

Section 1 - Product and Company Identification**Hazard Label** WARNING**Company Information**

Johns Manville
Insulation Systems
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Telephone: 303-978-2000 8:00AM-5:00PM M-F
Internet Address: <http://www.jm.com>
Emergency: 800-424-9300 (Chemtrec, In English)

Trade Names: JM SPF 0.5 pcf A Component

Use: Part A of a two-component indoor spray foam insulation with 50:50 ratio used to insulate homes, buildings, equipment, etc

Section 2 - Hazards Identification**Emergency Overview**

Breathing vapors from this product may cause irritation of the upper respiratory tract, fatigue, weakness, drowsiness, and headache. Allergic or asthma-type reactions may occur following sensitization to isocyanates.

HMIS Ratings: Health = 2* Fire = 1 Reactivity = 1 *= Chronic Health Hazard

Inhalation

Inhalation at levels above the occupational exposure limit could cause respiratory sensitization and risk of serious damage to the respiratory system. The onset of respiratory symptoms may be delayed for several hours after exposure.

Skin

This product is irritating to the skin and may cause sensitization.

Ingestion

This product is not intended to be ingested or eaten under normal conditions of use. If ingested, seek medical attention.

Eyes

This product is irritating to the eyes and may cause sensitization.

Primary Routes of Entry (Exposure)

Inhalation, skin, and eye contact.

Target Organs

Skin, eye, lungs, central nervous system (CNS), respiratory system, kidney, liver.

Medical Conditions Aggravated by Exposure

Pre-existing respiratory diseases or conditions, especially asthma or chemically-induced asthma. Prior exposure and sensitization to isocyanate, or other chemical sensitizers may cause asthmatic, or allergic reactions.

Section 3 - Composition/Information on Ingredients

CAS #	Component	Percent
101-68-8	Methylene bis(phenylisocyanate) (MBI or MDI)	35-45
9016-87-9	Polymethylene polyphenylene isocyanate	50-60
5873-54-1	Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]-	1-5

General Product Description

Brown liquid with musty odor

Section 4 - First Aid Measures**First Aid: Inhalation**

If the affected person is having difficulty breathing, administer oxygen or apply artificial respiration and immediately contact a medical professional.

First Aid: Skin

Remove contaminated clothing. Wash exposed areas with soap and water. If irritation develops or persists, seek medical attention. Launder contaminated clothing before reuse.

First Aid: Ingestion

Product is not intended to be ingested or eaten. If this product is ingested, do not induce vomiting and seek medical attention immediately.

First Aid: Eyes

Flush eyes with large amounts of water until irritation subsides. If irritation persists, seek medical attention.

First Aid: Notes to Physician

Treatment for inhalation, skin contact, or ingestion should be symptomatic. Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias.

Section 5 - Fire Fighting Measures**Flash Point:** 388.4°F/198°C**Upper Flammable Limit (UFL):****Auto Ignition:****Rate of Burning:****General Fire Hazards**

MDI vapor and other gases may be generated by thermal decomposition. At temperatures greater than 160°C/320°F, MDI can polymerize and decompose, causing pressure build-up in closed containers. Temperatures over 49°C/120°F accelerate the reaction of MDI with water, which releases carbon dioxide and makes explosive rupture of closed containers possible.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide, halogenated hydrocarbons, nitrogen oxides, and various hydrocarbons.

Extinguishing Media

Carbon dioxide (CO₂), dry chemical.

Fire Fighting Equipment/Instructions

Use NIOSH-approved self-contained breathing apparatus operating in the pressure demand mode and full fire fighting protective clothing. Avoid inhalation of vapors.

Method Used: ASTM D 93**Lower Flammable Limit (LFL):****Flammability Classification:****Section 6 - Accidental Release Measures****Containment Procedures**

Remove all sources of ignition. Evacuate and ventilate spill area. Dam spill area with sand, earth, or other suitable absorbent. Prevent entry of material into sewers, other water sources, or land areas. Wear full protective clothing and respiratory protection during clean-up as required to maintain exposures below the applicable exposure limit. Shovel absorbed material into containers in well-ventilated area.

MDI in contaminated areas can be neutralized with an ammonia/water solution (80% water, plus 20% non-ionic surfactant, or 90% water, 3-8% ammonia, plus 2% detergent. Use 10 parts neutralizer per one part isocyanate.) Allow containers of neutralized solution to stand, uncovered, for 48 hours to allow carbon dioxide (CO₂) to escape. Small spills should be allowed to stand at least 15 minutes.

Clean-Up Procedures

Place in closable container for disposal.

Section 7 - Handling and Storage**Handling Procedures**

Use protective equipment as described in Section 8 of this safety data sheet when handling uncontained material. Handle in accordance with good industrial hygiene and safety practices.

Storage Procedures

Warehouse storage should be in accordance with package directions, if any. Product should be kept in a cool and dry area in original packaging. Do not freeze.

Section 8 - Exposure Controls / Personal Protection**Exposure Guidelines****A: General Product Information**

Protective equipment should be provided as necessary to prevent inhalation of vapors, prolonged skin contact, and to keep exposure levels below the applicable exposure limits.

B: Component Exposure Limits**Methylene bis(phenylisocyanate) (MBI or MDI) (101-68-8)**OSHA: 0.02 ppm Ceiling; 0.2 mg/m³ Ceiling

ACGIH: 0.005 ppm TWA

PERSONAL PROTECTIVE EQUIPMENT**Personal Protective Equipment: Eyes/Face**

Safety glasses with side shields or chemical goggles are recommended.

Personal Protective Equipment: Skin

Impervious gloves such as nitrile rubber should be used to help prevent excessive skin contact.

Personal Protective Equipment: Respiratory

A NIOSH approved respirator must be used if vapor concentrations exceed exposure limits.

Ventilation

Local exhaust or general dilution ventilation may be required to maintain exposures below the applicable exposure limits. The need for ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

Personal Protective Equipment: General

Protective equipment should be provided as necessary to prevent irritation of the throat, eyes, and skin, and to keep exposures below the applicable exposure limits identified in Section 8.

Section 9 - Physical & Chemical Properties

Appearance: brown color Physical State: liquid Vapor Pressure: <0.0001 mmHg @ 25°C (77°F) Boiling Point: Approximately 208°C (406.4°F) Solubility (H2O): Reacts with water	Odor: slightly musty pH: Not Applicable Vapor Density: 8.5 Melting Point: Not Available Specific Gravity: 1.24 @ 25°C (77°F)
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Section 10 - Stability & Reactivity Information
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Stability

MDI vapor and other gases may be generated by thermal decomposition. At temperatures greater than 160°C/320°F, MDI can polymerize and decompose, causing pressure build-up in closed containers. Temperatures over 49°C/120°F accelerate the reaction of MDI with water, which releases carbon dioxide. Explosive rupture of closed containers is possible.

Stability: Conditions to Avoid

Keep away from ignition sources. Do not freeze. Do not thin.

Incompatibility

Strong acids, alkalis, and oxidizing agents

Hazardous Polymerization

May occur at elevated temperatures in the presence of alkalis, tertiary amines, and metal compounds.

Section 11 - Toxicological Information

Acute Toxicity**A: General Product Information**

MDI is an allergic sensitizing agent that may produce wheezing, coughing, shortness of breath, runny nose, sore throat, coughing, and reduced lung function. Effects may be delayed. Eye contact may cause irritation with tearing (watery eyes), reddening, and swelling. Ingestion may produce irritation, and corrosive effects on the digestive system.

B: Component Analysis - LD50/LC50**Methylene bis(phenylisocyanate) (MBI or MDI) (101-68-8)**

Oral LD50 Rat: 9200 mg/kg

Polymethylene polyphenylene isocyanate (9016-87-9)

Inhalation LC50 Rat: 490 mg/m³/4H; Oral LD50 Rat: 49 g/kg; Dermal LD50 Rabbit: >9400 mg/kg

Component Carcinogenicity**Methylene bis(phenylisocyanate) (MBI or MDI) (101-68-8)**

IARC: Group 3 - Not Classifiable (IARC Monograph 71 [1999], Supplement 7 [1987], Monograph 19 [1979])

Polymethylene polyphenylene isocyanate (9016-87-9)

IARC: Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 19 [1979])

Chronic Toxicity

If the material is heated isocyanates, mainly diisopropylphenyl isocyanate may be released. Repeated or prolonged exposure to isocyanates in general may result in isocyanate sensitization (chemical asthma) in some individuals, causing them to react to isocyanate exposure at concentrations below the established exposure limits. Symptoms include chest tightness, wheezing, coughing, and shortness of breath. Effects can be delayed. Overexposure can cause lung damage, including decreased lung function. Prolonged or repeated skin contact may cause irritation leading to dermatitis. Skin sensitization may also occur.

Teratogenicity

MDI: In laboratory animals, MDI/polymeric and MDI did not produce birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Section 12 - Ecological Information**Ecotoxicity****A: General Product Information**

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Section 13 - Disposal Considerations**US EPA Waste Number & Descriptions****A: General Product Information**

This product is not expected to be a hazardous waste when it is disposed of according to the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Product characterization after use is recommended to ensure proper disposal under federal and/or state requirements.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

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

Section 14 - Transport Information**International Transport Regulations**

These products are not classified as dangerous goods according to international transport regulations.
Single containers less than 5,000 lbs. are not regulated.

Section 15 - Regulatory Information**US Federal Regulations****A: General Product Information**

SARA 311 Status. The following SARA 311 designations apply to this product: Immediate (acute) health hazard. Delayed (chronic) health hazard.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Methylene bis(phenylisocyanate) (MBI or MDI) (101-68-8)

SARA 313: 1.0 % de minimis concentration (listed under Chemical Category N120, Diisocyanates)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Polymethylene polyphenylene isocyanate (9016-87-9)

SARA 313: 1.0 % de minimis concentration (listed under Chemical Category N120, Diisocyanates)

State Regulations**A: General Product Information**

Other state regulations may apply. Check individual state requirements.

This product contains a trace (ppm) amount of phenyl isocyanate (CAS# 103-71-9) and monochlorobenzene (CAS# 108-90-7) as impurities.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Methylene bis(phenylisocyanate) (MBI or MDI)	101-68-8	Yes	No	Yes	Yes	Yes	Yes
Polymethylene polyphenylene isocyanate	9016-87-9	No	No	No	No	Yes	No

A: TSCA Status

This product and its components are listed on the TSCA 8(b) inventory.

None of the components listed in this product are listed on the TSCA Export Notification 12(b) list.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Methylene bis(phenylisocyanate) (MBI or MDI)	101-68-8	Yes	Yes	Yes
Polymethylene polyphenylene isocyanate	9016-87-9	Yes	Yes	No
Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]-	5873-54-1	Yes	Yes	Yes

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Methylene bis(phenylisocyanate) (MBI or MDI)	101-68-8	0.1 %

WHMIS Classification

Controlled Product Classification: D1A, D2A, D2B

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

Section 16 - Other Information**Other Information**

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The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Date	MSDS #	Reason
03/09/10	1093-1.0000	New JM MSDS

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