ISOPHORONE DIISOCYANATE

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 12; isocyanates
2.2 Formula: C11H16N2O
2.3 IMO UN Designation: 6.12290
2.4 DOT ID No.: 2390
2.5 CA Site Registry No.: 4098-71-9
2.6 NAIRG Guide No.: 156
2.7 Standard Industrial Trade Classification: 51489

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Wear positive pressure breathing apparatus and special protective clothing.
3.2 Symptoms Following Exposure: Poisonous. May be fatal if inhaled or absorbed through skin. Contact may cause burns to skin and eyes.
3.3 Treatment of Exposure: INHALATION: Move victim to fresh air; call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Immediately flush eyes with running water for at least 15 minutes; hold eyelids open periodically. SKIN: Immediately flush skin with running water for at least 15 minutes; hold eyes open periodically while flushing eyes. Speed in removing material from skin is of extreme importance. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation.
3.4 TLV TWA: 0.005 ppm
3.5 TLV-STEEL: Not listed
3.6 TLV Ceiling: Not listed
3.7 Toxicity by Ingestion: Grade 2; LD50 > 2.6 g/kg (rat)
3.8 Toxicity by Inhalation: Current not applicable
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Currently not available
3.11 Liquid or Solid Characteristics: Currently not available
3.12 Odor Threshold: Currently not available
3.13 IDLH Values: Not listed
3.14 OSHA PEL-TWA: Not listed
3.15 OSHA PEL-STEL: Not listed
3.16 OSHA PEL-Ceiling: Not listed
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: Currently not available
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Small Fires: Dry chemical, CO2, water spray or foam. Large Fires: Water spray, fog or foam. (Reacts with water to produce gaseous carbon dioxide and the corresponding diamine.)
4.4 Fire Extinguishing Agents Not to Be Used: Although water is suitable for extinguishing open air fires, it should not be allowed to contaminated closed tanks containing this material due to the risk of hazardous gas generation.
4.5 Special Hazards of Combustion Products: Contains toxic fumes of NOX.
4.6 Behavior in Fire: Undergound oxidation to produce toxic fumes containing NOX.
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichiometric Air to Fuel Ratio: 83.3 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio: 23.0 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: Reacts with water to produce water-soluble isophorone diamine (a toxic and corrosive compound). In contrast with carbon dioxide, it should not be allowed to contaminated closed tanks containing this material due to the risk of hazardous gas generation.
5.2 Reactivity with Common Materials: Contact with aluminum, aluminum alloy, copper or copper alloy is prohibited.
5.3 Stability During Transport: Currently not available
5.4 Neutralizing Agents for Acids and Corrosive Substances: 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: Currently not available
6.5 GESAMP Hazard Profile: Bioaccumulation: Currently not available
6.6 GESAMP Hazard Profile: Pollution: Currently not available
6.7 Human Oral Hazard: 1
6.8 Human Contact Hazard: 1
6.9 Reduction of amenities: XXX

NOTES

7. SHIPPING INFORMATION

7.1 Grades of Purity: Currently not available
7.2 Storage Temperature: Not listed
7.3 Inert Atmosphere: Inerted
7.4 Venting: Pressure/Vacuum
7.5 IMO Pollution Category: B
7.6 Ship Type: 2
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Keep Away From Food
8.2 49 CFR Class: 6.1
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: Not listed
8.7 EPA Pollution Category: 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: 229.32
9.3 Boiling Point at 1 atm: Currently not available
9.4 Freezing Point: -76°F = -60°C = 213K
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 1.056 to 1.062 at 20°C
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Interfacial Tension: Currently not available
9.10 Vapor (Gas) Specific Gravity: 7.7 (calculated)
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

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