POLYMETHYLENE POLYPHENYL ISOCYANATE

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
PAPI

Liquid
Dark brown
Weak odor

KEEP PEOPLE AWAY, AVOID CONTACT WITH LIQUID AND VAPOR.

Call fire department.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Containers may explode in fire.

Extinguish with dry chemicals or carbon dioxide.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

POISONOUS IF SWALLOWED.

Inhaling to skin and eyes.
Remove contaminated clothing and shoes.
Clean shore line

Water

Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

Pollution

Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Ship discharge
Collection Systems: Pump
Clean shore line

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: I, isocyanate or polymer

2.2 Formula: C12H4NCO(CH2)4NCO

2.3 IMO UN Designation: Not listed

2.4 DOT ID No.: Not listed

2.5 CAS Registry No.: Currently not available

2.6 NAERG Guide No.: Not listed

2.7 Standard Industrial Trade Classification: 5149

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Air-line or organic canister mask, goggles or face shield; rubber gloves and other protective clothing to prevent contact with skin.

3.2 Symptoms Following Exposure: Inhalation causes breathlessness, chest discomfort, and reduced pulmonary function; wheezing, cough, and spasm may also occur. Contact with liquid irritates eyes and skin. Ingestion causes irritation of mouth and stomach.

3.3 Treatment of Exposure: Get medical attention at once following all exposures to this compound.

Inhalation: remove victim to fresh air; give artificial respiration if breathing has stopped; oxygen can be given by qualified personnel.

Eyes: immediately wash with large amounts of water for at least 15 min.

Skin: flush immediately with water, wash off, treat with 30% isopropyl alcohol (rubbing alcohol), and wash with soap and water.

Ingestion: induce vomiting at least 3 times by rubbing alcohol, and wash with soap and water. INGESTION: induce vomiting at least 3 times by rubbing alcohol, and wash with soap and water.

3.4 TLV-TWA: Not listed.

3.5 TLV-STEL: Not listed.

3.6 TLV-CEILING: Not listed.

3.7 Toxicity by Ingestion: Grade 1; LD50 = 5 to 15 g/kg

3.8 Toxicity by Inhalation: Currently not available.

3.9 Chronic Toxicity: Currently not available

3.10 Vapor (Gas) Irritant Characteristics: Vapors are moderately irritating such that personnel will not usually tolerate moderate or high concentrations.

3.11 Liquid or Solid Characteristics: Causes smarting of the skin and first-degree burns on short exposure; may cause second-degree burns on long exposure.

3.12 Odor Threshold: Currently not available

3.13 IDLH Value: Not listed.

3.14 OSHA PEEL-TWA: Not listed.

3.15 OSHA PEEL-STEL: Not listed.

3.16 OSHA PEEL-Ceiling: Not listed.

3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 425°F O.C.

4.2 Flammable Limits in Air: Not pertinent

4.3 Fire Extinguishing Agents: Dry chemical or carbon dioxide

4.4 Fire Extinguishing Agents Not to Be Used: None

4.5 Special Hazards of Combustion Products: Not pertinent

4.6 Behavior in Fire: Containers may explode.

4.7 Auto-Ignition Temperature: Currently not available

4.8 Electrical Hazards: Not pertinent

4.9 Burning Rate: Currently not available

4.10 Abnormal Flame Temperature: Currently not available

4.11 Stoichiometric Air to Fuel Ratio: Not pertinent

4.12 Flame Temperature: Currently not available

4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent

4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: Reacts slowly, forming heavy scum and liberating carbon dioxide gas. Dangerous pressure can build up if container is sealed.

5.2 Reactivity with Common Materials: No hazardous reaction unless confined and heated.

5.3 Stability During Transport: Stable if kept sealed and dry.

5.4 Neutralizing Agents for Acids and Caustics: Not pertinent

5.5 Polymerization: Not pertinent

5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available

6.2 Waterfowl Toxicity: Currently not available

6.3 Biological Oxygen Demand (BOD): Currently not available

6.4 Food Chain Concentration Potential: None

6.5 GESAMP Hazard Profile: Biaccumulation: 0

Damage to living resources: 0

Human oral hazard: 0

Human Contact hazard: 0

Reduction of amenities: XX

7. SHIPPING INFORMATION

7.1 Grades of Purity: 50% methylenebis-phenylisocyanate plus 50% polymer

7.2 Storage Temperature: 35–125°F

7.3 Inert Atmosphere: Low-pressure dry nitrogen

7.4 Venting: Safety relief

7.5 IMO Pollution Category: D

7.6 Ship Type: 2

7.7 Barge Hull Type: 2

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Class: Not listed

8.2 49 CFR Package Group: Not listed

8.3 Marine Pollutant: No

8.4 NFPA Hazard Classification: Not listed

8.5 EPA Reportable Quantity: Not listed

8.6 EPA Purity Classification: Not listed

8.7 EPA Purity Group: Not listed

8.8 RCRA Waste Number: Not listed

8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15°C and 1 atm: Liquid

9.2 Molecular Weight: 400 (approx.)

9.3 Boiling Point at 1 atm: 392°F = 200°C = 473 K

9.4 Freezing Point: Not pertinent

9.5 Critical Temperature: Not pertinent

9.6 Critical Pressure: Not pertinent

9.7 Specific Gravity: 1.20 at 20°C (liquid)

9.8 Liquid Surface Tension: Currently not available

9.9 Liquid Water Interfacial Tension: Not pertinent

9.10 Vapor (Gas) Specific Gravity: Not pertinent

9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent

9.12 Latent Heat of Vaporization: Not pertinent

9.13 Heat of Combustion (net): –13,000 Btu/lbm

9.14 Heat of Combustion (net): –300 X 10^5 ft-lb

9.15 Heat of Fusion: Not pertinent

9.16 Heat of Solution: Not pertinent

9.17 Heat of Solubility: Currently not available

9.18 Limiting Value: Currently not available

9.19 Reid Vapor Pressure: Very low

JUNE 1999

NOTES
### Temperature (degrees F) Pounds per cubic foot

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### Temperature (degrees F) Pounds per 100 pounds of water

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