AMMONIUM BROMIDE

ANB

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Hydrobromic acid monoammoniate	Solid crystals or granules	White (becomes yellow in air)	Odorless
	Sinks and mixes in water.		

Wear goggles and dust mask.
Stop discharge if possible. Keep people away.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire	Not flammable. POISONOUS GASES MAY BE PRODUCED IN FIRE OR WHEN HEATED. In fire conditions wear self-contained breathing apparatus, and goggles. Water spray will reduce fume and irritant gases.
Exposure	CALL FOR MEDICAL AID. SOLID Dust irritating if breathed. Slightly irritating to skin and eyes. Harmful if swallowed. Move to fresh air. Flush affected areas with plenty of water. IF SWALLOWED, and victim is CONSCIOUS, induce vomiting.
Water Pollution	Effects of low concentrations on aquatic life are unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed
2.2 Formula: NH_4Br
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 12124-97-9
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51481

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: In fire conditions wear self-contained breathing apparatus, wear goggles if eye protection not provided.
3.2 Symptoms Following Exposure: INHALATION: Dust irritating - disturbed behavior, sedation. EYES: Slight irritation. SKIN: Slight irritation only with repeated or prolonged contact. INGESTION: Weakness, nervousness, anorexia, confusion, hallucinations, drowsiness, irritability, ataxia, vertigo, skin rash.
3.3 Treatment of Exposure: EYES AND SKIN: Flush with large amounts of water. INGESTION: Induce vomiting and call a doctor.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 2; LD_{50} = 0.5 to 5 g/kg.
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Chronic bromide intoxication.
3.10 Vapor (Gas) Irritant Characteristics: Not pertinent
3.11 Liquid or Solid Characteristics: No appreciable hazard. Practically harmless to skin.
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: 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: Not flammable
4.2 Flammable Limits in Air: Not flammable
4.3 Fire Extinguishing Agents: Water spray
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Material decomposes into N_2 and HBr or Br_2 under extreme temperatures.
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: Not flammable
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not flammable
4.10 Adiabatic Flame Temperature: Not pertinent
4.11 Stoichometric Air to Fuel Ratio: Not pertinent
4.12 Flame Temperature: Not pertinent
4.13 Combustion Molar Ratio (Reactant to Product): Currently not available
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: At fire temperatures may corrode metal
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: 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: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: 99% to 99.5%
7.2 Storage Temperature: Cool
7.3 Inert Atmosphere: Currently not available
7.4 Venting: Currently not available
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Not listed
8.2 49 CFR Class: Not pertinent
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification	
Health Hazard (Blue).....	1	2
Flammability (Red).....	0	
Instability (Yellow).....	0	

1(nonfire), 2 (fire)
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: Solid
9.2 Molecular Weight: 97.95
9.3 Boiling Point at 1 atm: Sublimes 1007°F = 541.7°C = 814.8°K
9.4 Freezing Point: Sublimes without melting
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 2.429 at room temperature
9.8 Liquid Surface Tension: Not pertinent
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: Currently not available
9.14 Heat of Decomposition: Currently not available
9.15 Heat of Solution: Endothermic infinite dilution 76.0 Btu/lb = 42.2 cal/g = 1.77 X 10^5 J/kg
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

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	NOT PERTINENT		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
40	61.969		CURRENTLY NOT AVAILABLE		NOT PERTINENT		NOT PERTINENT
50	66.690						
60	71.412						
70	76.134						
80	80.855						
90	85.577						
100	90.297						
110	95.020						
120	99.740						
130	104.462						
140	109.183						
150	113.905						
160	118.627						
170	123.349						
180	128.070						
190	132.792						
200	137.514						
210	142.234						