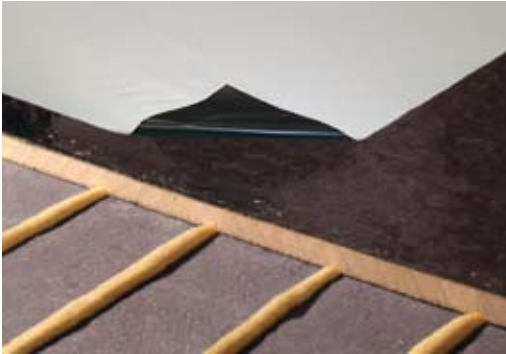


Adhesives

IBond Insulation Adhesive



Product Details

IBond is designed for bonding EPS and Polyisocyanurate insulations to metal, wood, concrete, gypsum, tectum and smooth BUR roofing substrates. The adhesive must be applied to substrate and insulation that are clean, dry and free of contaminants. Install only the amount of insulation that can be covered by membrane that day or warping of insulation boards may occur.

Application

Install four 1/2" wide beads of IBond on roof Substrate. Then place insulation board in adhesive before it cures (the greater the humidity and temperature the faster the cure). After placing insulation boards, walk on the insulation to ensure good contact with the adhesive.

- **Coverage:** Approx 300 sf. gal. or 9 4'x 8' sheets of insulation.*
- **Container Size:** 1 gallons.

* Coverage rates may vary depending on type of substrate and climatic conditions.

Note: Physical properties and MSDS available upon request.

Typical Liquid Properties at 77°F	
Base	Polyurethane
Color	Amber
Solids	
Weight, %	100.00
Viscosity, cps	19,000
Brookfield RVT Spindle No. 6 at 10 rpm	
Specific Gravity	1.1512
Pounds per Gallon	9.59
Free NCO, %	10.00
VOC's	-0-

Typical Values: (Based on material tested in our laboratories but variable from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or specification items.)

MATERIAL SAFETY DATA SHEET

Ashland

Page 001
Date Prepared: 07/10/03
Date Printed: 01/10/04
MSDS No: 303.0347306-002.004

I BOND

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: I BOND
Product Code: 586523

Company

Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:

1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
URETHANE PREPOLYMER	Trade Secret	60.0- 64.0
METHYLENE PHENYLENE ISOCYANATE	101-68-8	22.0
POLYMERIC MDI	9016-87-9	8.0
DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER	25686-28-6	3.0- 7.0
METHYLENE DIPHENYLISOCYANATE	26447-40-5	1.0- 4.0
PARA TOLUENESULFONYL ISOCYANATE	4083-64-1	1.0- 3.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

May cause mild eye irritation. Symptoms include stinging, tearing, and redness.

Skin

Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Additional symptoms of skin contact may include: allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects)

Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation

Breathing of vapor or mist is possible. Breathing aerosol and/or mist is possible when material is sprayed. Aerosol and mist may present a greater risk of injury because more material may be present in the air than from vapor alone. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

Symptoms of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), cough, tight feeling in the chest, headache, shortness of breath, allergic reaction (causes narrowing of the air passages of the lungs, sweating, flushing, hives, rapid heart rate, and lowered blood pressure).

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Target Organ Effects

Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: skin sensitization, respiratory sensitization.

Developmental Information

There are no data available for assessing risk to the fetus from maternal exposure to this material.

Cancer Information

In a two-year inhalation study in rats, exposure to polymeric methylene bisphenylisocyanate (MDI) aerosol caused a significant increase in benign (noncarcinogenic) lung tumors, along with a single carcinogenic lung tumor, at the highest dose only (6 mg/m³). The tumors occurred along with irritation of the respiratory tract and the accumulation of a yellow material in the lungs. There was irritation only at 1.0 mg/m³ and no effect at 0.2 mg/m³. MDI is not listed as carcinogenic by IARC, NTP or OSHA.

Other Health Effects

No data

Primary Route(s) of Entry

Inhalation, Skin contact, Ingestion.

4. FIRST AID MEASURES

Eyes

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Note to Physicians

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: respiratory tract, skin, lung (for example, asthma-like conditions).

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5. FIRE FIGHTING MEASURES

Flash Point

> 200.0 F (93.3 C)

Explosive Limit

No data

Autoignition Temperature

No data

Hazardous Products of Combustion

May form: carbon dioxide and carbon monoxide, hydrogen cyanide, nitrogen compounds, various hydrocarbons.

Fire and Explosion Hazards

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media

regular foam, water fog, carbon dioxide, dry chemical.

Fire Fighting Instructions

Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 2, Flammability - 1, Reactivity - 1

6. ACCIDENTAL RELEASE MEASURES

Small Spill

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Neutralize spill with an aqueous solution of ammonia. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection

Wear resistant gloves such as: nitrile rubber, butyl rubber, Viton, To prevent repeated or prolonged skin contact, wear impervious clothing and boots..

Respiratory Protections

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

URETHANE PREPOLYMER

No exposure limits established

METHYLENE PHENYLENE ISOCYANATE (101-68-8)

OSHA PEL 0.020 ppm - Ceiling

OSHA VPEL 0.020 ppm - Ceiling

ACGIH TLV 0.005 ppm - TWA

POLYMERIC MDI (9016-87-9)

No exposure limits established

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER (25686-28-6)

No exposure limits established

METHYLENE DIPHENYLISOCYANATE (26447-40-5)

No exposure limits established

PARA TOLUENESULFONYL ISOCYANATE (4083-64-1)

No exposure limits established

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point

(for component) 291.0 F (143.8 C)

Vapor Pressure

(for component) 1.000 mmHg

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Specific Vapor Density

No data

Specific Gravity

1.151 @ 77.00 F

Liquid Density

9.589 lbs/gal @ 77.00 F
1.150 kg/l @ 25.00 C

Percent Volatiles

No data

Evaporation Rate

No data

Appearance

No data

State

LIQUID

Physical Form

No data

Color

TAN

Odor

No data

pH

No data

Viscosity

5000.0 - 15000.0 cps @ rvt #5 @ 20

10. STABILITY AND REACTIVITY

Hazardous Polymerization

Product can undergo hazardous polymerization. Avoid contact with strong alkalis, strong mineral acids, and water.

Hazardous Decomposition

May form: Carbon dioxide and carbon monoxide, hydrogen cyanide, nitrogen compounds, various hydrocarbons.

Chemical Stability

Stable.

Incompatibility

Avoid contact with: alcohols, excessive heat, strong alkalis, strong mineral acids, water.

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11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information

Destroy by liquid incineration in accordance with applicable regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution Company, IC&S Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:

NON-REGULATED BY D.O.T.

Container/Mode:

55 GAL DRUM/TRUCK PACKAGE

NOS Component:

None

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs) Component

23137 METHYLENE BISPHENOL ISOCYANATE (MDI)

Other Transportation Information

The DOT Transport Information may vary with the container and mode of shipment.

15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component	RQ (lbs)
METHYLENE BISPHENOL ISOCYANATE (MDI)	5000

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