CAUTIONARY RESPONSE INFORMATION

1. CORRECTIVE RESPONSE ACTIONS
   - Stop discharge
   - Collection Systems: Pump; Dredge
   - Do not burn

2. CHEMICAL DESIGNATIONS
   - 2.1 CG Compatibility Group: 36; Halogenated hydrocarbon
   - 2.2 Formula: C2HBr2
   - 2.3 IMO/UN Designation: 6.11605
   - 2.4 DOT ID No.: 1605
   - 2.5 CAS Registry No.: 106-93-4
   - 2.6 NAEFG Guide No.: 154
   - 2.7 Standard Industrial Trade Classification: 5138

3. HEALTH HAZARDS
   - 3.1 Personal Protective Equipment: Cartridge type mask or self-contained air mask; neoprene gloves; chemical safety goggles.
   - 3.2 Symptoms Following Exposure: Local inflammation, blisters and ulcers on skin; irritation in lungs and organic injury to liver and kidneys; may be absorbed through skin.
   - 3.3 Treatment of Exposure: Remove from exposures. Remove contaminated clothing. Wash skin with soap and water. Flush eyes with plenty of water. Consult physician.
   - 3.4 TLV-TWA: Not listed
   - 3.5 TLV-STEL: Not listed
   - 3.6 TLV-Ceiling: Not listed
   - 3.7 Toxicity by Inhalation: Grade 3; LD50 = 50 to 500 mg/kg
   - 3.8 Toxicity by Inhalation: Currently not available.
   - 3.9 Chronic Toxicity: Currently not available
   - 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
   - 3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
   - 3.12 Odor Threshold: Currently not available
   - 3.13 IDLH Value: 150 ppm
   - 3.14 OSHA PEL-TWA: 20 ppm
   - 3.15 OSHA PEL-STEL: 50 ppm peak for 5 minutes per 8 hour shift
   - 3.16 OSHA PEL-Ceiling: 20 ppm
   - 3.17 EPA AELG: Not listed

4. FIRE HAZARDS
   - 4.1 Flash Point: Not flammable
   - 4.2 Flammable Limits in Air: Not flammable
   - 4.3 Fire Extinguishing Agents: Not pertinent
   - 4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
   - 4.5 Special Hazards of Combustion: Products: Decomposition gases are toxic and irritating.
   - 4.6 Behavior in Fire: Decomposes into toxic irritating gases. Reacts with hot metals such as aluminum and magnesium.
   - 4.7 Auto-Ignition Temperature: Not flammable
   - 4.8 Electrical Hazards: Not pertinent
   - 4.9 Burning Rate: Not flammable
   - 4.10 Adiabatic 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: No reaction
   - 5.2 Reactivity with Common Materials: No reaction
   - 5.3 Stability During Transport: Stable
   - 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: 18 mg/l/48 hr/bluegill/fresh water
   - 6.2 Waterfowl Toxicity: Currently not available
   - 6.3 Biological Oxygen Demand (BOD): Not pertinent
   - 6.4 Food Chain Concentration Potential: None
   - 6.5 GASEP Hazard Profile: Bioaccumulation: 0
   - 6.6 Water-Pollution Potential: Not pertinent
   - 6.7 Critical Pressure: Not pertinent
   - 6.8 Critical Temperature: Not pertinent
   - 6.9 Specific Gravity: 2.180 at 20°C (liquid)
   - 6.10 Liquid Surface Tension: 38.75 dynes/cm at 20°C
   - 6.11 Liquid Water Interfacial Tension: 36.54 dynes/cm at 20°C
   - 6.12 Latent Heat of Vaporization: 82.1 Btu/lb = 45.6 cal/g = 1.91 X 10^4 J/kg
   - 6.13 Heat of Combustion: Not pertinent
   - 6.14 Heat of Decomposition: Not pertinent
   - 6.15 Heat of Solution: Not pertinent
   - 6.16 Heat of Polymerization: Not pertinent
   - 6.17 Heat of Fusion: 13.79 cal/g
   - 6.18 Limiting Value: Currently not available
   - 6.19 Reid Vapor Pressure: 0.4 pa

7. SHIPPING INFORMATION
   - 7.1 Grades of Purity: Commercial
   - 7.2 Storage Temperature: Ambient
   - 7.3 Inert Atmosphere: No requirement
   - 7.4 Venting: Pressure/vacuum
   - 7.5 IMO Pollution Category: B
   - 7.6 Ship Type: 2
   - 7.7 Barge Hull Type: 2

8. HAZARD CLASSIFICATIONS
   - 8.1 49 CFR Category: Poison
   - 8.2 49 CFR Class: 6.1
   - 8.3 49 CFR Package Group: I
   - 8.4 Marine Pollutant: Not applicable
   - 8.5 NFPA Hazard Classification:
     - Category Classification
       - Health Hazard (Blue)........ 3
       - Flammability (Red)........... 0
       - Instability (Yellow)......... 0
   - 8.6 EPA Reportable Quantity: 1 pound
   - 8.7 EPA Pollution Category: X
   - 8.8 RORA Waste Number: 1067
   - 8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES
   - 9.1 Physical State at 15°C and 1 atm: Liquid
   - 9.2 Molecular Weight: 187.86
   - 9.3 Boiling Point at 1 atm: 268°F = 131°C = 458°F
   - 9.4 Freezing Point: 49.6°F = 9.8°C = 283.0°K
   - 9.5 Critical Temperature: Not pertinent
   - 9.6 Critical Pressure: Not pertinent
   - 9.7 Specific Gravity: 2.180 at 20°C (liquid)
   - 9.8 Liquid Surface Tension: 38.75 dynes/cm at 20°C
   - 9.9 Liquid Water Interfacial Tension: 36.54 dynes/cm at 20°C
   - 9.10 Vapor (Gas) Specific Gravity: Not pertinent
   - 9.11 Ratio of Specific Heats of Vapor (Gas): 1.100
   - 9.12 Latent Heat of Vaporization: 82.1 Btu/lb = 45.6 cal/g = 1.91 X 10^4 J/kg
   - 9.13 Heat of Combustion: Not pertinent
   - 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: 13.79 cal/g
   - 9.18 Limiting Value: Currently not available
   - 9.19 Reid Vapor Pressure: 0.4 pa

NOTES

JUNE 1999
## Ethylene Dibromide (EDB)

### 9.20 Saturated Liquid Density

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
<th>Temperature (degrees F)</th>
<th>British thermal unit per hour-square foot-F</th>
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### 9.21 Liquid Heat Capacity

### 9.22 Liquid Thermal Conductivity

### 9.23 Liquid Viscosity

### 9.24 Solubility in Water

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<th>Temperature (degrees F)</th>
<th>Pounds per 100 pounds of water</th>
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<th>Pounds per square inch</th>
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<th>Pounds per cubic foot</th>
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