

Section 1. Product and Company Identification

Product Name	PRECIDIUM™ MTI 2200 Primer Iso Black PRECIDIUM™ brand name is a trademark of Quantum Chemical; used with permission.
Manufacturer	Quantum Technical Services Ltd. (Dba Quantum Chemical) 15 Riel Drive St. Albert, AB, Canada T8N 3Z2 Tel: (780) 458-3355 (non-emergency phone number) Fax: (780) 458-2852 www.quantumchemical.com
Chemical Emergencies	For 24-Hour Emergency call Canutec at 613.996.6666

Section 2. Hazards Identification

2.1 Classification:

OSHA Regulatory Status: This material is considered hazardous by the OSHA Hazard Communication Standard (CFR 1910.1200)

WHMIS:
B2 Flammable Liquid
D-2A Materials causing other toxic effects – (very toxic)
D-2B Material causing other toxic effects (toxic)

GHS Classification:	Flammable Liquids	Category 3
	Acute Toxicity: Inhalation	Category 4
	Acute Toxicity (Dermal)	Category 4
	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Eye Irritation	Category 2A
	Specific Target Organ Toxicity (single exposure) [Respiratory Tract Irritation]	Category 3
	Specific Target Organ Toxicity (repeated exposure) [Liver, Kidney, Central Nervous System]	Category 2
	Specific Target Organ Toxicity (repeated exposure) [Oral]	Category 2
	Aspiration Hazard	Category 1
	Respiratory Sensitization	Category 1
	Skin Sensitization	Category 1
	Carcinogenicity	Category 2
	Reproductive Toxicity	Category 1B

2.2 Label Elements:

Pictogram:



Signal Word: DANGER

Hazard Statements:	<p>H226 Flammable liquid and vapor.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H312+H332 Harmful in contact with skin or if inhaled.</p> <p>H315+H318 Causes skin irritation. Causes serious eye damage.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H372 Causes damage to organs (lungs) through prolonged or repeated exposure.</p> <p>R42/43 May cause sensitization by inhalation and skin contact.</p> <p>R68/20 Harmful: possible risk of irreversible effects through inhalation.</p> <p>H360FD May damage fertility. May damage the unborn child.</p> <p>H351 Suspected of causing cancer.</p>
Precautionary Statements:	<p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking.</p> <p>P233 Keep container tightly closed.</p> <p>P240 Ground and bond container and receiving equipment.</p> <p>P241 Use explosion proof electrical/ventilating/lighting equipment.</p> <p>P242 Use only non-sparking tools.</p> <p>P243 Take action to prevent static discharges.</p> <p>P262 Do not get in eyes, on skin, or on clothing.</p> <p>P281 Use personal protective equipment as required.</p> <p>P264 Wash exposed skin thoroughly after handling.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P260 Do not breathe dust/fumes/gas/mist/vapours/spray.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P285 In case of inadequate ventilation wear respiratory protection.</p>
Response:	<p>P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/Doctor.</p> <p>P303+P361+P353 IF ON SKIN (or Hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P361+P364 Take off immediately all contaminated clothing and wash it before reuse.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.</p> <p>P337+P313 If eye irritation persists: Get medical advice/attention.</p> <p>P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.</p> <p>P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P331 Do NOT induce vomiting.</p> <p>P370+P378 In case of fire use dry sand, dry chemical, or alcohol resistant foam to extinguish.</p>
Storage:	<p>P403 Store in a well-ventilated place.</p> <p>P233 Keep container tightly closed.</p> <p>P235 Keep cool.</p> <p>P405 Store locked up.</p>
Disposal:	<p>P501 Dispose of contents/containers in accordance with local/regional/national/international regulations.</p>

Section 3. Composition and Ingredient Information

Hazardous Ingredients:	%	ACGHI TLV	C.A.S. #	LD ₅₀	LC ₅₀
4, 4'-Diphenylmethane Diisocyanate (MDI)	15-40	005 ppm	101-68-8	Oral (rat) >5,000 mg/kg Dermal (rabbit) >5,000mg/kg	(rat)=490 mg/m ³ /4-hour (respirable aerosol)
Prepolymer of MDI and polyether polyol.	15-40		None Available		
Mixed Xylenes	30-60	100 ppm (TWA)	1330-20-7	Oral LD50(rat) 3,523 mg/kg Dermal LD50 (rabbit)1,100 mg/kg	(rat)=6700 ppm, 4-hour

Note: Composition ranges above are given to protect proprietary information.

Ethylbenzene	0-15	20 ppm (TWA)	100-41-4
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Toluene	0-3		108-88-3
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Note: Composition Ranges above are provided by our raw material suppliers; more precise ranges are not possible.

Section 4. First Aid Measures

Eye Contact:	Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY.
Skin Contact:	Remove contaminated clothing. Wash affected areas thoroughly with plenty of soap and water. Some organic materials such as corn oil and propylene glycol are effective in decontaminating MDI from the skin when applied immediately. If irritation, redness or a burning sensation develops and persists, obtain medical advice. Contaminated clothing should be thoroughly cleaned before reuse.
Inhalation:	Remove patient from exposure, keep warm and at rest. Obtain medical attention. Treatment is symptomatic for primary irritation or breathing difficulty. If breathing is labored, oxygen should be administered by qualified personnel. Apply artificial respiration if breathing has ceased or shows signs of failing.
Ingestion:	Do NOT induce vomiting. Provided the patient is conscious, wash out mouth with water. Refer person to medical personnel for immediate attention.
Additional Information:	In case of accident or if you feel unwell, seek medical advice IMMEDIATELY (show the label where possible).
NOTE to Physicians:	Symptomatic and supportive therapy as needed. Following severe exposure, medical follow-up should be monitored for at least 48 hours. Inhalation of high concentrations, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias.

Section 5. Fire Fighting Measures

Extinguishing Media:	Carbon dioxide, dry chemical or appropriate foam. If water is used, use very large quantities. The reaction between water and hot isocyanates may be vigorous. Contain run-off water with temporary barriers.
Flash Point:	27°C/(81° F)
Auto Ignition Temperature (C):	432°C
Upper Explosion Limit:	7%
Lower Explosion Limit:	1%
Hazardous Combustion Products:	Under fire conditions, fumes, smoke, carbon monoxide, carbon dioxide, nitrogen oxides and some HCN.
Explosion Data:	
Sensitivity to Mechanical Impact:	None
Sensitivity to Static Discharge:	None
Unusual Fire and Explosion Hazards:	Containers may burst under intense heat. Due to reaction with water, a hazardous build-up of pressure could result if contaminated containers are resealed.
Special Fire Fighting Procedures:	Firefighter should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Protective clothing should be worn.

Section 6. Accidental Release Measures

Leak/Spill:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
	Clean-up should only be performed by trained personnel. People dealing with major spillage should wear full protective clothing including respiratory protection. Evacuate the area. Prevent further leakage, spillage or entry into drains. Contain and absorb large spillage onto an inert, non-flammable absorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Remove and dispose of residues. Notify applicable government authorities if release is reportable. The CERCLA RQ for MDI is 5,000 lbs.
Preparation of Decontamination Solution:	Prepare a decontamination solution of 0.2-0.5% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precautions on the supplier's Safety Data Sheets when preparing and using solution.
Use of Decontamination Solution:	Allow deactivated material to stand for at least 30 minutes before shoveling into drums. Do not tighten the bungs. Mixing with wet earth is also effective, but slower.

Section 7. Handling and Storage

Handling:	Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the defined occupational limit is not exceeded. The efficiency of the ventilation must be monitored regularly because of the possibility of blockage. Avoid breathing aerosols, mists and vapors. When the product is sprayed or heated, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required.
Storage Needs:	Keep containers properly sealed and when stored indoors, in a well-ventilated area. Keep contents away from moisture. Due to reaction with water, producing CO ₂ -gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers! Uncontaminated containers, free of moisture, may be re-sealed only after placing under a nitrogen blanket. Do not store in containers made of copper, copper alloys or galvanized surfaces.

Section 8. Exposure Controls and Personal Protection.

Protective Equipment:	
Eye:	Safety spectacles. If there is a potential for splashing, use a full face shield.
Respiratory:	Use a NIOSH-approved respirator with organic vapour cartridges. A positive pressure air-supplied respirator equipped with a full face piece, or an air-supplied hood can also be used.
Gloves:	Neoprene, nitrile-butadiene rubber, butyl rubber. Thin disposable gloves should be avoided for repeated or long term use.
Clothing:	Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.
Other/Type:	Eyewash fountain. Emergency shower should be in close proximity.
Ventilation Requirements:	Use local exhaust ventilation to keep airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For general guidance on engineering control measures, refer to the ACGIH publication "Industrial Ventilation."
Engineering Controls:	Conditions of use, adequacy of engineering or other control measures and actual exposures will dictate the need for specific protective devices at your workplace.

HAZARDOUS INGREDIENTS

4,4'-Diphenylmethane Diisocyanate:	ACGIH TLV OSHA PEL CEILING	TWA 0.005 ppm 8-hour 0.02 ppm, 0.2 mg/m ³
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NOTE: The occupational exposure limits listed for isocyanates do not apply to previously sensitized individuals.

Mixed Xylenes	ACGIH TWA ACGIH STEL	100 PPM 150 PPM
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Section 9. Physical and Chemical Properties

Physical State:	Liquid.
Viscosity:	~400 Centipoises at 74° F.
Odor and Appearance:	Pale yellow liquid, slightly musty odor.
Specific Gravity (H ₂ O=1):	1.005 at 74° F.
Odor Threshold (ppm):	0.4 mg/M ³ (4,4'-Diphenylmethane Diisocyanate).
Vapor Pressure (mm Hg):	Approximately 1.06 kPa.
Vapor Density (Air=1):	Approximately 3.66.
Evaporation Rate:	Not available.
Boiling Point:	Not available.
pH:	Not applicable.
Solubility in Water:	Reacts with water.
Coefficient of Water/Oil:	Not available.
Distribution:	Not applicable.
Freezing Point (°C):	Not available.
Melting Point (°C):	Not applicable.

Section 10. Stability and Reactivity

Stable:	Stable at room temperature.
Incompatibility:	This product will react with any materials containing active hydrogens such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 50°C (122° F) but is accelerated at higher temperatures.

Reactivity Conditions:	N/A
Hazardous products of Decomposition:	Highly unlikely under normal industrial use.
Polymerization:	Polymerization may occur at elevated temperatures in the presence of alkalis, tertiary amines, and metal compounds.
Conditions to Avoid:	Avoid high temperatures. Avoid freezing.

Section 11. Toxicological Information

Mixed Xylenes:	Acute Oral Toxicity	LD50 (rat)	3523 mg/kg
	Acute Inhalation Toxicity	LC50 (rat)	6700 ppm (4-hour)
	Acute Dermal Toxicity	LD50 (rabbit)	1100 mg/kg
Polymeric MDI:	Oral	LD50 (rat)	>5000mg/kg
	Dermal	LD50 (rabbit)	>5000mg/kg
	Inhalation	LC50 (rat)	= 490mg/M ³ (4-hour exposure to respirable aerosols)
Potential Health Effects:			
Inhalation:	<p>This product is a respiratory irritant and potential sensitizer. Inhalation of vapour or aerosol at levels above the occupational exposure level could cause respiratory sensitization and lung injury. 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 and/or flu-like symptoms. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyperactive response to even minimal concentrations of MDI may develop in sensitized persons. In a single evaluation of 5 men occupationally exposed to MDI and hydrocarbon vapour under conditions where adequate ventilation or other safety precautions were not used, neuropsychologic findings were attributed to MDI.</p>		
Skin Contact:	<p>Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization. There is limited evidence from animal studies that skin contact may play a role in respiratory sensitization. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.</p>		
Eye Contact:	<p>The aerosol, vapor or liquid will irritate human eyes following contact.</p>		
Ingestion:	<p>Ingestion may cause irritation of the gastrointestinal tract. Based on the acute oral LD50, this product is considered practically non-toxic by ingestion.</p>		
Chronic Effects:	<p>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 aerosols at concentrations of 0, 0.2, 1 or 6 mg/M³. No adverse effects were observed at 0.2 mg/M³. At the 1 mg/M³ concentration, minimal nasal and lung irritant effects were seen. Only at the top concentration (6.0 mg/M³) was there an increased incidence of a benign tumor of the lung (adenoma). One malignant pulmonary tumor (adenocarcinoma) was seen in the 6.0 mg/M³ group. 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.</p> <p>There are reports that excessive chronic exposure to diisocyanates may result in permanent decrease in lung function.</p>		

Carcinogenicity:	The ingredients of this product 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. Fetotoxicity was not observed at doses that were maternally toxic. The doses used in these studies were maximal, respirable concentrations well in excess of the defined occupational limits.

Section 12. Ecological Information

Mixed Xylenes

Aquatic Toxicity:	Fish	LC50 (96-hour)	2.6 mg/l
	Daphnia magna	EC50 (24-hour)	.1 mg/l
	Algae	EC50 (72-hour)	4.36 mg/l

Polymeric MDI

Aquatic Toxicity:	Fish	LC50 (96-hour)	>100 mg/l
	Daphnia magna	EC50 (48-hour)	.1000 mg/l

Persistence/Degradability: Poorly biodegradable.

Bioaccumulation: Low Potential.

Mobility in Environmental Media: Data not available.

Section 13. Disposal Considerations

Waste Disposal: The generation of waste should be avoided or minimized wherever possible. Disposal should be in accordance with Federal, Provincial and Municipal regulations. Chemical waste, even small quantities, should never be poured down drains, sewers or water-ways. Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

Section 14. Transport Information

DOT: UN2478, Isocyanate Solution, Flammable, Toxic N.O.S.
Cass 3, Packaging Group III

IATA: (International Air Transport Association)
UUN2478, Isocyanate Solution, Flammable, Toxic N.O.S.
Cass 3, Packaging Group III. Flash Point 27C (81° F)

This product has been classified as Class 3 because a major component is classified as Class 3.

Section 15. Regulatory Information

WHMIS Classification: B2 Flammable Liquid.
D2A Very Toxic Material Causing Other Toxic Effects.
D2B Toxic Material Causing Other Toxic Effects.

Canadian DSL:	All components listed or exempted.
OSHA Hazards:	Flammable liquid, harmful by skin absorption. Aspiration hazard. Highly toxic, respiratory sensitizer, skin sensitizer, irritant; Target organ: Respiratory tract. Skin.
TSCA (Toxic Substances Control Act) Regulations EPCRA Section 313 (40 CFR 372) CERCLA (Comprehensive Environmental Response, Compensation and Liability Act):	This product contains the following chemical(s) subject to reporting requirements: 100% Diisocyanate compounds (Category Code N120). 4,4'-Methylene diphenyl diisocyanate (CAS 101-68-8) has 5,000 lb. RQ (reportable quantity). Any spill or release above the RQ must be reported to the National Response Center (800-424-8802). The % of 4,4'-MDI in this product is listed in this SDS. This product does not contain nor is it manufactured with ozone depleting substances.
Other Regulations Which Might Apply to this Product:	Massachusetts Right-to-Know, Pennsylvania Right-to-Know, New Jersey Right-to-Know, CERCLA,
California Prop 65:	Warning: This product contains a chemical known to the State of California to cause cancer (Ethylbenzene 100-41-4) Warning: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (Toluene 108-88-3).

Section 16. Other Information

Revision Date:	February 28, 2023
Note:	This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Quantum Technical Services Ltd. The data on this sheet relates only to the specific material designated herein. Quantum Technical Services Ltd. assumes no legal responsibility for use or reliance upon this data.