

EMERGENCY NUMBERS:

Sealed Air Corporation (US): (203) 791-3500 *For emergency and general information*
8:30am-5:00pm, (Eastern Time) Monday-Friday

CHEMTREC: (800) 424-9300 *For Chemical Emergency - spill, leak, fire, exposure or accident*
24 hours

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: INSTAPAK QUICK[®] RT COMPONENT "A"
Chemical Name: Polymethylene Polyphenylisocyanate
Trade Name: Polymeric MDI
Chemical Family: Aromatic Isocyanates
Chemical Formula: Not Available

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

<u>Hazardous Components:</u>	<u>CAS No.</u>	<u>Wt.%</u>	<u>OSHA-PEL</u>	<u>ACGIH-TLV</u>
Polymeric Diphenylmethane Diisocyanate (polymeric MDI or PMDI)	9016-87-9	100	Not Listed	Not Listed
Contains:				
4,4'-Diphenylmethane diisocyanate (4,4'-MDI; approx. 45%)	101-68-8		0.02 ppm (Ceiling)	0.005 ppm (TWA)
Other MDI isomers and oligomers	Not Listed		Not Listed	Not Listed

This product is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 3 - HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Health Hazards: Irritating to eyes, respiratory system and skin. Repeated inhalation of aerosols at levels above the occupational exposure limit could cause respiratory sensitization and risk of serious damage to respiratory system. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. Sensitized persons should not be exposed to any mixture containing unreacted MDI.

Physical Hazards: Reacts slowly with water to produce carbon dioxide that may rupture closed containers. This reaction accelerates at higher temperatures.

Appearance: Dark brown liquid.

Odor: Slightly aromatic (musty).

Note: Read the entire MSDS for a more thorough evaluation of the hazard information on this product.

SECTION 4 - FIRST AID MEASURES

Inhalation: Remove patient from further exposure and obtain medical attention. Treatment is symptomatic for primary irritation or difficulty in breathing. If breathing is labored, qualified personnel should administer oxygen. Apply artificial respiration if breathing has ceased or shows signs of failing. Asthmatic-like symptoms, if manifested, may develop immediately, or be delayed for up to several hours.

Skin Contact: Remove contaminated clothing. Immediately wash affected area thoroughly with soap and water. Some organic materials such as corn oil or propylene glycol are effective in decontaminating MDI from the skin when applied immediately. Contaminated clothing should be thoroughly cleaned before reuse. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.

Eye Contact: Immediately flush eyes with copious amounts of water for a minimum of 15 minutes, holding lids open with fingers. If irritation persists, repeat flushing. Refer individual to a physician for immediate follow-up.

Ingestion: Do NOT induce vomiting. Provided the patient is conscious, wash mouth out with water then give 1 or 2 glasses of water to drink. Refer person to medical personnel for immediate attention.

Note to Physicians: Symptomatic and supportive therapy as indicated. Following severe exposure, medical follow-up should be monitored for at least 48 hours.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point: 390°F (199°C) [Pensky-Martens Closed Cup]

Flammable Limits (lower): Not available

Flammable Limits (upper): Not available

Extinguishing Media: Water, carbon dioxide (CO₂), dry chemical, or appropriate foam. If water is used, large quantities are required. Reaction between water and hot isocyanate may be vigorous. Contain run-off water with temporary barriers.

Fire Fighting Procedures: As appropriate for surrounding materials/equipment.

Fire and Explosion Hazards: Pouches containing chemical may burst under intense heat or pressure. Due to reaction with water, a hazardous build-up of pressure could result if pouches contaminated with moisture are placed in a sealed container.

Fire Fighting Protective Equipment: Firefighters must wear self-contained breathing apparatus and full protective clothing (Bunker gear).

NFPA Hazard Code:	Health:	2
	Flammability:	1
	Reactivity:	1
	Special Hazard:	None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. If the potential for airborne concentrations of MDI above the PEL exists, then respiratory protection should be worn. Contain and cover spill with loose absorbent (earth, sand, sawdust or other absorbent material), or absorbent pillows, pads or socks. Collect absorbed material in open containers or plastic bags, and treat with deactivating solution (90% water, 8% concentrated ammonia, 2% detergent). Allow to stand uncovered for 48-72 hours to permit carbon dioxide to escape and solidification to occur. Wash spill area with deactivating solution and let stand for 30 minutes or longer. Dispose of absorbed and neutralized material properly.

SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Min. 50°F (10°C) Max. 100°F (38°C)

Average Shelf Life: 12 months (when stored in original, unopened, sealed containers).

Special Sensitivity: Reacts with moisture to produce carbon dioxide gas.

Precautions to be Taken in Handling and Storage: Do not store product uncovered outdoors. Do not place pouches contaminated with moisture in a sealed container. Do not breathe vapors or allow skin contact. To prevent possible leakage from pouches, do not store heavy items on top of this product.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: OSHA-PEL: 4,4'-Diphenylmethane diisocyanate; Ceiling = 0.02 ppm
ACGIH-TLV: 4,4'-Diphenylmethane diisocyanate; TWA = 0.005 ppm

HMIS Hazard Code:

Health	2*
Flammability	1
Reactivity	1
PPE	B (Personal Protective Equipment) (B= safety glasses and gloves)

*indicates a chronic hazard

Exposure Guidelines: Medical supervision of employees who come into contact with respiratory sensitizers is recommended. Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted.

Respiratory Protection: Due to the low vapor pressure of this material, the PEL is not likely to be exceeded under normal conditions. If the material is heated or spilled in a confined area, respiratory protection should be worn. An approved air purifying respirator equipped with an organic vapor cartridge and a HEPA (P100) particulate filter may be used when an appropriate cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1910.134). Where concentrations exceed the level for which an air-purifying respirator is effective, use a positive pressure, supplied air respirator.

Eye Protection: Safety glasses with side shields or goggles.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION (continued)

Protective Clothing: Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

Ventilation: Use local exhaust ventilation if necessary to maintain levels below the PEL. For guidance on engineering controls refer to the ACGIH publication "Industrial Ventilation."

Other: Eyewash station, safety shower, and deactivating solution (see Section 6) should be available. Refer to the "Instapak Quick® RT User's Guide" for additional information.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color: Dark brown

Odor: Slightly aromatic (musty)

Vapor Density (Air = 1): 8.5

Molecular Weight: Approx. 350

Melting Point: Not established.

Boiling Point: 406°F (208°C)

Vapor Pressure: $< 10^{-5}$ mm Hg at 25°C (for Polymeric MDI)

Specific Gravity: 1.24 at 25°C

Bulk Density: 10.3 lbs/gal

% Volatile by Volume: Nil

Solubility in Water: Not soluble. Reacts slowly to liberate CO₂ gas.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under normal conditions. Avoid temperatures above 110°F (43°C) or below 40°F (4°C).

Polymerization: May occur at elevated temperatures in the presence of moisture, alkalies, tertiary amines and metal compounds.

Conditions to Avoid: Contact with moisture and other materials that contain active hydrogen.

Incompatible Materials: Water, amines, strong bases and alcohols. The reaction with water is slow at temperatures less than 120°F (49°C) but is accelerated at higher temperatures.

Hazardous Decomposition Products: Highly unlikely under normal industrial use. Exposure to fire or extreme heat may generate oxides of carbon, oxides of nitrogen, and traces of hydrogen cyanide.

SECTION 11 - TOXICOLOGICAL INFORMATION

Polymeric MDI: LD₅₀ Oral: >10,000 mg/kg (rat)

LD₅₀ Dermal: >5,000 mg/kg (rabbit)

LC₅₀ Inhalation: >2,240 mg/m³/1 hour (rat) for an aerosol of monomeric MDI

370-490 mg/m³/4 hour (rat) for polymeric MDI

Primary Route(s) of Exposure: Skin contact from liquid. Inhalation. However, due to the low vapor pressure, overexposure is not expected under normal conditions unless material is heated or used in a poorly ventilated area.

Inhalation: This product is a respiratory irritant and potential respiratory sensitizer. Inhalation of vapor or aerosol at levels above the occupational exposure limit can cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat, and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of respiratory symptoms may be delayed for several hours after exposure.

SECTION 11 - TOXICOLOGICAL INFORMATION (continued)

A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. Sensitized persons should be removed from any further exposure. Persons with asthma-type conditions or other chronic respiratory diseases should be excluded from working with MDI. Like many other non-specific asthmatic responses, there are reports that a sensitized individual can experience symptoms upon exposure to dust, cold air or other irritants. In a single evaluation of 5 men occupationally exposed to MDI and hydrocarbon solvent vapors under conditions where adequate ventilation or other safety precautions were not used, neuropsychologic findings were attributed to MDI.

Skin Contact: May cause irritation or rash. Can cause skin discoloration. Repeated and/or prolonged contact may result in skin sensitization. Individuals who have skin sensitization can develop symptoms (e.g., reddening swelling, rash) from contact with liquid or vapors. There is limited evidence from laboratory tests that skin contact may play a role in respiratory sensitization. This data reinforces the need to prevent direct skin contact and the importance of protective gloves.

Eye Contact: Liquid can cause eye irritation, tearing, reddening and swelling. Permanent corneal injury is unlikely. Exposure to MDI vapors in excess of 0.02 ppm may cause irritation.

Ingestion: Ingestion is unlikely. Based on the acute oral LD₅₀, this product is considered practically non-toxic by ingestion. Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract.

Chronic Effects: A study was conducted where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol either at concentrations of 0, 0.2, 1, or 6 mg/m³. No adverse effects were observed at 0.2 mg/m³ concentrations. At the 1 mg/m³ concentration, minimal nasal and lung irritant effects were seen. Only at the top concentration (6 mg/m³) was there an increased incidence of benign tumor of the lung (adenoma) and one malignant tumor (adenocarcinoma). MDI administration to rats in this study did not change the distribution and incidence of tumors from those seen in control animals. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur.

Carcinogenicity: The ingredients of this product (>0.1%) are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA and not listed as carcinogens by NTP.

Mutagenicity: There is no substantial evidence of mutagenic potential.

Reproductive Effects: No adverse reproductive effects are anticipated.

Teratogenicity and Fetotoxicity: No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. The dose that produced this effect (1.2 ppm) is 60 times higher than the OSHA-PEL. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations well in excess of the defined occupational exposure limits.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate and Distribution: It is unlikely that significant environmental exposure in the air or water will arise, based on consideration of the production and use of the substance.

SECTION 12 - ECOLOGICAL INFORMATION (continued)

Persistence and Degradation: Immiscible with water, but will react with water to produce carbon dioxide, and inert and non-biodegradable solids.

Aquatic Toxicity:

LC₅₀: >1000 mg/l (Zebra fish) At the highest level of 1000 mg/l, there were no deaths.
EC₅₀ (24 hour): >1000 mg/l (Daphnea magna)
EC₅₀: >100 mg/l (E. Coli)

SECTION 13 - DISPOSAL CONSIDERATIONS

Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations. This material is not a hazardous waste under RCRA 40 CFR 261 when disposed of in its purchased form. Small quantities should be treated with deactivation solution outlined in Section 6. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways.

SECTION 14 - TRANSPORT INFORMATION

DOT: Single containers less than 5,000 pounds are not regulated.

IMO: Not regulated.

IATA/ICAO Class: Not regulated.

Reportable Quantity (RQ): 5,000 lbs. for Methylene diphenyl diisocyanate (4,4'-MDI), CAS #101-68-8 (≈ 45% of product).

SECTION 15 - REGULATORY INFORMATION

TSCA Status: All ingredients are listed or are not required to be listed.

CERCLA Status: Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

SARA 302 Extremely Hazardous Substances: None

SARA 311/312 Hazard Categories: Immediate (acute) Health Hazard
Delayed (chronic) Health Hazard

SARA 313 Listed Ingredients: This product contains the following chemicals subject to reporting requirements: 100% Diisocyanate compounds (Category Code N120).

This product contains a trace (ppm) amount of monochlorobenzene (CAS# 108-90-7) as an impurity.

SECTION 16 - OTHER INFORMATION

Other Regulations/Legislation which apply to this product: Massachusetts Right-to-Know, New Jersey Right-to-Know, Pennsylvania Right-to-Know [Methylene bisphenyl isocyanate (4,4'-MDI), CAS#101-68-8].

Section(s) Revised: New Issue.

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M-65 Rev. 9/2005

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CHEMTREC: (800) 424-9300 *For Chemical Emergency - spill, leak, fire, exposure or accident*
24 hours

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: INSTAPAK QUICK[®] RT COMPONENT "B"
Chemical Name: Polyurethane Foam Resin
Trade Name: Polyol
Chemical Family: N.A.
Chemical Formula: N.A.

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

<u>Hazardous Components</u>	<u>CAS No.</u>	<u>Wt. %</u>	<u>OSHA-PEL</u>	<u>ACGIH-TLV</u>
Amine Catalyst	Proprietary	≈ 5	Not Established	Not Established

This product is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 3 - HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Health Hazards: Irritating to eyes and skin. Inhalation may result in irritation.

Physical Hazards: No immediate hazard.

Appearance: Liquid can be a straw to amber color and have a clear to cloudy appearance.

Odor: Slight amine.

Note: Read the entire MSDS for a more thorough evaluation of the hazard information on this product.

SECTION 4 - FIRST AID MEASURES

Inhalation: Remove patient from further exposure and obtain medical attention. Administer oxygen if necessary.

Skin Contact: Wash area thoroughly with soap and water. Launder contaminated clothing before reuse.

Eye Contact: Flush with copious amounts of water for at least 15 minutes, holding lids open with fingers.

Ingestion: Drink water to dilute and obtain medical attention.

Note to Physicians: Symptomatic and supportive care as indicated.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Product as supplied does not have a flash point. [Pensky-Martens Closed Cup]

Flammable limits (lower): Not applicable.

Flammable limits (upper): Not applicable.

Extinguishing Media: Carbon dioxide (CO₂), chemical foam, dry chemical, water spray.

Fire Fighting Procedures: As appropriate for surrounding materials/equipment.

Fire and Explosion Hazards: Pouches containing chemical may burst under intense heat or pressure.

Fire Fighting Protective Equipment: Firefighters must wear self-contained breathing apparatus to protect against toxic and irritating vapors; full protective clothing should also be worn (Bunker gear).

NFPA Hazard Code:

Health:	2
Flammability:	1
Reactivity:	0
Special Hazard:	None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Evacuate area surrounding the spill and prevent further leakage, spillage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. Contain and cover spill with loose absorbent (earth, sand, sawdust or other absorbent material) or absorbent pillows, pads or socks. Collect absorbed material in open containers or plastic bags. Dispose of spilled material properly.

SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Min. 35°F (2°C) Max. 110°F (43°C)

Average Shelf Life: 12 months (when stored in original, unopened, sealed containers).

Special Sensitivity: None.

Precautions to be Taken in Handling and Storage: To prevent possible leakage from pouches, do not store heavy items on top of this product.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: OSHA-PEL: Not Established
ACGIH-TLV: Not Established

HMIS Hazard Code:

Health	2
Flammability	0
Reactivity	0
PPE	B (Personal Protective Equipment) (B= safety glasses and gloves)

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION (continued)

Respiratory Protection: The use of respiratory protection should not be needed under normal use and handling conditions. If protection is chosen, an air purifying respirator, equipped with organic vapor cartridges, is appropriate.

Eye Protection: Safety glasses with side shields or goggles.

Protective Clothing: Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

Ventilation: Good general ventilation. For guidance on engineering controls refer to the ACGIH publication "Industrial Ventilation."

Other: Eyewash station and safety shower should be available. Refer to the "Instapak Quick[®] RT User's Guide" for additional information.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color: Light straw or amber

Odor: Slight amine

Vapor Density (Air = 1): > 1

Molecular Weight: Not applicable

Melting Point: <-3°F (<-20°C)

Boiling Point: >201°F (94°C)

Vapor Pressure: Not established (low)

Specific Gravity: 1.055 at 25°C

Bulk Density: 8.5 lbs/gal

% Volatile by Volume: Nil

Solubility in Water: Soluble

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable.

Polymerization: Will not occur.

Conditions to Avoid: None.

Incompatible Materials: Contact with isocyanates, unless mixed at the proper ratio, should not occur.

Hazardous Decomposition Products: By fire or extreme heat, oxides of carbon and nitrogen.

SECTION 11 - TOXICOLOGICAL INFORMATION

<u>Toxicity Data:</u>	LD ₅₀ Oral:	Not Established
	LD ₅₀ Dermal:	Not Established
	LC ₅₀ Inhalation:	Not Established

Primary Route(s) of Exposure: Skin contact from liquid. Inhalation. However, overexposure is not expected under normal conditions.

SECTION 11 - TOXICOLOGICAL INFORMATION (continued)

Inhalation: Vapors may be irritating if hot.

Skin Contact: Repeated contact may be irritating.

Eye Contact: Can cause eye irritation. Permanent corneal injury is unlikely.

Ingestion: Ingestion is unlikely. Large quantities could cause irritation of mouth and stomach.

Chronic Effects: No applicable data.

Carcinogenicity: The ingredients of this product (>0.1%) are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Mutagenicity: No applicable data.

Reproductive Effects: No applicable data.

Teratogenicity and Fetotoxicity: No applicable data.

SECTION 12 - ECOLOGICAL INFORMATION

No applicable data for this section.

SECTION 13 - DISPOSAL CONSIDERATIONS

Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations. This material is not a hazardous waste under RCRA 40 CFR 261 when discarded in its purchased form. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways.

SECTION 14 - TRANSPORT INFORMATION

DOT: Not regulated.

IMO: Not regulated.

IATA/ICAO Class: Not regulated.

Reportable Quantity (RQ): Not applicable.

SECTION 15 - REGULATORY INFORMATION

TSCA Status: All ingredients are listed or are not required to be listed.

CERCLA Status: Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

SARA 302 Extremely Hazardous Substances: None.

SARA 311/312 Hazard Categories: Immediate (acute) Health Hazard.

SARA 313 Listed Ingredient(s): None.

SECTION 16 - OTHER INFORMATION

Other Regulations/Legislation which apply to this product: Substances used to manufacture this product do not require listing under Massachusetts, New Jersey or Pennsylvania Right-to-Know regulations.

Section(s) Revised: New Issue.

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