



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product name	Durabond D332 Adhesive Series
Product name(s) covered	See Section 16 for Product Names Covered.
MSDS name	Durabond D332 Hardwood Adhesive Series
CAS number	Mixture
Product use	Hardwood Adhesive
Generic description	Polyurethane Sealant/Adhesive
Manufacturer	Bostik, Inc. 211 Boston Street Middleton, MA 01949 USA
24 hour emergency assistance	Telephone: 1-800-227-0332
General assistance	Telephone: 1-978-777-0100
MSDS assistance	Telephone: 1-414-607-1347

2. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous component(s)	CAS #	Percent
Stoddard solvent	8052-41-3	3 - 7
Methylene Diphenyl Isocyanate (MDI)	101-68-8	0.1 - 1

3. HAZARDS IDENTIFICATION

Emergency overview	<p>This product is irritating to the eyes and skin. Thermal decomposition/burning may produce toxic gases and fumes. Closed containers may rupture when exposed to high temperatures, or when the product has been contaminated with water.</p> <p>Avoid breathing hot mists and vapors. This product contains a respiratory and skin sensitizer. Causes respiratory tract irritation and may cause allergic respiratory reaction. May cause permanent respiratory damage. Product vapors are potentially irritating to skin. May cause allergic skin reaction and dermatitis.</p>
Potential health effects	
Skin	Skin contact may cause irritation. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering. Individuals previously sensitized to this material may experience these symptoms from exposure to very small amounts of liquid or vapor.
Eyes	This product may cause irritation to the eyes. May cause temporary corneal injury.
Inhalation	Single large does, and/or repeated exposures, may lead to sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms), causing an individual to experience adverse effects at exposure levels well below exposure limits or guidelines. Symptoms may include chest tightness, wheezing, shortness of breath, coughing or asthmatic attack, and may be delayed up to several hours. Extreme asthmatic reactions can be life threatening. Once sensitized, an individual may experience adverse symptoms upon exposure to dust, cold air or other irritants. Sensitization can last several months, years or be permanent in some cases.
Ingestion	May cause irritation and corrosive action in the mouth, throat and digestive tract.
Target organs	The lungs and skin may be targeted and damaged by components of this product.
Signs and symptoms of overexposure	Signs and symptoms of overexposure to this product include headache, irritation of upper respiratory tract, asthmatic symptoms, chest tightness, breathing difficulty, coughing, sore throat, eye irritation, skin irritation and/or diarrhea.
Hazard statements	This product contains Methylene Diphenyl Isocyanate (MDI) which is a potential skin sensitizer and has been shown to alter cells in certain experiments. Although inconclusive, these cellular changes are thought to indicate potential carcinogenicity. Risk to your health depends on duration and concentration of exposure.

4. FIRST AID MEASURES

First aid

Skin	For skin contact, wash immediately with soap and water. For severe exposure, immediately get under a safety shower and begin rinsing.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes.
Inhalation	Remove to fresh air. Administer oxygen or artificial respiration as needed.
Ingestion	If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Notes to physician	Treat symptomatically and supportively. Contact Bostik to determine whether any additional information is available.

Eyes: Stain for evidence of corneal injury. If cornea is burned, apply antibiotic/steroid preparation as needed.

Skin: This product contains a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically.

Inhalation: This material contains a known pulmonary sensitizer. Any individual experiencing dermal or pulmonary sensitization should be removed from exposure to any diisocyanate. May aggravate existing heart conditions, particularly those with abnormal heart rhythms. If overexposure to the solvents in this product is suspected, testing should include nervous system and brain effects including recent memory, mood, concentration, headaches and altered sleep patterns. Liver and kidney function should be evaluated. This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

5. FIRE FIGHTING MEASURES

Hazardous combustion products	Additional decomposition products include oxides of nitrogen, amines, hydrogen cyanide and isocyanate-containing compounds.
Extinguishing media	Use dry chemical, carbon dioxide, foam, or water spray (fog).
Dust explosion hazard	None Known
Sensitivity to mechanical impact	None Known
Sensitivity to static discharge	None Known
Fire fighting equipment/instructions	Firefighters should wear NFPA compliant structural fire fighting protective equipment, including a self-contained breathing apparatus, helmet, hood, boots and gloves. Avoid contact with isocyanates. During a fire, isocyanate vapors and other irritating and highly toxic gases may be produced.
Flash point	> 142 °F (> 61.1 °C)

6. ACCIDENTAL RELEASE MEASURES

Emergency action	Appropriate safety measures and protective equipment should be used. See Section 8. Do not discharge to lakes, streams, ponds, or sewers. Dispose of in compliance with local, state, and federal regulations.
Spill or leak procedure	Scrape up paste and place in steel drums that are in good condition. Thoroughly clean area where spill occurred.
Containment	Isolate spill area. Stop discharge if safe to do so. Stop material from contaminating soil or from entering sewers or water streams. Liquid spills: Cover spills with absorbent clay or sawdust and collect material in open container and neutralize with a solution containing 2% liquid detergent, 3% concentrated ammonium hydroxide and 95% water. Wash spill area clean with the neutralization solution. Remove container to a safe place, cover loosely and allow to stand for 24 to 48 hours letting evolved carbon dioxide escape. Pellet or chip spill: Collect and contain for salvage or disposal. Molten adhesive spill: Placard hot material, allow to cool and remove. Collect and contain for salvage or disposal.
Reporting	See Federal reporting requirements listed in Section 15. We recommend you contact local authorities to determine if there may be other local reporting requirements.

7. HANDLING & STORAGE

Handling	Wash hands thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Wash contaminated goggles, face shields, and gloves. Professionally launder contaminated clothing before re-use. Do not breathe vapors, mists or dusts. Do not breathe fumes generated when the material is overheated or burned. Use adequate ventilation. Wear respiratory protection if the material is heated, sprayed, used in a confined space or if exposure limit is exceeded. This product can produce asthmatic sensitization. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must avoid fumes from this product. Wear appropriate protective equipment to avoid contact with skin and eyes.
Storage	Store in a cool, dry, well-ventilated area away from heat, ignition sources and direct sunlight. Water contamination should be avoided. Cool location should be 60-80 degrees F or 15-30 degrees C.
Empty container precaution	Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls	Use local exhaust or general ventilation where the potential exists to exceed the PEL or TLV exposure limits.
Eye protection	Wear goggles or safety glasses with side shields.
Skin and body protection	Wear appropriate clothing to minimize skin contact with this product.
Respiratory protection	Avoid breathing vapor and/or mists. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA) or a supplied air respirator.

Exposure limits

ACGIH - Threshold Limits Values - Time Weighted Averages (TLV-TWA)

Methylene Diphenyl Isocyanate (MDI)	101-68-8	<u>0.005 ppm TWA</u>
Stoddard solvent	8052-41-3	<u>100 ppm TWA</u>

NIOSH - Pocket Guide - TWAs

Methylene Diphenyl Isocyanate (MDI)	101-68-8	<u>0.005 ppm TWA; 0.05 mg/m3 TWA</u>
Stoddard solvent	8052-41-3	<u>350 mg/m3 TWA</u>

U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Stoddard solvent	8052-41-3	<u>500 ppm TWA; 2900 mg/m3 TWA</u>
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U.S. - OSHA - Vacated PELs - Ceilings

Methylene Diphenyl Isocyanate (MDI)	101-68-8	<u>0.02 ppm Ceiling; 0.2 mg/m3 Ceiling</u>
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U.S. - OSHA - Vacated PELs - TWAs

Stoddard solvent	8052-41-3	<u>100 ppm TWA; 525 mg/m3 TWA</u>
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9. PHYSICAL & CHEMICAL PROPERTIES

Target solids	93 %
Density	1.508 g/cc
Odor	Mild
Color	Amber
Physical state	Paste
Freeze protect	No
VOC (Volatile Organic Compounds)	106 g/l

10. STABILITY & REACTIVITY

Hazardous reactions/decomposition products	Unknown due to the complex nature of this material. Fumes from complete or incomplete combustion may include carbon dioxide, carbon monoxide, water vapor, oxides of nitrogen and a wide variety of innocuous or toxic fumes. Additional decomposition products include oxides of nitrogen, amines, hydrogen cyanide and isocyanate-containing compounds.
Hazardous polymerization	Hazardous polymerization can occur with elevated temperatures or contact with water.
Conditions to avoid	Avoid Strong Acids. Avoid amines, strong bases, alcohols and metallic hydrides.

Stability This product is stable under normal conditions but will react slightly with water to release some heat and carbon dioxide. The reaction is not violent. Carbon dioxide, carbon monoxide and in high temperature (800° F) low oxygen atmospheres such as in fire situations, hydrogen cyanide may be released.

11. TOXICOLOGICAL INFORMATION

Toxicological data If any toxicological data is available, it will be listed below:

LD50

Toxicology Data - Selected LD50s and LC50s

Methylene Diphenyl Isocyanate (MDI) 101-68-8 Oral LD50 Rat: 9200 mg/kg

Carcinogenicity This product contains Methylene Diphenyl Isocyanate (MDI). MDI is not listed by the NTP, IARC or regulated by OSHA as a carcinogen. However, it has been shown to alter cells in certain experiments. Although inconclusive, these cellular changes are thought to indicate potential carcinogenicity.

Local effects Single large does, and/or repeated exposures, may lead to sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms), causing an individual to experience adverse effects at exposure levels well below exposure limits or guidelines. Symptoms may include chest tightness, wheezing, shortness of breath, coughing or asthmatic attack, and may be delayed up to several hours. Extreme asthmatic reactions can be life threatening. Once sensitized, an individual may experience adverse symptoms upon exposure to dust, cold air or other irritants. Sensitization can last several months, years or be permanent in some cases. Chronic exposure may cause lung damage, including fibrosis and decreased lung function, which may be permanent.

12. ECOLOGICAL INFORMATION

Ecotoxicological information Organic solvents produce slight to moderate toxicity to aquatic life.

13. DISPOSAL CONSIDERATIONS

It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable local, state and federal regulations.

Waste disposal Dispose of in compliance with all local, state, and federal regulations.

14. TRANSPORT INFORMATION

Department of Transportation (DOT) Requirements

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. REGULATORY INFORMATION

This MSDS is prepared and distributed pursuant to the Federal Hazard Communication Standard, 29 CFR 1910.1200.

Federal regulations All components are on the U.S. EPA TSCA Inventory List.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Methylene Diphenyl Isocyanate (MDI) 101-68-8 5000 lb final RQ; 2270 kg final RQ

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Methylene Diphenyl Isocyanate (MDI) 101-68-8 1.0 % de minimis concentration (listed under Chemical Category N120, Diisocyanates)

U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification

Chlorobenzene 108-90-7 Section 4, 1 % de minimis concentration

State regulations If this product contains any ingredients listed under California Proposition 65, they will be noted below:

U.S. - California - Proposition 65 - Carcinogens List

Folpet 133-07-3 carcinogen, initial date 1/1/89

International regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required by the Controlled Products Regulations.

HMIS Ratings

Health: 2*
Flammability: 2
Physical hazard: 0
Personal protection: X

SARA 311/312 HAZARD CATEGORIES

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

WHMIS status

Controlled

WHMIS labeling**WHMIS classification**

D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

16. OTHER INFORMATION

Product name(s) covered

D62334 - DURABOND D332 HARDWOOD ADH
D62344 - DURABOND D332 HARDWOOD ADH

Disclaimer

The data in this MSDS has been compiled from publicly available sources. This data relates only to the designated product and not to the use of said product in combination with other materials. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Responsibility for proper precautions and safe use of the product lies with the user. All data in this MSDS is typical of the product as a whole, and does not represent any individual lot or batch, therefore, Bostik, Inc. makes no warranty about the accuracy of the data herein and assumes no liability for the use of such data. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

Further information

Any characters following an individual item number are just designations for the various types of packaging that are available for this product. For example, a product "G12345-XX" is item number "G12345" with a packaging designation of "XX". These characters do not indicate a different product nor a different regulatory, health, safety and/or environmental status. This document covers the item numbers listed above for all of their packaging types.

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Prepared by

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Supersedes

01/16/2008

MSDS sections updated

Other Information: Further Information