SAFETY DATA SHEET

Quantum Technical Services Ltd.

Section 1. Product and Company Identification

Product Name

PRECIDIUM™ MTI 850DFR Membrane Resin Grey
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 2012 OSHA Hazard Communication Standard (CFR 1910.1200)

GHS Classification:

Eye Damage Irritant	**Category 1**
Skin Corrosion/Irritation	**Category 1B**
Acute Toxicity (oral)	**Category 4**
Acute Toxicity (Dermal)	**Category 4**
Reproductive Toxicity	**Category 1B**
Acute Aquatic Toxicity	**Category 2**
Chronic Aquatic Toxicity	**Category 1**

2.2 Label Elements:
Pictogram:

Signal Word:

Danger

Hazard Statements:

H301 Toxic if swallowed.
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H360 May damage fertility or the unborn child.
H372 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
H290 May be corrosive to metals.

Precautionary Statements:	**P202** Do not handle until all safety precautions have been read and understood. **P264** Wash face, hands and any exposed skin thoroughly after handling. **P270** Do not eat, drink, or smoke when using this product. **P280** Wear protective gloves/protective clothing/eye protection/face protection. **P260** Do not breathe dust/fume/gas/mist/vapors/spray. **P284** [In case of inadequate ventilation] wear respiratory protection. **P273** Avoid release to the environment.
Response:	**P314** Get medical advice/attention if you feel unwell. **P305+P351+P338+P313** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical advice/attention. **P302+P350** IF ON SKIN: Gently wash with plenty of soap and water. **P332+P313** If skin irritation occurs: Get medical advice/attention. **P304+P340** IF INHALED: Remove person to fresh air and keep comfortable for breathing. **S64/P301+P310+P331** IF SWALLOWED: Rinse mouth with water (only if person is conscious). Drink plenty of water. Do NOT induce vomiting. Immediately call a POISON CENTRE/doctor.
Storage:	**P233** Keep container tightly closed.
Disposal:	**P501** Dispose of contents/containers in accordance with local/regional/national/international regulations.

Section 3. Composition and Ingredient Information

Hazardous Ingredients:	**%**	**T.L.V.**	**C.A.S. #**	**LD/50,**	**Route**	**Species**
Poly (oxy(methyl-1,2-Ethanediyl)), alpha-(2-Aminomethylethyl)omega-(2-aminomethylethoxy) –diamine	15-40	N/D	9046-10-0	480mg/Kg	oral	rat
Diethylmethylbebnzenediamine	7-13		68479-98-1	738 mg/kg	oral	rat
Boric Acid, Zinc Salt	7-13		1332-07-6			
4,4’-methylenebis[N-sec-butylaniline]	10-30		5285-60-9			
Ammonium Polyphosphate	15-40	N/A	68333-79-9			

Note: Composition ranges are given to protect proprietary information.

Section 4. First Aid Measures

Eye Contact:	In case of contact, immediately flush eyes with plenty of water for at least 1-5 minutes. Obtain immediate medical attention.
Skin Contact:	In case of contact, immediately flush skin with plenty of soap and water. Remove contaminated clothing. Wash clothing before reuse. Obtain immediate medical attention.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention.
Ingestion:	If ingested, rinse out mouth; dilute with water. Consult a physician. **Do not induce vomiting**. Never give anything by mouth to an unconscious person.

Section 5. Fire Fighting Measures

Flash Point:	234°C (CC).
Auto Ignition Temperature (°C):	330°C.
Upper Explosive Limit:	Not available.
Lower Explosive Limit:	Not available.
Extinguishing Media:	Water fog. Use flooding amounts of water in early stages of fire.
Unusual Hazards:	Not applicable.
Sensitivity to Mechanical Impact:	Not expected to be sensitive to mechanical impact.
Sensitivity to Static Discharge:	Not expected to be sensitive to static discharge.
Special Fire Fighting Procedures:	Cool fire-exposed containers with water spray. Heat will cause pressure build up that may cause explosive rupture. Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

Section 6. Accidental Release Measures

Leak/Spill:	Spills should be contained, solidified, and placed in suitable containers for disposal in a licensed facility. Wear respiratory protection and protective clothing. Provide adequate ventilation. This product is an alkaline. Before discharging sewage into treatment plants neutralization is generally required. It can be mechanically removed from water due to insolubility.

Section 7. Handling and Storage

Handling Procedures:	Avoid skin and eye contact. Avoid breathing fumes. Remove contaminated clothing before reuse. Maintain good personal hygiene.
Storage Needs:	Store in a cool and dry place, for product integrity. Store in tightly sealed container and protect from moisture and foreign materials. Keep container closed when not in use.

Section 8. Exposure Controls and Personal Protection.

Protective Equipment:

Eye/Type:	Liquid chemical goggles. Contact lenses should not be worn.
Respiratory/Type:	At least an air-purifying respirator equipped with an organic vapor cartridge and particulate pre-filters must be worn.
Gloves/Type:	Rubber or plastic gloves. Butyl rubber gloves. Nitrile rubber; a barrier cream. Practice good hygiene; wash thoroughly before handling any food.
Clothing/Type:	Wear adequate protective clothes.
Other/Type:	Eyewash fountain. Emergency shower should be in close proximity.
Ventilation Requirements:	Ventilate adequately.

Section 9. Physical and Chemical Properties

Physical State:	Liquid.
Odor:	Amine.
Specific Gravity:	Approximately 1.3.
Odor Threshold (ppm):	Not applicable.
Vapor Pressure (mm Hg):	Not available.
Vapor Density (Air=1):	>1
Evaporation Rate:	Nonvolatile.
Boiling Point:	Not available.
pH:	Not available.
Solubility in Water:	Not available.
Freezing Point (°C):	Not available.

Section 10. Stability and Reactivity

Incompatibility:	Acids, isocyanates and oxidizing agents.
Reactivity Conditions:	See “incompatibility”.
Hazardous products of Decomposition:	Carbon Monoxide/Dioxide. NOx

Section 11. Toxicological Information

Poly (oxy(methyl-1,2-Ethanediyl)), 9046-10-0 alpha-(2-Aminomethylethyl)omega-(2-aminomethylethoxy) –diamine

Acute Toxicity:	Oral (rat)	LD50	2885 mg/kg
	Dermal (rabbit)	LD50	2,980 mg/kg
	Inhalation (rat)	LC50	>0.74 mg/l (8-hour, no mortality observed)
Irritation/Corrosion:			
Skin (rabbit):	Corrosive.		
Eye (rabbit):	Risk of serious damage to the eyes.		
Genetic Toxicity:	Not mutagenic.		
Carcinogenicity:	No data available.		
Reproductive Toxicity:	No evidence of fertility impairing effect.		
Teratogenicity:	No evidence of teratogenicity.		

Diethylmethylbebnzenediamine 68479-98-1

Acute Toxicity:	Oral (rat)	LD50	738 mg/kg
	Dermal (rat)	LD50	>2,000 mg/kg
Irritation/Corrosion:			
Skin (rabbit):	Non Irritant		
Eye (rabbit):	Irritant		
Sensitization (Guinea Pig):	Not sensitizing		

Boric Acid, Zinc Salt:	**1332-07-6**		
Acute Toxicity:	Oral (rat)	LD50	>5,000 mg/kg
	Dermal (rabbit)	LD50	>5,000 mg/kg
Irritation/Corrosion:			
Eye:	May cause eye irritation.		

4,4'-methylenebis [N-sec-butylaniline]	**5285-60-9**		
Acute Toxicity:	Oral (rat)	LD50	1380 mg/kg
	Dermal (rabbit)	LD50	3090 mg/kg
Irritation/Corrosion:			
Skin:	No		
Eye:	No		

Sensitization: Not sensitizing.

Genetic Toxicity: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Reproductive Toxicity: No known significant effects or critical hazards.

Single Dose Toxicity: No known significant effects or critical hazards.

Repeated Dose Toxicity: No known significant effects or critical hazards.

Ammonium Polyphosphate	**68333-79-9**		
Acute Toxicity:	Oral	LD50	>2000 mg/kg

Section 12. Ecological Information

Poly (oxy(methyl-1,2-Ethanediyl)), 9046-10-0 alpha-(2-Aminomethylethyl)omega-(2-aminomethylethoxy) –diamine

Aquatic Toxicity:	Fish (Oncorhynchus mykiss)	LC50 (96-hour)	>15 mg/l
	Fish (Cyprinodon variegatus)	LC50 (96-hour)	772.14 mg/l
	Aquatic Invertebrates (Daphnia magna)	EC50 (48-hour)	80 mg/l
	Aquatic Plants (Pseudokirchneriella subcapitata)	EC50 (72-hour)	15 mg/l
	Aquatic Plants (Skeletonema costatum)	EC50 (72-hour)	141.72 mg/l

Microrganisms/Effect on Activated Sludge: Activated Sludge EC20 (3 hr) 380 mg/l.

Persistence and Degradability: Not readily biodegradable.

Bioaccumulation Potential: No significant accumulation is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

Mobility in Soil: Adsorption to solid phase is not expected.

Diethylmethylbebnzenediamine	**68479-98-1**		
Aquatic Toxicity:	Fish (Leuciscus idus)	LC50 (48-hour)	>194 mg/l
	Aquatic Invertebrates (Daphnia magna)	EC50 (48-hour)	<1 mg/l
Microrganisms/Effect on Activated Sludge:	Bacteria (Pseudomonas putida)	EC10 (16-hour)	170 mg/l
Persistance and Degradability:	Not readily biodegradable.		

Boric Acid, Zinc Salt	**1332-07-6**		
Aquatic Toxicity:	Fish (Oncorhynchus mykiss)	LC50 (96-hour)	2.7 mg/l
	Aquatic Invertebrates (Daphnia magna)	EC50 (48-hour)	0.068 mg/l
	Algae	EC50 (72-hour)	0.12 mg/l
Persistence and Degradability:	No data available.		

4,4'-methylenebis [N-sec-butylaniline]	**5285-60-9**

Not classified as hazardous to aquatic life.

Section 13. Disposal Considerations

Waste Disposal: In accordance with municipal, provincial and federal regulations. Empty containers must be handled with care due to product residue. Do not heat or cut empty containers with electric or gas torch.

Section 14. Transport Information

T.D.G. Classification: Amine, liquid, corrosive, N.O.S., Class 8, UN2735, Packing Group II

This product is classified as Class 8 because a major component is Class 8.

Section 15. Regulatory Information

Canadian DSL: All substances are listed.

Section 16. Other Information

Revision Date: February 27, 2023

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