

Section 1 Chemical Product and Company Identification

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 "cutting edge science for the classroom"

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 Avon, NY 14414-9409
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**CHEMTREC 24 Hour Emergency
 Phone Number (800) 424-9300**
 For laboratory use only.
 Not for drug, food or household use.

Product	POLYURETHANE FOAM SYSTEM - PART A
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Synonyms	Mixed isocyanates
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Section 2 Hazards Identification

Signal word: DANGER**Pictograms:** GHS07 / GHS08**Target organs:** Respiratory system, Eyes**GHS Classification:**

Skin irritation (Category 2)

Skin sensitizer (Category 1)

Eye irritation (Category 2)

Acute toxicity (Category 4)

Respiratory sensitization (Category 1)

STOT-SE (Category 3)

STOT-RE (Category 2)

GHS Label information: Hazard statement:

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H332: Harmful if inhaled.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335: May cause respiratory irritation.

H373: May cause damage to organs through prolonged or repeated exposure.

Precautionary statement:

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P284: Wear respiratory protection.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P333+P313: If skin irritation or rash occurs: Get medical attention.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Methylene bis phenylisocyanate	101-68-8	50%	202-966-0
Polymeric diphenylmethane diisocyanate	9016-87-9	50%	None assigned.

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool. DO NOT GET WATER INSIDE CONTAINERS. Ventilate spill area. Eliminate all ignition sources.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. At temperatures greater than 400°F (204°C) components may polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Methylene bisphenyl isocyanate	TWA: 0.005 ppm / 0.051 mg/m ³	STEL: C 0.02 ppm / C 0.2 mg/m ³	TWA: 0.05 mg/m ³ / STEL: C 0.2 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Brown liquid.	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: Slightly aromatic odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available.
Melting / Freezing point: Data not available	Vapor density (Air = 1): Data not available	Molecular formula: Mixture
Boiling point: 329.1°C (625°F)	Relative density (Specific gravity): 1.24	Molecular weight: Mixture
Flash point: 198.9°C (390°F)	Solubility(ies): Insoluble in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: May occur.

Conditions to avoid: Polymerization may occur from contact with water, alcohols, glycols or other materials containing active hydrogens. Avoid temperatures above 400°F.

Incompatible materials: Water, alcohols, amines, strong bases.

Hazardous decomposition products: Carbon oxides, nitrogen oxides, benzene, toluene, aliphatic fragments and traces of hydrogen cyanide.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: >7,400 mg/kg ; Inhalation-rat LC50: 0.49 mg/l/4hours ; Dermal-rabbit LD50: >6,200 mg/kg [Methylene bisphenyl isocyanate]

Skin corrosion/irritation: Skin-rabbit - Irritating

Serious eye damage/irritation: Eyes-rabbit - Irritating

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans. [Methylene bisphenyl isocyanate]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects. [Methylene bisphenyl isocyanate]

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of vapors may cause breathlessness, chest discomfort, coughing and reduced pulmonary functions.

Ingestion: Ingestion may cause gastrointestinal disturbances.

Skin: Contact with skin causes irritation.

Eyes: Contact with eyes causes irritation.

Signs and symptoms of exposure: Exposure may produce asthma-like symptoms, also may lead to allergic sensitivity.

Additional information: RTECS #: NQ9350000 [Methylene bisphenyl isocyanate]

Section 12 Ecological Information

Toxicity to fish: Oryzias latipes (fish, fresh water), LC50 = > 3,000 mg/l/48 hours [Methylene bisphenyl isocyanate]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacia), EC50 = >1,000 mg/l/24 hours [Methylene bisphenyl isocyanate]

Toxicity to algae: Chlorella vulgaris (Algae), EC50 = 4,300 mg/l/96 hours [Methylene bisphenyl isocyanate]

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: 5,000 lbs (2270 kg)

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL
Methylene bisphenyl isocyanate (MDI)	Listed	5,000 lbs	Not listed	Listed	Not listed
Polymeric diphenylmethane diisocyanate	Listed	Not listed	Not listed	Listed	Not listed

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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Product	POLYURETHANE FOAM SYSTEM - PART B
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Synonyms	Polyurethane Resin
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Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: WARNING

Pictograms: GHS07

Target organs: Respiratory system

**GHS Classification:**

Skin irritation (Category 2)

Eye irritation (Category 2B)

Acute toxicity, inhalation (Category 4)

STOT-SE (Category 3)

GHS Label information: Hazard statement:

H315: Causes skin irritation.

H320: Causes eye irritation.

H332: Harmful if inhaled.

H335: May cause respiratory irritation.

Precautionary statement:

P261: Avoid breathing mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313: If skin irritation occurs: Get medical attention.

P337+P313: If eye irritation persists: Get medical attention.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
1,1,1,3,3-Pentafluoropropane	460-73-1	<10%	None assigned
Tertiary amine catalysts	Not available	<1%	None assigned

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Overheated containers may rupture due to pressure build-up.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Tertiary amine catalysts	TWA: 300 ppm	Not available	Not available

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Brown liquid.	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: Ethereal odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available.
Melting / Freezing point: Data not available	Vapor density (Air = 1): Data not available	Molecular formula: Mixture
Boiling point: 15.5°C (60°F)	Relative density (Specific gravity): 1.155	Molecular weight: Mixture
Flash point: Data not available	Solubility(ies): Slightly soluble in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** May occur.

Conditions to avoid: Temperatures over 85°F.

Incompatible materials: Isocyanates and other chemicals that react with hydroxyl groups.

Hazardous decomposition products: Carbon oxides, nitrogen oxides, aliphatic fragments, halogens, halogen acids and possibly carbonyl halides.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Harmful if inhaled.

Ingestion: Harmful if inhaled.

Skin: Contact with skin causes irritation.

Eyes: Contact with eyes causes irritation.

Signs and symptoms of exposure: The dense vapors can displace and reduce breathing air in confined or unventilated spaces causing asphyxiation. Overexposure may cause tremors, confusion, irritation, and may result in cardiac sensitization.

Additional information: RTECS #: TZ5607500 [1,1,1,3,3-Pentafluoropropane]

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

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Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide # Not applicable

Section 15 Regulatory Information

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Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL
1,1,1,3,3-Pentafluoropropane	Listed	Not listed	Not listed	Listed	Not listed

Section 16 Other Information

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