





since 1895

Material Safety Data Sheet

NFPA	WHMIS	PPE	Transport Symbol
			DOT Not Regulated

Preparation Date No data available

Revision Date 16-Apr-2007

Revision Number 4

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Insul-Lock® HR
Product Code 7347 PART A
UN-No Not available

Contact Manufacturer

The Garland Company, Inc.
 3800 East 91st. Street
 Cleveland, Ohio 44105-2197
 Ph: (800) 762-8225 Fax: (216) 641-0633

Garland Canada, Inc.
 1296 Martin Grove Rd.
 Toronto, Ontario M9W 4X3
 Ph: (416)747-7995 Fax: (416)747-1980

Emergency Telephone Number 1-800-762-8225 (24 Hrs.)

2. HAZARDS IDENTIFICATION

Emergency Overview

Combustible material

Appearance Amber.

Physical State Liquid.

Odor Slight.

Mexico - Grade Slight risk, Grade 1

Potential Health Effects

Principle Routes of Exposure Eye contact, Skin contact, Ingestion.

Acute Effects

Eyes	Contact with eyes may cause irritation
Skin	Avoid contact with skin
Inhalation	May cause irritation of respiratory tract
Ingestion	May be harmful if swallowed

Chronic Effects Repeated contact may cause allergic reactions in very susceptible persons

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Not available

Interactions with Other Chemicals Not available

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Chemical Name	CAS-No	Weight %	North American Hazard Indicator
Methylene Bis	101-68-8	10 - 30	1
Methylene Bis Isomers	26447-40-5	0.1 - 1	1
Polymeric Diphenylmethane Diisocyanate (MDI)	9016-87-9	10 - 30	1

4. FIRST AID MEASURES

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation Move to fresh air

Ingestion Do not induce vomiting. Immediate medical attention is required.

Notes to Physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable Extinguishing Media Not available

Hazardous Combustion Products Hydrocyanic Acid, Carbon dioxide (CO₂), Carbon monoxide, Carbon oxides.

Explosion Data

Sensitivity to mechanical impact Not available

Sensitivity to static discharge Not available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters

Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

NFPA**Health 1****Flammability 1****Instability 0****6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions	Evacuate personnel to safe areas
Environmental Precautions	Prevent further leakage or spillage if safe to do so
Methods for Containment	Dike with inert absorbant material
Methods for Cleaning Up	Soak up with inert absorbent material
Other Information	Not applicable

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice.
Storage	Keep in properly labelled containers. Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	Ontario TWAEV	Mexico
Methylene Bis	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m ³	CEV: 0.8 µmol/m ³ CEV: 0.02 ppm TWA: 0.2 µmol/m ³ TWA: 0.005 ppm	TWA: 0.2 mg/m ³ TWA: 0.051 mg/m ³ TWA: 0.005 ppm TWA: 0.02 ppm

Chemical Name	NIOSH IDLH
Methylene Bis	75 mg/m ³

Engineering Measures	Do not allow ventilation equipment to draw material odors indoors.
Personal Protective Equipment	
Eye/face Protection	Safety glasses with side-shields
Skin Protection	Impervious gloves
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice
-------------------------	---

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Amber
Odor	Slight
Physical State	Liquid
pH	Not available
Flash Point	> 350°F / 177°C
Autoignition Temperature	Not available
Boiling Point/Range	Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

Freezing Point	Not available	
Flammability Limits in Air	Lower Not available	Upper Not available
Explosive Properties	Not available	
Oxidizing Properties	Not available	
Evaporation Rate	Not available	
Vapor Pressure	Not available	
Vapor Density	Not available	
Specific Gravity	1.15	
Water Solubility	Insoluble	
Volatiles	<0.15%	

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Conditions to Avoid	Heat, flames and sparks
Incompatible Materials	No materials to be especially mentioned
Hazardous Decomposition Products	None under normal use
Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene Bis	9200 mg/kg Rat		
Methylene Bis Isomers		6200 mg/kg Rabbit	0.369 mg/L Rat 4 h
Polymeric Diphenylmethane Diisocyanate (MDI)	49 g/kg Rat	9400 mg/kg Rabbit	490 mg/m ³ Rat 4 h

Chronic Toxicity

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

Methylene Bis Isomers**Freshwater Algae Data***Skeletonema costatum* EC50=3230 mg/L (96 h)**Water Flea Data***Daphnia magna* EC50>1000 mg/L (24 h)**Persistence/Degradability** Not available**Bioaccumulation/ Accumulation** Not available**Mobility in Environmental Media** Not available**13. DISPOSAL CONSIDERATIONS****Waste Disposal Method** Dispose of in accordance with local regulations**Contaminated Packaging** Empty containers should be taken for local recycling, recovery or waste disposal**US EPA Waste Number** Not available**14. TRANSPORT INFORMATION****DOT** Not Regulated**TDG** Not regulated**MEX** Not regulated**ICAO** Not regulated**IATA** Not regulated**IMDG/IMO** Not regulated**15. REGULATORY INFORMATION****International Inventories**

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	CHINA	KECL	PICCS	AICS
Methylene Bis	X	X	-	X	-	X	X	X	X	X
Methylene Bis Isomers	X	X	-	X	-	X	X	X	X	X
Polymeric Diphenylmethane Diisocyanate (MDI)	X	X	-	-	-	X	X	X	X	X
Polyurethane Polymer	-	-	-	-	-	-	-	-	-	-

TSCA Does not Comply**DSL** Does not Comply**NDSL** Complies**EINECS** Does not Comply**ELINCS** Does not Comply

ENCS	Does not Comply
CHINA	Does not Comply
KECL	Does not Comply
PICCS	Does not Comply
AICS	Does not Comply

USA**Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

Chemical Name	SARA 313 - Threshold Values
Methylene Bis (CAS #: 101-68-8)	1.0%
Ploymeric Diphenylmethane Diisocyanate (MDI) (CAS #: 9016-87-9)	1.0%

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

Chemical Name

Methylene Bis (CAS #: 101-68-8)

State Regulations**California Proposition 65**

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methylene Bis	X	X	X	X	X

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

Revision Date 16-Apr-2007

Revision Summary Not available

Disclaimer



The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS



since 1895

Material Safety Data Sheet

NFPA	WHMIS	PPE	Transport Symbol
			DOT Not Regulated

Preparation Date No data available

Revision Date 16-Apr-2007

Revision Number 5

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Insul-Lock® HR
Product Code 7347 PART B
UN-No Not available

Contact Manufacturer
 The Garland Company, Inc.
 3800 East 91st. Street
 Cleveland, Ohio 44105-2197
 Ph: (800) 762-8225 Fax: (216) 641-0633

Garland Canda, Inc.
 1296 Martin Grove Rd.
 Toronto, Ontario M9W 4X3
 Ph: (416)747-7995 Fax: (416)747-1980

Emergency Telephone Number 1-800-762-8225 (24 Hrs.)

2. HAZARDS IDENTIFICATION

Emergency Overview

Combustible material

Appearance Amber.

Physical State Liquid.

Odor Slight.

Mexico - Grade Slight risk, Grade 1

Potential Health Effects

Principle Routes of Exposure Eye contact, Skin contact, Ingestion.

Acute Effects

Eyes	Contact with eyes may cause irritation
Skin	Avoid contact with skin
Inhalation	May cause irritation of respiratory tract
Ingestion	May be harmful if swallowed

Chronic Effects Repeated contact may cause allergic reactions in very susceptible persons

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Not available

Interactions with Other Chemicals Not available

Potential Environmental Effects See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

4. FIRST AID MEASURES

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation Move to fresh air

Ingestion Do not induce vomiting. Immediate medical attention is required.

Notes to Physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable Extinguishing Media Not available

Hazardous Combustion Products Hydrocyanic Acid, Carbon dioxide (CO₂), Carbon monoxide, Carbon oxides.

Explosion Data

Sensitivity to mechanical impact Not available

Sensitivity to static discharge Not available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters

Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

NFPA

Health 1

Flammability 1

Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Evacuate personnel to safe areas

Environmental Precautions Prevent further leakage or spillage if safe to do so

Methods for Containment	Dike with inert absorbant material
Methods for Cleaning Up	Soak up with inert absorbent material
Other Information	Not applicable

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice.
Storage	Keep in properly labelled containers. Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures	Do not allow ventilation equipment to draw material odors indoors.
Personal Protective Equipment	
Eye/face Protection	Safety glasses with side-shields
Skin Protection	Impervious gloves
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice
-------------------------	---

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Amber	
Odor	Slight	
Physical State	Liquid	
pH	Not available	
Flash Point	> 350°F / 177°C	
Autoignition Temperature	Not available	
Boiling Point/Range	Not available	
Freezing Point	Not available	
Flammability Limits in Air	Lower Not available	Upper Not available
Explosive Properties	Not available	
Oxidizing Properties	Not available	
Evaporation Rate	Not available	
Vapor Pressure	Not available	
Vapor Density	Not available	
Specific Gravity	1.15	
Water Solubility	Insoluble	
Volatiles	<0.15%	

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Conditions to Avoid	Heat, flames and sparks

Incompatible Materials	No materials to be especially mentioned
Hazardous Decomposition Products	None under normal use
Possibility of Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information **Chronic Toxicity**

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

Persistence/Degradability	Not available
Bioaccumulation/ Accumulation	Not available
Mobility in Environmental Media	Not available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of in accordance with local regulations
Contaminated Packaging	Empty containers should be taken for local recycling, recovery or waste disposal
US EPA Waste Number	Not available

14. TRANSPORT INFORMATION

<u>DOT</u>	Not Regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated

14. TRANSPORT INFORMATION

IMDG/IMO

Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Does not Comply
DSL	Does not Comply
NDSL	Complies
EINECS	Does not Comply
ELINCS	Does not Comply
ENCS	Does not Comply
CHINA	Does not Comply
KECL	Does not Comply
PICCS	Does not Comply
AICS	Does not Comply

USA**Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any HAPs.

State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

State Right-to-Know**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

Revision Date 16-Apr-2007

Revision Summary Not available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS