ACETYL BROMIDE

ABM

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Colorless	Sharp unpleasant odor
	Flammable, irritating vapor is produced.		

AVOID CONTACT WITH LIQUID AND VAPOR. KEEP PEOPLE AWAY.
Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves).
Avoid inhalation.
Shut off ignition sources. Call fire department.
Stop discharge if possible.
Isolate and remove discharged material.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

FLAMMABLE.
Irritating gases are produced when heated.
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).
Extinguish with dry chemicals or carbon dioxide.
DO NOT USE WATER ON FIRE.

Exposure

CALL FOR MEDICAL AID.

VAPOR
Irritating to eyes, nose and throat.
If inhaled will cause difficult breathing.
If in eyes, hold eyelids open and flush with plenty of water.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
Will burn skin and eyes.
Harmful if swallowed.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.
IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

Water Pollution

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.

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge
Chemical and Physical Treatment:
Neutralize
Do not add water to undissolved material

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed
2.2 Formula: CH_3COBr
2.3 IMO/UN Designation: 8/1716
2.4 DOT ID No.: 1716
2.5 CAS Registry No.: 506-96-7
2.6 NAERG Guide No.: 156
2.7 Standard Industrial Trade Classification: 51372

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: NIOSH approved respirator; impervious protective clothing; chemical safety goggles; gloves; adequate ventilation; provisions for flushing eyes or skin with water

3.2 Symptoms Following Exposure: Inhalation produces primary irritation of the respiratory tract; symptoms of lung damage may be delayed. Contact with liquid produces primary irritation of eyes and severe skin damage; delayed blistering is not uncommon. INGESTION: Sore throat, abdominal pain, and vomiting.

3.3 Treatment of Exposure: INHALATION: remove victim from exposure; if breathing has stopped, give artificial respiration; if breathing is difficult, give oxygen; watch for delayed lung damage. EYES: flush with water for at least 15 min.; get medical attention. SKIN: flush with soap and water; treat burns as needed.

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; oral rat LD_{50} = 3,310 mg/kg (acetic acid). Decomposes violently in water, forming bromic acid and acetic acid)
3.8 Toxicity by Inhalation: Currently not available.
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: 5.0×10^{-4} ppm
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: Does not burn.
4.2 Flammable Limits in Air: Does not burn.
4.3 Fire Extinguishing Agents: Carbon dioxide, dry chemical
4.4 Fire Extinguishing Agents Not to Be Used: Water
4.5 Special Hazards of Combustion Products: Toxic and irritating hydrogen bromide fumes may form in fires.
4.6 Behavior in Fire: Do not apply water to adjacent fires. Reacts with water to produce toxic and irritating gases.
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Currently not available
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Currently not available
4.12 Flame Temperature: Currently not available
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: Reacts violently, forming corrosive and toxic fumes of hydrogen bromide
5.2 Reactivity with Common Materials: Attacks and corrodes wood and most metals in the presence of moisture. Flammable hydrogen gas may collect in enclosed spaces. Reacts violently with water or alcohol.
5.3 Stability During Transport: Stable if protected from moisture. When exposed to air, can give off corrosive fumes.
5.4 Neutralizing Agents for Acids and Caustics: Flood with water, rinse with dilute sodium bicarbonate or soda ash solution.
5.5 Polymerization: Will not polymerize.
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:
Bioaccumulation: 0
Damage to living resources: (2)
Human Oral hazard: (2)
Human Contact hazard: II
Reduction of amenities: XXX

7. SHIPPING INFORMATION

7.1 Grades of Purity: Analytical; Commercial
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: Padded
7.4 Venting: Pressure-vacuum
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: Corrosive material
8.2 49 CFR Class: 8
8.3 49 CFR Package Group: II
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: 5000
8.7 EPA Pollution Category: D
8.8 RCRA Waste Number: Not listed
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: 122.95
9.3 Boiling Point at 1 atm: 169°F = 76°C = 349°K
9.4 Freezing Point: –141.7°F = –96.5°C = 176.7°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 1.66 at 16°C (liquid)
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: 4.24
9.11 Ratio of Specific Heats of Vapor (Gas): (est.) 1.144
9.12 Latent Heat of Vaporization: 106 Btu/lb = 59 cal/g = 2.5×10^5 J/kg
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Currently not available
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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ABM

9.20 SATURATED LIQUID DENSITY	
Temperature (degrees F)	Pounds per cubic foot
34	104.799
36	104.700
38	104.700
40	104.599
42	104.500
44	104.500
46	104.400
48	104.299
50	104.200
52	104.200
54	104.099
56	104.000
58	104.000
60	103.900
62	103.799
64	103.799
66	103.700
68	103.599
70	103.599
72	103.500
74	103.400
76	103.299

9.21 LIQUID HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
60	0.600
61	0.600
62	0.600
63	0.600
64	0.600
65	0.600
66	0.600
67	0.600
68	0.600
69	0.600
70	0.600
71	0.600
72	0.600
73	0.600
74	0.600
75	0.600
76	0.600
77	0.600

9.22 LIQUID THERMAL CONDUCTIVITY	
Temperature (degrees F)	British thermal unit inch per hour-square foot-F
51	1.048
52	1.048
53	1.048
54	1.048
55	1.048
56	1.048
57	1.048
58	1.048
59	1.048
60	1.048
61	1.048
62	1.048
63	1.048
64	1.048
65	1.048
66	1.048
67	1.048
68	1.048
69	1.048
70	1.048
71	1.048
72	1.048
73	1.048
74	1.048
75	1.048
76	1.048

9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Centipoise
	NOT PERTINENT

9.24 SOLUBILITY IN WATER	
Temperature (degrees F)	Pounds per 100 pounds of water
	REACTS

9.25 SATURATED VAPOR PRESSURE	
Temperature (degrees F)	Pounds per square inch
55	1.445
60	1.634
65	1.844
70	2.076
75	2.331
80	2.612
85	2.922
90	3.261
95	3.632
100	4.038
105	4.481
110	4.963
115	5.487
120	6.056
125	6.673
130	7.341
135	8.062
140	8.841
145	9.680
150	10.580
155	11.550
160	12.600
165	13.710
170	14.910
175	16.180

9.26 SATURATED VAPOR DENSITY	
Temperature (degrees F)	Pounds per cubic foot
55	0.03217
60	0.03602
65	0.04025
70	0.04488
75	0.04994
80	0.05545
85	0.06144
90	0.06795
95	0.07500
100	0.08264
105	0.09088
110	0.09978
115	0.10940
120	0.11970
125	0.13070
130	0.14260
135	0.15530
140	0.16890
145	0.18340
150	0.19880
155	0.21530
160	0.23280
165	0.25140
170	0.27120
175	0.29210

9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
0	0.118
25	0.122
50	0.126
75	0.129
100	0.133
125	0.136
150	0.140
175	0.143
200	0.146
225	0.149
250	0.152
275	0.155
300	0.158
325	0.161
350	0.164
375	0.167
400	0.170
425	0.172
450	0.175
475	0.177
500	0.180
525	0.182
550	0.184
575	0.187
600	0.189