



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name	BH EFA Product Series
MSDS name	BOSTIK EFA
Product name(s) covered	See Section 16 for Product Names Covered.
CAS #	Mixture
Generic description	Polyurethane Sealant/Adhesive
Manufacturer	Bostik, Inc. 11320 Watertown Plank Rd Wauwatosa, WI 53226 USA
24 hour emergency assistance	Telephone: 1-800-227-0332 (Outside U.S.) 1-703-527-3887
General assistance	Telephone: 1-800-843-0844
MSDS assistance	Telephone: 1-800-843-0844

2. Hazards Identification

Emergency overview	Contact with this material can cause irritation to the skin, eyes and mucous membranes. 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. 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.
Potential health effects	
Eyes	This product may cause irritation to the eyes. May cause temporary corneal injury.
Skin	This product may cause irritation to the skin. 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.
Inhalation	This product may cause irritation to the respiratory system. 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	Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.
Target organs	The lungs and skin may be targeted and damaged by components of this product.
Signs and symptoms	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.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Stoddard solvent	8052-41-3	5 - 10
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	1 - 5
Methylene Diphenyl Isocyanate (MDI)	101-68-8	0.1 - 1
Naphthalene	91-20-3	0.1 - 1

4. First Aid Measures

First aid procedures

- Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.
- Skin contact** For skin contact flush with large amounts of water while removing contaminated clothing. If skin irritation persists, call a physician. For severe exposure, immediately get under a safety shower and begin rinsing.
- Inhalation** If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist. Administer oxygen or artificial respiration as needed.
- Ingestion** If the material is swallowed, get immediate medical attention or advice. Do not induce vomiting without medical advice. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Notes to physician

Provide general supportive measures and treat symptomatically. 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

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Additional decomposition products include oxides of nitrogen, amines, hydrogen cyanide and isocyanate-containing compounds.

Extinguishing media

Suitable extinguishing media

Dry chemical, foam, carbon dioxide, water fog.

Fire fighting equipment/instructions

Firefighters should wear full protective clothing including self contained breathing apparatus. Avoid contact with isocyanates. During a fire, isocyanate vapors and other irritating and highly toxic gases may be produced.

Flash point

170 °F (76.7 °C)

6. Accidental Release Measures

Emergency action

Wear appropriate personal protective equipment. Do not allow product to enter sewer or waterways. Follow all Local, State, Federal and Provincial regulations for disposal. Regulations vary. Consult local authorities before disposal.

Spill or leak procedure

Scrape up material and place in steel drums that are in good condition. Thoroughly clean area where spill occurred.

Containment procedures

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. Collect and contain for disposal.

Pellet or chip spill: Collect and contain for salvage or disposal. Molten adhesive spill: Placard hot material, allow to cool and remove. If material is not cured once cooled, follow neutralization directions for liquids listed above. Collect and contain for 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 and Storage

Handling	Do not get this material in your eyes, on your skin, or on your clothing. Wash hands after handling and before eating. Do not breathe gas/fumes/vapor/spray. 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	Keep in a dry, cool and well-ventilated place. Keep away from heat. Keep away from direct sunlight.
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	Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.
Personal protective equipment	
Eye protection	Wear safety glasses with side shields.
Skin and body protection	Use impervious gloves. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves.
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.
General	Eyewash fountains and emergency showers should be readily available.

Additional exposure data

US ACGIH Threshold Limit Values: Time Weighted Average (TWA): mg/m³ & ppm

Methylene Diphenyl Isocyanate (MDI)	101-68-8	METHYLENE BISPHENYL ISOCYANATE (MDI) 0.005 PPM
Stoddard solvent	8052-41-3	STODDARD SOLVENT 100 PPM
Naphthalene	91-20-3	NAPHTHALENE 10 PPM

US NIOSH Pocket Guide to Chemical Hazards: Ceiling Limit Value and Time Period (if specified)

Methylene Diphenyl Isocyanate (MDI)	101-68-8	METHYLENE BISPHENYL ISOCYANATE 0.2 MGM ³ - 0.020 PPM 10-min
Stoddard solvent	8052-41-3	STODDARD SOLVENT 1800 MGM ³ 15-min

US OSHA Table Z-1-A: Time Weighted Average (TWA): mg/m³ & ppm

Stoddard solvent	8052-41-3	STODDARD SOLVENT 525 MGM ³ - 100 PPM
Naphthalene	91-20-3	NAPHTHALENE 50 MGM ³ - 10 PPM

9. Physical & Chemical Properties

Target solids	91.7 %
Density	1.13 g/cc
Odor	Mild
Color	Amber
Physical state	Paste
Freeze protect	No
VOC (Volatile Organic Compounds)	96 g/l

10. Chemical Stability & Reactivity Information

Hazardous reactions/decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. 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

Carcinogenicity

If this product contains any carcinogens, they will be noted below: 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.

Sensitization to material**US ACGIH Threshold Limit Values: Skin designation**

Naphthalene 91-20-3 Can be absorbed through the skin.

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 waste material according to Local, State, Federal, and Provincial Environmental Regulations.

14. Transport Information

DOT

Not regulated as hazardous goods.

IATA

Not regulated as hazardous goods.



IMDG

Not regulated as hazardous goods.

15. Regulatory Information

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

The product(s) covered by this M(SDS) do not include any of the substances above a concentration of 0.1% weight by weight (w/w) in the Candidate List of Substances of Very High Concern (SVHC) for authorization published or proposed by ECHA as follows: the list of 15 substances for authorization published on October 28, 2008, the list of 15 substances proposed on August 31, 2009, the list of 14 substances proposed on January 13, 2010, the list of 8 substances proposed on March 8, 2010, the list of 8 substances proposed on June 18, 2010, the list of 11 substances proposed on October 14, 2010.

Federal regulations	All components are on the U.S. EPA TSCA Inventory List.
US CWA Section 311 Reporting Quantities of Hazardous Substances: Reportable quantity	
Naphthalene	91-20-3 NAPHTHALENE 100 LBS
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance	
Methylene Diphenyl Isocyanate (MDI)	101-68-8 METHYLENEBIS(PHENYLISOCYANATE) (MDI) US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance
Naphthalene	91-20-3 NAPHTHALENE US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance
US TSCA Section 12(b) Export Notification: Export Notification requirement/De minimis concentration	
Naphthalene	91-20-3 NAPHTHALENE
State regulations	If this product contains any California Proposition 65 chemicals at reportable levels they will be listed below: Naphthalene
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	B3 - Flammable/Combustible D2A - Other Toxic Effects-VERY TOXIC D2B - Other Toxic Effects-TOXIC
16. Other Information	
Product name(s) covered	A46000 - BOSTIK EFA G62640 - EFA
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	If there are any characters following an individual item number, they 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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