

N-AMYL MERCAPTAN

AMM

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Amyl hydrosulfide Amyl sulphydrate Amyl thioalcohol 1-Pentanethiol	Liquid Colorless to yellow Strong garlic odor Floats on water. Flammable vapor is produced.
<p>Shut off ignition sources. Call fire department. Stop discharge if possible. Keep people away. Isolate and remove discharged material. Notify local health and pollution control agencies. Protect water intakes.</p>	
Fire	<p>FLAMMABLE. POISONOUS GASES ARE PRODUCED IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Containers may explode in fire. Wear goggles and self-contained breathing apparatus. Extinguish with dry chemicals, foam or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.</p>
Exposure	<p>Call for medical aid. VAPOR Move victim to fresh air. LIQUID Irritating to skin and eyes. 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.</p>
Water Pollution	<p>Effect of low concentrations on aquatic life is unknown. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Clean shore line
Salvage waterfowl
Do not burn

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed
2.2 Formula: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{SH}$
2.3 IMO/UN Designation: 3.2/1111
2.4 DOT ID No.: 1111
2.5 CAS Registry No.: 110-66-7
2.6 NAERG Guide No.: 130
2.7 Standard Industrial Trade Classification: 51549

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Plastic gloves; goggles.
3.2 Symptoms Following Exposure: Inhalation may cause nausea because of offensive odor. Contact with eyes or skin causes slight irritation. Ingestion may cause vomiting.
3.3 Treatment of Exposure: INHALATION: remove to fresh air; apply artificial respiration if required. EYES: wash with water; see a physician. SKIN: wash with soap and water, INGESTION: induce vomiting if it does not occur spontaneously.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Currently not available
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: None
3.10 Vapor (Gas) Irritant Characteristics: Currently not available
3.11 Liquid or Solid Characteristics: Currently not available
3.12 Odor Threshold: 0.3 mg/m³
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 AEG: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 65°F O.C.
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide
4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective
4.5 Special Hazards of Combustion Products: Sulfur dioxide gas is formed
4.6 Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back.
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Currently not available
4.9 Burning Rate: 4.7 mm/min.
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichiometric 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: 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: 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: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: 96.0+%
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
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: Flammable liquid
8.2 49 CFR Class: 3
8.3 49 CFR Package Group: II
8.4 Marine Pollutant: Yes
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	2
Flammability (Red).....	3
Instability (Yellow).....	0

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: 104.2
9.3 Boiling Point at 1 atm: 248°F = 120°C = 393°K
9.4 Freezing Point: -105°F = -76°C = 197°K
9.5 Critical Temperature: 609.8°F = 321°C = 594.2°K
9.6 Critical Pressure: 508 psia = 34.5 atm = 3.50 MN/m²
9.7 Specific Gravity: 0.8392 at 25°C (liquid)
9.8 Liquid Surface Tension: 26.8 dynes/cm = 0.0268 N/m at 20°C
9.9 Liquid Water Interfacial Tension: (est.) 35 dynes/cm = 0.035 N/m at 20°C
9.10 Vapor (Gas) Specific Gravity: 3.59
9.11 Ratio of Specific Heats of Vapor (Gas): 1.0622
9.12 Latent Heat of Vaporization: -171 Btu/lb = -94.9 cal/g = -3.97 X 10⁵ J/kg
9.13 Heat of Combustion: -17,070 Btu/lb = -9,480 cal/g = -397 X 10⁶ J/kg
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

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
65	52.590	34	0.436	34	1.048	72	0.661
70	52.440	36	0.437	36	1.048	74	0.653
75	52.300	38	0.438	38	1.048	76	0.644
80	52.150	40	0.439	40	1.048	78	0.636
85	52.000	42	0.441	42	1.048	80	0.628
90	51.840	44	0.442	44	1.048	82	0.620
95	51.690	46	0.443	46	1.048	84	0.612
100	51.540	48	0.444	48	1.048	86	0.605
105	51.390	50	0.445	50	1.048	88	0.597
110	51.230	52	0.446	52	1.048	90	0.590
115	51.070	54	0.447	54	1.048	92	0.583
120	50.920	56	0.448	56	1.048	94	0.576
125	50.760	58	0.449	58	1.048	96	0.569
		60	0.451	60	1.048	98	0.562
		62	0.452	62	1.048	100	0.555
		64	0.453	64	1.048	102	0.549
		66	0.454	66	1.048	104	0.542
		68	0.455	68	1.048	106	0.536
		70	0.456			108	0.530
		72	0.457			110	0.524
		74	0.458			112	0.518
		76	0.459			114	0.512
		78	0.461			116	0.507
		80	0.462			118	0.501
		82	0.463			120	0.495
		84	0.464			122	0.490

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
	I	40	0.078	40	0.00152	0	0.325
	N	50	0.111	50	0.00211	10	0.325
	S	60	0.155	60	0.00289	20	0.325
	O	70	0.214	70	0.00392	30	0.325
	L	80	0.292	80	0.00526	40	0.325
	U	90	0.395	90	0.00697	50	0.325
	B	100	0.527	100	0.00914	60	0.325
	L	110	0.697	110	0.01188	70	0.325
	E	120	0.913	120	0.01528	80	0.325
		130	1.184	130	0.01949	90	0.325
		140	1.523	140	0.02466	100	0.325
		150	1.943	150	0.03094	110	0.325
		160	2.460	160	0.03853	120	0.325
		170	3.090	170	0.04764	130	0.325
		180	3.854	180	0.05849	140	0.325
		190	4.775	190	0.07134	150	0.325
		200	5.877	200	0.08648	160	0.325
		210	7.189	210	0.10420	170	0.325
		220	8.742	220	0.12490		
		230	10.570	230	0.14880		
		240	12.710	240	0.17640		