

ACETYLENE

ACE

CAUTIONARY RESPONSE INFORMATION			
Common Synonyms		Compressed gas	Colorless
Ethyne Ethyne			Mild garlic odor This flammable gas is slightly lighter than air, and will disperse slowly unless confined.
Shut off ignition sources and call fire department. Stop discharge if possible. Keep people away. Avoid inhalation. Stay upwind and use water spray to "knock down" vapor. Notify local health and pollution control agencies.			
Fire	FLAMMABLE Containers may explode in fire. Flashback along gas trail may occur. May explode if ignited in an enclosed area. Stop flow of gas if possible. Cool exposed containers and protect men effecting the shutoff with water. Let fire burn.		
Exposure	CALL FOR MEDICAL AID. GAS Not irritating to eyes, nose or throat. If inhaled will cause headache, difficult breathing, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.		
Water Pollution	Not harmful to aquatic life.		

1. CORRECTIVE RESPONSE ACTIONS		2. CHEMICAL DESIGNATIONS	3. HEALTH HAZARDS	4. FIRE HAZARDS	5. CHEMICAL REACTIVITY	6. WATER POLLUTION	7. SHIPPING INFORMATION	8. HAZARD CLASSIFICATIONS	9. PHYSICAL & CHEMICAL PROPERTIES									
Stop discharge Chemical and Physical Treatment: Burn		2.1 CG Compatibility Group: Not listed 2.2 Formula: C ₂ H ₂ 2.3 IMO/UN Designation: 2.0/1001 2.4 DOT ID No.: 1001 2.5 CAS Registry No.: 74-86-2 2.6 NAERG Guide No.: 116 2.7 Standard Industrial Trade Classification: 5119	3.1 Personal Protective Equipment: Air supply respirator in areas of high concentration. Avoid all sources of ignition. 3.2 Symptoms Following Exposure: Headache, dizziness and loss of consciousness may occur. Death from "smothering" may occur if oxygen content of the air is severely reduced by dilution with acetylene. 3.3 Treatment of Exposure: INHALATION: no specific antidote known; remove victim to fresh air, keep him warm and quiet, and call a doctor; recovery is usually rapid. If patient is unconscious, administer oxygen; if breathing has stopped, give artificial respiration. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Not pertinent 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Not pertinent 3.10 Vapor (Gas) Irritant Characteristics: None 3.11 Liquid or Solid Characteristics: Not pertinent 3.12 Odor Threshold: Currently not available 3.13IDLH 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		4.1 Flash Point: Gas 4.2 Flammable Limits in Air: 2.5%-100% 4.3 Fire Extinguishing Agents: Stop flow of gas 4.4 Fire Extinguishing Agents Not to Be Used: Carbon dioxide, dry chemical and water spray are not generally recommended because the discharged gas or volatile liquid may create a more serious explosion hazard. 4.5 Special Hazards of Combustion Products: Not pertinent 4.6 Behavior in Fire: May explode in fire 4.7 Auto Ignition Temperature: 581°F 4.8 Electrical Hazards: Not pertinent Class I, Group A 4.9 Burning Rate: Not pertinent 4.10 Adiabatic Flame Temperature: 2907. (Est.) 4.11 Stoichiometric Air to Fuel Ratio: 13.18 (Est.) 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	5.1 Reactivity with Water: No reaction 5.2 Reactivity with Common Materials: Under certain conditions forms spontaneously explosive compounds with copper 5.3 Stability During Transport: Stable as shipped 5.4 Neutralizing Agents for Acids and Caustics: Not pertinent 5.5 Polymerization: Not pertinent 5.6 Inhibitor of Polymerization: Not pertinent	6.1 Aquatic Toxicity: 1000 ccl/lhr/sunfish/not killed/fresh water 6.2 Waterfowl Toxicity: Not pertinent 6.3 Biological Oxygen Demand (BOD): Not pertinent 6.4 Food Chain Concentration Potential: Not pertinent 6.5 GESAMP Hazard Profile: Not listed	7.1 Grades of Purity: Commercial grade acetylene is supplied dissolved in acetone under pressure in cylinders. 7.2 Storage Temperature: Currently not available 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	8.1 49 CFR Category: Flammable gas 8.2 49 CFR Class: 2 8.3 49 CFR Package Group: Not listed. 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: <table border="1"><tr><th>Category</th><th>Classification</th></tr><tr><td>Health Hazard (Blue)</td><td>1</td></tr><tr><td>Flammability (Red)</td><td>4</td></tr><tr><td>Instability (Yellow)</td><td>3</td></tr></table> 8.6 EPA Reportable Quantity: Not listed 8.7 EPA Pollution Category: Not listed 8.8 RCRA Waste Number: Not listed 8.9 EPA FWP/CA List: Not listed	Category	Classification	Health Hazard (Blue)	1	Flammability (Red)	4	Instability (Yellow)	3	9.1 Physical State at 15° C and 1 atm: Gas 9.2 Molecular Weight: 26.04 9.3 Boiling Point at 1 atm: -119°F = 84.0°C = 189.2°K 9.4 Freezing Point: Not pertinent 9.5 Critical Temperature: 95.4°F = 35.2°C = 308.4°K 9.6 Critical Pressure: 890.7 psia = 60.59 atm = 6.138 MN/m² 9.7 Specific Gravity: 0.613 at -80°C (liquid) 9.8 Liquid Surface Tension: Not pertinent 9.9 Liquid Water Interfacial Tension: Not pertinent 9.10 Vapor (Gas) Specific Gravity: 0.9 9.11 Ratio of Specific Heats of Vapor (Gas): 1.235 9.12 Latent Heat of Vaporization: Not pertinent 9.13 Heat of Combustion: -20,747 Btu/lb = -11,526 cal/g = -482.57 X 10 ³ 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
Category	Classification																	
Health Hazard (Blue)	1																	
Flammability (Red)	4																	
Instability (Yellow)	3																	

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
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

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
	N O T P E R T I N E N T	-112 -110 -108 -106 -104 -102 -100 -98 -96 -94 -92 -90 -88 -86 -84 -82 -80 -78 -76	19.360 20.560 21.810 23.130 24.510 25.950 27.460 29.030 30.670 32.390 34.170 36.040 37.980 40.000 42.100 44.290 46.560 48.920 51.370	-112 -110 -108 -106 -104 -102 -100 -98 -96 -94 -92 -90 -88 -86 -84 -82 -80 -78 -76	0.13510 0.14260 0.15050 0.15860 0.16720 0.17600 0.18520 0.19470 0.20460 0.21490 0.22550 0.23650 0.24790 0.25970 0.27190 0.28450 0.29750 0.31090 0.32480	0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525 550 575 600	0.376 0.386 0.394 0.403 0.411 0.419 0.427 0.434 0.441 0.448 0.455 0.461 0.467 0.473 0.479 0.484 0.489 0.494 0.499 0.504 0.509 0.513 0.517 0.521 0.525