrec Domestic North America: (800) 424-9300
Chemtrec International: (703) 527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

GHS Classification:

Aspiration Toxicity Category 1
Skin Irritation Category 2
Flammable Liquid Category 4

EU Classification:

Harmful (Xn) R38, R65, R66

2.2 Label Elements

Danger!



Contains: 1-Dodecene

Hazard Phrases

H227	Combustible liquid.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.

Precautionary Phrases

P210	Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
P264	Wash thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection, and face protection.
P301 +	IF SWALLOWED: Immediately call a POISON CENTER or physician.

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P310	
P331	Do NOT induce vomiting.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P362	Take off contaminated clothing and wash before reuse.
P332 + P313	If skin irritation occurs: Get medical attention.
P370 + P378	In case of fire: Use water fog, foam, carbon dioxide or dry chemical for extinction.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local and national regulations.

2.3 Other Hazards: EUH066 Repeated exposure may cause skin dryness or cracking.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS#	EINECS#	EU Classification (67/548/EEC)	CLP Annex VI Classification	%
1-Dodecene	112-41-4	203-968-4	Xn R38, R65, R66	Asp. Tox 1 (H304), Skin Irrit. 2,(H315), Flam Liq. 4 (H227), EUH066	>95%

See Section 16 for further information on EU and GHS Classification.

SECTION 4: FIRST AID MEASURES

4.1 Description of 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.

4.2 Most Important symptoms and effects, both acute and delayed: Causes skin irritation. Vapors may cause dizziness, drowsiness and other central nervous systems effects. May cause aspiration during swallowing or vomiting.

4.3 Indication of any immediate medical attention and special treatment needed: None known

SECTION 5: FIRE AND EXPLOSION DATA

5.1 Extinguishing Media: Use water fog, foam, carbon dioxide or dry chemical.

5.2 Special Hazards Arising from the Substance or Mixture

Unusual Fire and Explosion 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.

Composition Products: Oxides of carbon.

5.3 Advice for Fire-Fighters:

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

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

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.

6.2 Environmental Precautions:

Report spills and releases as required to appropriate authorities.

6.3 Methods and Material for Containment and Cleaning Up:

Cover with an inert absorbent material and collect into an appropriate container for disposal

6.4 Reference to Other Sections: None

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe 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.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, dry, well-ventilated location away from incompatible materials. Keep containers closed when not in use.

7.3 Specific end use(s): Industrial use only

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

Chemical Name	Exposure Limits
1-Dodecene	None Established

8.2 Exposure Controls:

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, for 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.

Other Protective Equipment: Impervious clothing is required 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

9.1 Information on basic Physical and Chemical Properties

Appearance: Clear, colorless liquid	Vapor Density: 5.81
Odor: Mild, pleasant odor.	Specific Gravity: 0.76 @ 15.6°C (60°F)
Odor Threshold: No data available	Solubility: Insoluble
pH: No data available	Octanol/Water Partition Coefficient: No data available
Melting Point/Freezing Point: -35°C (-31°F)	Autoignition Temperature: 225°C (437°F)
Boiling Point: 213°C	Decomposition Temperature: No data available
Flash Point: 77.2°C (171°F)	Viscosity: 0.67 cST @ 100°C

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Evaporation Rate: No data available	Explosive Properties: No data available
Flammable Limits: LEL: 0.6 vol % UEL: 5.4 vol %	Oxidizing Properties: None
Vapor Pressure: 1 mm Hg @ 50°C	Relative Density : No data available
Molecular Formula: C ₁₂ H ₂₄	Flammability (solid, gas): Not applicable
Molecular Weight : 168 g/mol	

9.2 Other Information: None available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: Not reactive

10.2 Chemical Stability: Stable

10.3 Possibility of Hazardous Reactions: Will not occur.

10.4 Conditions to Avoid: Keep away from heat, sparks, flames and other sources of ignition.

10.5 Incompatible Materials: Strong oxidizing agents.

10.6 Hazardous Decomposition Products: Combustion will produce oxides of carbon.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

Potential Health Effects:

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

Skin: Cause skin irritation with 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.

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

Skin corrosion/irritation: 1-Dodecene: Irritating to the skin.

Eye damage/irritation: 1-Dodecene: Not expected to cause eye irritation.

Respiratory Irritation: No data available.

Respiratory Sensitization: No data available.

Skin Sensitization: 1-Dodecene: Non-sensitizing in Buehler guinea pig test.

Germ Cell Mutagenicity: 1-Dodecene: Negative in Ames test, in vitro chromosome aberrations in rat liver cells, and mitotic gene conversion assay.

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

Reproductive Toxicity: No data is available.

Specific Target Organ Toxicity:

Single Exposure: No data available

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Repeat Exposure: No data is available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

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

12.2 Persistence and Degradability: 1-Dodecene: This product is expected to readily biodegradable.

12.3 Bioaccumulative Potential: No data available

12.4 Mobility in Soil: No data available

12.5 Results of PBT and vPvB Assessment: No data available

12.6 Other Adverse Effects: Not applicable

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

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

SECTION 14: TRANSPORTATION INFORMATION

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Hazard Class(s)	14.4 Packing Group	14.5 Environmental Hazards
US DOT	NA1993	Combustible Liquid, n.o.s. (1-Dodecene) *	Combustible Liquid	Not applicable	Not applicable
Canadian TDG	None	Not Regulated	None	Not applicable	Not applicable
EU ADR/RID	None	Not Regulated	None	Not applicable	Not applicable
IMDG	None	Not Regulated	None	Not applicable	Not applicable
IATA/ICAO	None	Not Regulated	None	Not applicable	Not applicable

*Excepted from HazMat in Non-Bulk Packaging

14.6 Special Precautions for User: Not applicable

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environment Regulations/Legislation Specific for the Substance or Mixture:

U.S. FEDERAL REGULATIONS:

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

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

STATE REGULATIONS:

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

INTERNATIONAL REGULATIONS:

REACH: Brewer products comply with REACH regulation as applicable. For more information, contact the Brewer REACH coordinator.

Chemical Safety Assessment: No data available

SECTION 16: OTHER INFORMATION

HMIS Ratings: Health - 1 Flammability - 2 Reactivity - 0
NFPA Ratings: Health - 1 Flammability - 2 Reactivity - 0

SDS Revision History:

1/31/06: New SDS
12/18/08: Updated format for REACH. Removing references to NIOSH. Changed wording for respiratory protection, carcinogen status, CERCLA, and California Proposition 65. Changed MSDS to SDS.
3/25/09: Updated Skin Protection statement in Section 8.
5/28/10 Revised Proper Shipping Name
9/14/10: Complete review of SDS. Converted SDS to a Universal GHS SDS.
12/20/12: Updated format.

GHS Classification for Reference (See Sections 2 and 3):

Asp. Tox 1 Aspiration Hazard Category 1
Skin Irrit. 2 Skin Irritation Category 2
Flam Liq 4 Flammable Liquid Category 4
H227 Combustible liquid.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
EUH066 Repeated exposure may cause skin dryness or cracking.

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 dryness or cracking

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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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