

Material Safety Data Sheet

Emergency Phone:(248)-373-8100 24-Hour CHEMTREC (800)-424-9300 CHEMTREC, D.C. Area (800)-483-7616

I. Chemical Product And Company Data

PRODUCT: ISO-FLEX 910 PART A
CHEMICALFAMILY: Isocyanate Prepolymer
REVISION DATE: NOV 2007
MANUFACTURER: LymTal International, Inc.
4150 S. Lapeer Rd. Orion, MI 48359

Health	3
Flammability	1
Reactivity	1
Personal Protection	H

II. Composition / Information On Ingredients

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Where a proprietary ingredient is shown, the identity may be made available as provided in this standard. All components of this product are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

HAZARDOUS INGREDIENTS	CAS NO	EXPOSURE LIMITS			CONTENT
		TLV	STEL	PEL	
Modified MDI	Not Disclosed	N/A	N/A	N/A	15 - 40%
Generic Diphenylmethane diisocyanate	26447-40-5	0.005ppm	N/A	0.02ppm	60 - 100%

California Proposition 65 ingredients

None

Section 313 Supplier Notification

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 (40CFR372)

4,4' methylene diphenyl diisocyanate 101-68-8 – RQ is 5000lbs

III. Hazards Identification

HMIS Hazard Rating No. 3

PRIMARY ROUTE OF ENTRY: Eye and skin contact, breathing and ingestion.

Symptoms of Exposure

Skin Contact: Contact may cause moderate skin irritation. In some individuals exposure may result in allergic type symptoms causing rash, itching, and hives.

Eyes: Contact can cause burning and tearing.

Inhalation Inhalation of MDI vapors may cause irritation of the mucous membranes of the nose, throat, or trachea, breathlessness, chest discomfort, and difficulty breathing and reduced pulmonary function. Airborne exposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, and asthma like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu like symptoms, the onset of which may be delayed.

Ingestion: Not expected to be a relevant route of exposure although it may cause gastrointestinal irritation, nausea, and vomiting and abdominal pain.

Chronic: Results from a lifetime study in rats indicate that MDI aerosol was carcinogenic at 6mg/m³, the highest dose tested. This is well above the recommended TLV of 5ppb (0.05mg/m³). Only irritation was noted at the lower concentrations of 0.2 and 1 mg/m³. No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4, and 12mg/m³ polymeric MDI for 6hr/day on days 6 – 15 of gestation. As a result of repeated overexposure or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate levels at levels well below the PEL / TLV. These symptoms include chest tightness, wheezing, cough, shortness of breath, or asthma attack, which could be immediate or occur several hours after exposure. Chronic overexposure to isocyanates has also been reported to cause lung damage, including a decrease in lung function, which may be permanent.

IV. First Aid Measures

Inhalation Remove victim from exposure. If difficulty with breathing, administer oxygen and seek medical assistance

Eyes Flush eyes with cold water for a minimum of 15 minutes, lifting lower and upper eye lids throughout. Seek immediate medical attention.

Skin Immediately remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.

Ingestion Do not induce vomiting, get immediate medical attention, if vomiting occurs spontaneously keep head below hips to prevent aspiration of liquids into lungs. Do not give anything by mouth to an unconscious person

V. Fire Fighting Methods

HMIS Hazard Rating No. 1

Flash Point: >200.0 °F

General Hazard: Decomposition and combustion products may be toxic.

Auto-Ignition Temp.: Not Available

Limits of Flammability

LEL: Not Available

UEL: Not Available

Extinguishing Media

Carbon dioxide, foam, dry chemical and water fog.

Special Fire & Unusual Hazards

Move containers from area if it can be done without risk. Cool fire-exposed containers with water from the side. As in any fire, wear NIOSH/MSHA approved; pressure demand self-contained breathing apparatus and full protective gear. Avoid water contamination in closed containers or confined areas as carbon dioxide is evolved.

VI. Accidental Release Measures

Action To Take For Spills/ Leaks: Avoid contact with skin or eyes. ventilate area; and eliminate all sources of ignition. Wear appropriate protective gear, contain leak or spill, salvage, and clean up residue with absorbent material. Wash down area with dilute ammonium hydroxide or detergent solution; allow 30 minutes to react. For large spills, dike area and pump into closed containers. Prevent this material from entering waterways.

Waste Disposal Method: Handle disposal of waste material in a manner that complies with local, state, province and federal regulation. Landfill if solidified, or incineration at agency approved waste-disposal facilities.

VII. Handling And Storage

Average Shelf Life:
Special Instructions

Refer to Product Data Sheet

Keep containers closed and stored in a well-ventilated area at 60 —80 deg F. Outage of container should be filled with nitrogen. Contamination by moisture or basic compounds can cause dangerous pressure build up in closed containers.

VIII. Exposure Controls / Personal Protection

Ventilation: Ventilation is recommended. Air movement must be designed to insure turnover at all locations in work area to avoid build up of heavy vapors.

Personal Protection Equipment: Do NOT wear contact lenses when working with this material. Use chemical goggles/safety glasses with side shields and impervious gloves. Wear clothing with long sleeves and pants. In operations where mists can be generated or the exposure limits for crystalline silica exceeded, wear a NIOSH/MSHA approved dust/fume respirator selected by a technically qualified person for the specific work conditions. Wear respirator protection whenever airborne concentrations exceed TLV ceilings or TWA, use NIOSH approved respirators for listed hazard.

Confined spaces, room, or tanks are areas where concern for TLV's is especially important. Reference OSHA regulation CFR 29 1910.134 for recommended respiratory protection.

IX. Physical And Chemical Properties

Boiling Point (°C):	N/A	Water/Oil Distribution Coefficient:	N/A
VOC Content g/l:	1	Solubility in Water:	Reacts with water
Freezing Point (°C):	N/A	Specific Gravity @20° C	1.18
Vapor Pressure @ 20° C	4 x 10-6	pH:	N/A
Vapor Density	N/A	Evaporation Rate:	N/A
Odor Threshold:	N/A	Odor:	Musty
Appearance:	Amber liquid		
N/A = Not Available	N/D=NOT Determined	Ca. = Approximate	

X. Stability And Reactivity

HMIS Hazard Rating No. 1

Stability

Stable

Incompatibility:

Strong acids, oxidizing agents reducing agents bases water peroxides and amines.

Hazardous Decomposition Products

At elevated temperatures, isocyanate vapors may be formed. Under severe thermal degradation, carbon monoxide and low molecular weight organic compounds may be formed as well as hydrogen cyanide and MDI vapors.

Conditions To Avoid

See incompatibility.

XI. Toxicity Information

HMIS Hazard Rating No. 3

PRIMARY ROUTE OF ENTRY: Eye and skin contact, breathing and ingestion.

Effects Of Overexposure

<u>Inhalation:</u>	Inhalation of MDI vapors may cause irritation of the mucous membranes of the nose, throat, or trachea, breathlessness, chest discomfort, and difficulty breathing and reduced pulmonary function. Airborne exposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, and asthma like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu like symptoms, the onset of which may be delayed.
<u>Eyes:</u>	Contact can cause burning and tearing.
<u>Skin Contact:</u>	Contact may cause moderate skin irritation. In some individuals exposure may result in allergic type symptoms causing rash, itching, and hives.
<u>Ingestion:</u>	Not expected to be a relevant route of exposure although it may cause gastrointestinal irritation, nausea, and vomiting and abdominal pain.
Chronic:	Results from a lifetime study in rats indicate that MDI aerosol was carcinogenic at 6mg/m ³ , the highest dose tested. This is well above the recommended TLV of 5ppb (0.05mg/m ³). Only irritation was noted at the lower concentrations of 0.2 and 1 mg/m ³ . No birth defects or teratogenic effects were reported in a teratology study with rats exposed to 1, 4, and 12mg/m ³ polymeric MDI for 6hr/day on days 6 – 15 of gestation. As a result of repeated overexposure or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate levels at levels well below the PEL / TLV. These symptoms include chest tightness, wheezing, cough, shortness of breath, or asthma attack, which could be immediate or occur several hours after exposure. Chronic overexposure to isocyanates has also been reported to cause lung damage, including a decrease in lung function, which may be permanent.

XII. Ecological Information

Marine Pollutant: NL

(NL = Not Listed; P = Moderate; PP = Severe; ND = Not Determined)

XIII. Disposal Considerations

Handle disposal of waste material in a manner that complies with all applicable local, state, provincial and federal regulations.

XIV. Transport Information

DOT SHIPPING INFORMATION

DOT Proper Shipping Name NOT REGULATED

DOT Hazard Class

DOT I.D Number

Label(s)

XV. Regulatory Information

OSHA Hazard Communication Standard (29 CFR 1910.1200)	Hazardous
CERCLA/ Super fund (40 CFR 117,302)	N/A
SARA Extremely Hazardous Substances (40 CFR 355)	N/A
SARA Hazard Categories (40 CFR 370)	
SARA Toxic Chemicals (40 CFR 372)	See section II supplier notification
Inventory Status	The chemicals in this product are listed on the US TSCA Chemical Substance Inventory and the Canadian Domestic Substances List.

XVI. Other Information

THE INFORMATION HEREIN HAS BEEN COMPLIED FROM SOURCES BELIEVED TO BE RELIABLE AND IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, LymTal INTERNATIONAL INC. CANNOT GIVE ANY GUARANTEES REGARDING INFORMATION FROM OTHER SOURCES, AND EXPRESSLY DOES NOT MAKE ANY WARRANTIES, NOR ASSUMES ANY LIABILITY, FOR ITS USE.

Material Safety Data Sheet

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I. Chemical Product And Company Data

PRODUCT: ISO-FLEX 910 PART B
CHEMICALFAMILY: Polyol
REVISION DATE: NOV 2007
MANUFACTURER: LymTal International, Inc.
4150 S. Lapeer Rd. Orion, MI 48359

Health	1
Flammability	2
Reactivity	1
Personal Protection	H

II. Composition / Information On Ingredients

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HAZARDOUS INGREDIENTS	CAS NO	EXPOSURE LIMITS			CONTENT
		TLV	STEL	PEL	
Nonhazardous Ingredients		N/A	N/A	N/A	Balance
Methyl-1,2-ethanediyl bis oxy bispropanol	24800-44-0	N/A	N/A	N/A	< 13.87%
Butyl Benzyl Pthalate	85-68-7	N/A	N/A	5 mg/m ³	< 4.0 %
Carbon Black	1333-86-4	N/A	N/A	3.5 mg/m ³	3.87%
Cellulose Fibers	9004-34-6	N/A	N/A	N/A	8.5 %

California Proposition 65 ingredients

None

Section 313 Supplier Notification

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 (40CFR372)

None

III. Hazards Identification

HMIS Hazard Rating No. 1

PRIMARY ROUTE OF ENTRY: Eye and skin contact, breathing and ingestion.

Symptoms of Exposure

Skin Contact: Contact may cause moderate skin irritation. In some individuals exposure may result in allergic type symptoms causing rash, itching, and hives.
Eyes: Contact can cause severe irritation, redness, blurred vision, burning and tearing.

Inhalation Vapors can be irritating to nose and mucous membranes. High exposures may result in dizziness, headaches, anaesthesia, drowsiness, and unconsciousness.
Ingestion: Not expected to be a relevant route of exposure. Although may cause gastrointestinal irritation, vomiting, CNS effects, and possibly unconsciousness
Chronic: Not Known.

IV. First Aid Measures

Inhalation Remove victim from exposure. If difficulty with breathing, administer oxygen and seek medical assistance
Eyes Flush eyes with cold water for a minimum of 15 minutes, lifting lower and upper eye lids throughout. Seek immediate medical attention.
Skin Immediately remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.
Ingestion Do not induce vomiting, get immediate medical attention, if vomiting occurs spontaneously keep head below hips to prevent aspiration of liquids into lungs. Do not give anything by mouth to an unconscious person

V. Fire Fighting Methods

HMIS Hazard Rating No. 2

Flash Point: >500.0 °F

General Hazard: Decomposition and combustion products may be toxic.

Auto-Ignition Temp.: 800 °F

Limits of Flammability

LEL: Not Available

UEL: Not Available

Extinguishing Media

Carbon dioxide, foam, dry chemical and water fog.

Special Fire & Unusual Hazards

Move containers from area if it can be done without risk. Cool fire-exposed containers with water from the side. As in any fire, wear NIOSH/MSHA approved; pressure demand self-contained breathing apparatus and full protective gear.

VI. Accidental Release Measures

Action To Take For Spills/ Leaks: Avoid contact with skin or eyes. ventilate area; and eliminate all sources of ignition. Wear appropriate protective gear, contain leak or spill, salvage, and clean up residue with absorbent material. Wash down area with dilute ammonium hydroxide or detergent solution; allow 30 minutes to react. For large spills, dike area and pump into closed containers. Prevent this material from entering waterways.

Waste Disposal Method: Handle disposal of waste material in a manner, that complies with local, state, province and federal regulation. Landfill if solidified, or incineration at agency approved waste-disposal facilities.

VII. Handling And Storage

Average Shelf Life:

Refer to Product Data Sheet

Special Instructions

Store in a cool, dry, well ventilated area away from strong oxidizers and acids.

VIII. Exposure Controls / Personal Protection

Ventilation: Ventilation is recommended. Air movement must be designed to insure turnover at all locations in work area to avoid build up of heavy vapors.

Personal Protection Equipment: Do NOT wear contact lenses when working with this material. Use chemical goggles/safety glasses with side shields and impervious gloves. Wear clothing with long sleeves and pants. In operations where mists can be generated or the exposure limits can be exceeded, wear a

NIOSH/MSHA approved dust/fume respirator selected by a technically qualified person for the specific work conditions. Wear respirator protection whenever airborne concentrations exceed TLV ceilings or TWA, use NIOSH approved respirators for listed hazard. Confined spaces, room, or tanks are areas where concern for TLV's is especially important. Reference OSHA regulation CFR 29 1910.134 for recommended respiratory protection.

IX. Physical And Chemical Properties

Boiling Point (°C):	N/A	Water/Oil Distribution Coefficient:	N/A
VOC Content g/l:	0	Solubility in Water:	slight
Freezing Point (°C):	N/A	Specific Gravity @20° C	1.0
Vapor Pressure @ 20° C	N/A	pH:	N/A
Vapor Density	N/A	Evaporation Rate:	N/A
Odor Threshold:	N/A	Odor:	Aromatic
Appearance:	Black liquid		
N/A = Not Available	N/D=NOT Determined	Ca. = Approximate	

X. Stability And Reactivity

HMIS Hazard Rating No. 1

Stability

Stable

Incompatibility:

Oxidizing agents, and strong acids (nitric, sulfuric)

Hazardous Decomposition Products

Under severe thermal degradation, carbon monoxide and low molecular weight organic compounds may be formed as well as dense smoke.

Conditions To Avoid

See incompatibility.

XI. Toxicity Information

HMIS Hazard Rating No. 1

PRIMARY ROUTE OF ENTRY: Inhalation, dermal

Effects Of Overexposure

Inhalation:

Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly leading to death. Vapors can be irritating to the nose and mucous membranes. High exposures may result in a narcotic effect and headaches.

Eyes:

Contact can cause severe irritation redness, blurred vision, burning and tearing.

Skin Contact:

Contact may cause moderate skin irritation. In some individuals exposure may result in allergic type symptoms causing rash, itching, and hives.

Ingestion:

Not expected to be a relevant route of exposure. Long term effects are not known.

Chronic:

Not Known.

XII. Ecological Information

Marine Pollutant: NL

(NL = Not Listed; P = Moderate; PP = Severe; ND = Not Determined)

XIII. Disposal Considerations

Handle disposal of waste material in a manner that complies with all applicable local, state, provincial and federal regulations.

XIV. Transport Information

DOT SHIPPING INFORMATION

DOT Proper Shipping Name NOT REGULATED

DOT Hazard Class

DOT I.D Number

Label(s)

XV. Regulatory Information

OSHA Hazard Communication Standard
(29 CFR 1910.1200)

Hazardous

CERCLA/ Super fund (40 CFR 117,302)

N/A

SARA Extremely Hazardous Substances
(40 CFR 355)

N/A

SARA Hazard Categories (40 CFR 370)

SARA Toxic Chemicals (40 CFR 372)

Inventory Status

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XVI. Other Information

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