



Safety Data Sheet

1. Product and company identification

Product Name Poly-Tron - Part B

Internal Code(s) 261120; 261163

Product Type Aromatic MDI Isocyanate

Product Use Two-Component Elastomeric Concrete

Manufacturer/Supplier RJ Watson, Inc. www.rjwatson.com
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U.S.A.

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Telephone **For 24-Hour Emergency Response Information**
Call ChemTel: (800) 255-3924 (U.S./Canada)
+1-813-248-0585 (International)

For Other Product or Technical Information
Call RJ Watson, Inc.: (716) 901-7020

2. Hazards identification

Product Form Dark Amber Liquid

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazard Category Classification:	Acute Toxicity	4	Acute Toxicity (Inhalation – Mist)
	Skin Corrosion / Irritation	2	Skin Irritant
	Eye Damage / Irritation	2B	Mildly Irritating to Eyes
	Respiratory Sensitizer	1	Respiratory Sensitizer
	Skin Sensitizer	1B	Low to Moderate Frequency Skin Sensitizer
	Carcinogenicity	2	Suspected Human Carcinogen
	Specific Target Organ Toxicity – Single Exposure	3	Transient Target Organ Effects (Irritating to Respiratory System)
	Specific Target Organ Toxicity – Repeated/Prolonged Exposure	2	Potential to be Harmful to Human Health Following Repeated/Prolonged Use (Inhalation)

GHS Pictogram(s):



Signal Word: DANGER

Hazard Statement:	H320	Causes eye irritation.
	H315	Causes skin irritation.
	H332	Harmful if inhaled.
	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	H317	May cause an allergic skin reaction.
	H335	May cause respiratory irritation.
	H351	Suspected of causing cancer.
	H373	May cause damage to organs (Olfactory organs) through prolonged or repeated exposure (inhalation)

Precautionary Statements:

Prevention:	P280	Wear protective gloves / protective clothing / eye protection / face protection.
	P271	Use only outdoors or in a well-ventilated area.
	P260	Do not breathe mist / vapors.
	P201	Obtain special instructions before use.
	P261	Avoid breathing mist.
	P202	Do not handle until all safety precautions have been read and understood.
	P284	(In case of inadequate ventilation) wear respiratory protection.
	P272	Contaminated work clothing should not be allowed out of the workplace.
	P264	Wash hands and exposed skin thoroughly after handling.

Response:	P312	Call a POISON CENTER or doctor/physician if you feel unwell.
	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing.
	P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P308 + P313	IF exposed or concerned: Get medical advice/attention.
	P314	Get medical advice/attention if you feel unwell.
	P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
	P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
	P362	Take off contaminated clothing and wash before reuse.
	P332 + P313	If skin irritation occurs: Get medical advice/attention.
	P337 + P313	If eye irritation persists, Get medical advice/attention.

Storage:	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
	P405	Store locked up.

Disposal:	P501	Dispose of contents/container to hazardous or chemical waste disposal facility in accordance with all local/national/international regulations.
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Hazards not otherwise classified:

None known.

Supplemental Label Information:

Contains isocyanates. Inhalation of isocyanate mists or vapors may cause respiratory irritation, breathlessness, chest discomfort and reduced pulmonary function. Overexposure well above the PEL may result in bronchitis, bronchial spasms and pulmonary edema. Long-term exposure to isocyanates has been reported to cause lung damage, including reduced lung function which may be permanent. Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactions including wheezing, shortness of breath and difficulty breathing. Animal tests indicate that skin contact may play a role in causing respiratory sensitization.

3. Composition/Information on ingredients

Ingredient name	CAS number	WT %
Polymeric MDI	9016-87-9	50.0 – 75.0%
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	25.0 – 50.0%
Methylenediphenyl diisocyanate	26447-40-5	1.0 – 7.0%

4. First aid measures

Eye contact	In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.
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Skin contact	Remove contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.
Inhalation	Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.
Ingestion	Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.
Other Hazards	Symptoms can appear later. Isocyanate respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed. Repeated inhalation of high concentrations may cause lung damage, including reduced lung function, which may be permanent. Substances eliciting lower respiratory tract irritation may worsen the asthma-like reactions that may be produced by product exposures.
Notes to physician	Specific antidotes or neutralizers to isocyanates do not exist. Treatment should be supportive and based on the judgment of the physician in response to the reaction of the patient. Symptoms can appear later.

Potential acute health effects

Inhalation	Of moderate toxicity after short-term inhalation.
Ingestion	Virtually nontoxic after a single ingestion.
Skin	Virtually nontoxic after a single skin contact. Skin contact may cause irritation. Sensitization after skin contact is possible.
Eyes	Eye contact causes irritation.

Potential chronic health effects

Chronic effects	Repeated exposure to the substance by dermal administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by inhalative administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure.
Carcinogenicity	This product contains MDI, which is considered to have a possible carcinogenic effect in animal tests. However, the relevance of this result for humans is unclear.
Developmental effects	The substance (MDI) did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.
Fertility effects	See "Developmental effects."
Target organs	Eye, Skin, Respiratory Tract.

Over-exposure signs/symptoms

Inhalation	Irritation of respiratory tract; Shortness of breath.
Ingestion	Irritation, nausea
Skin	Irritation, redness, itching, swelling.
Eyes	Irritation, redness, tearing.

Medical conditions aggravated by over-exposure
The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Contact may aggravate pulmonary disorders. Persons with history of respiratory disease or hypersensitivity should

not be exposed to this product. Pre-employment and periodic medical examinations with respiratory function tests (FEV₁, FVC as a minimum) are suggested. An animal study indicated that MDI may induce respiratory hypersensitivity following dermal exposure. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Flammability properties of the product **Flash Point:** 220°C (428°F)
Flash Point Method Used: Open cup
Flammable Limits in Air (Lower - % by volume): Not Determined
Flammable Limits in Air (Upper - % by volume): Not Determined

Extinguishing media

Suitable Water spray, dry extinguishing media, carbon dioxide, foam

Not suitable None.

Special exposure hazards Isocyanates slowly react with water to release carbon dioxide gas.

Hazardous combustion products Nitrous gases, fumes/smoke, isocyanate, vapor.

Unusual Fire and Explosion Hazards Sealed, fire-exposed containers may build up dangerous pressure, potentially resulting in explosive rupture.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment, including self-contained breathing apparatus and turn-out gear.

6. Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Clear area. Ensure adequate ventilation. Put on appropriate personal protective equipment (see section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Spill Response Dike spillage.
For small amounts: Absorb isocyanate with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.
For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.
For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes..

7. Handling and storage

Handling	Put on appropriate personal protective equipment when handling (Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Avoid tasting or swallowing. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling. If bulging of drum occurs, transfer to well-ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.
Storage	Store in accordance with all local and government regulations. Keep in the original container or an approved alternative made from a compatible material, kept tightly sealed when not in use. Formation of CO ₂ and build up of pressure possible if moisture is introduced. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture. Recommended storage temperature: 59 - 95°F (15 - 35°C).

8. Exposure controls/personal protection

CAS Number	Chemical Identity	Exposure Limits				
		ACGIH		OSHA		Other
		TWA	STEL	PEL	STEL	
9016-87-9	Polymeric MDI	0.005 ppm	N.E.	0.2 mg/m ³ Ceiling	N.E.	N.E.
101-68-8	Diphenylmethane-4,4'-diisocyanate (MDI)	0.005 ppm	N.E.	0.2 mg/m ³ Ceiling	N.E.	N.E.
26447-40-5	MDI Mixed Isomers	N.E.	N.E.	N.E.	N.E.	N.E.

Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Engineering measures	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated equipment or clothing should be cleaned after each use or disposed of. Ensure that eyewash stations and safety showers are located in the work area.
Respiratory	Use a properly fitted, air-purifying or air-supplied respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Eyes	Chemical splash goggles are recommended. Wear face shield if splashing hazard exists.
Skin	Chemical resistant protective gloves are required. Suitable materials include: chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, fluoroelastomer (Viton). Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

9. Physical and chemical properties

Form	Liquid
Color	Dark Amber
pH	Not applicable
Boiling point	> 200°C (> 392°F)
Freezing Point	< 3°C (< 38°F)
Specific gravity	1.23
Vapor pressure	0.00001 mmHg (at 25°C)
Odor threshold	Slight, aromatic odor
Solubility in water	Not applicable; Reacts with water
Evaporation rate	Not Determined
Vapor density	Not Determined

10. Stability and reactivity

Stability	The product is stable when properly stored and handled.
Conditions to avoid	Avoid contact with water or alcohols in sealed containers. Risk of bursting.
Materials to avoid	Reactive or incompatible with the following materials: water, alcohols, strong bases, substances/products that react with isocyanates. Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of violent reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.
Other hazards	Thermal decomposition at temperatures > 260°C.
Hazardous decomposition products	Decomposition products may include the following materials: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors

11. Toxicological information

Acute toxicity

MDI (CAS # 101-68-8)	LD50 Oral	Rat	> 2,000 mg/kg
	LC50 Inhalation	Rat	2.0 mg/L (aerosol)
	LD50 Dermal	Rabbit	>9,400 mg/kg

Carcinogenicity Classification

Diphenylmethane-4,4'-diisocyanate (MDI): Indication of possible carcinogenic effect in animal tests. However, the relevance of this result for humans is unclear.

Ingredient name

Diphenylmethane-4,4'-diisocyanate (MDI) (CAS # 101-68-8):	
IARC	Group 3 (Not classifiable as to carcinogenicity to humans)
NTP	Not listed
OSHA	Not regulated as a carcinogen
EU	Category 2 (H351: Suspected of causing cancer.)

12. Ecological information

Environmental effects

Fish

Acute: static *Brachydanio rerio*/LC50 (24 h): > 500 mg/l

Practically nontoxic.

Information on: *Diphenylmethane-4,4'-diisocyanate (MDI)*

Acute:

OECD Guideline 203 static

Brachydanio rerio/LC0 (96 h): > 1,000 mg/l

Aquatic invertebrates

Acute: Daphnia magna/EC50 (24 h): > 500 mg/l

Practically nontoxic.

Information on: Diphenylmethane-4,4'-diisocyanate (MDI)

Acute:

OECD Guideline 202, part 1 static

Daphnia magna/EC50 (24 h): > 1,000 mg/l

Other adverse effects

Poorly biodegradable.

The product is unstable in water. The elimination data also refer to products of hydrolysis.

13. Disposal considerations

Waste disposal

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

The data provided in this section is for information only and may not be specific to each package size or mode of transport. Apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory information	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR	N/A	Not dangerous goods	N/A	N/A.
TDG	N/A	Not dangerous goods	N/A	N/A.
IMO/IMDG	N/A	Not dangerous goods	N/A	N/A.
IATA	N/A	Not dangerous goods	N/A	N/A.

*PG : Packing group

15. Regulatory information

US regulations

HCS Classification

When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

U.S. Federal regulations

SARA Title III, Section 311/312 Classification

Immediate (Acute) health hazard
Delayed (Chronic) health hazard

SARA Title III, Section 313 - Supplier Notification

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

Diphenylmethane-4,4'-diisocyanate; CAS # 101-68-8; Diisocyanates Category (N120)
Polymeric MDI; CAS # 9016-87-9; Diisocyanates Category (N120)

CERCLA RQ: Diphenylmethane-4,4'-diisocyanate (MDI) (CAS # 101-68-8): 5,000 Lbs.
Polymeric MDI (CAS # 9016-87-9): 5,000 Lbs.

SARA Section 302 Extremely Hazardous Substances

None required.

State regulations

Massachusetts RTK Substances

Diphenylmethane-4,4'-diisocyanate (MDI) (CAS # 101-68-8)

Polymeric MDI (CAS # 9016-87-9)

New Jersey RTK Hazardous Substances

Diphenylmethane-4,4'-diisocyanate (MDI) (CAS # 101-68-8)

Polymeric MDI (CAS # 9016-87-9)

Pennsylvania RTK Hazardous Substances

Diphenylmethane-4,4'-diisocyanate (MDI) (CAS # 101-68-8)

Polymeric MDI (CAS # 9016-87-9)

California Prop. 65: WARNING: This product contains the following chemical(s) known to the State of California to cause cancer:

None

California Prop. 65: WARNING: This product contains the following chemical(s) known to the State of California to be a reproductive toxin:

None

International regulations

Chemical inventories

United States inventory (TSCA 8b) - All components are listed or exempted.

16. Other information

**Hazardous Material
Information System III
(U.S.A.)**

Health: 2
Flammability: 1
Physical hazards: 1
Personal Protection: X

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. HMIS® ratings are to be used with a fully implemented HMIS® program.

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