

# ETHYL CHLORIDE

ECL

CAUTIONARY RESPONSE INFORMATION			
Common Synonyms Chloroethane Ether, hydrochloric Monochlorethane	Liquid	Colorless	Pleasant odor
Floats and may boil on water. Flammable, irritating vapor is produced. Boiling point is 54°F.			
<b>Evacuate.</b> Keep people away. <b>Avoid inhalation.</b> Shut off ignition sources and call fire department. <b>Avoid contact with liquid.</b> Stay upwind and use water spray to "knock down" vapor. Notify local health and pollution control agencies. <b>Protect water intakes.</b>			
<b>Fire</b>	FLAMMABLE.  Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Wear goggles and self-contained breathing apparatus. Stop flow of gas or liquid if possible. Cool exposed containers and men effecting shutoff with water. Let fire burn.		
<b>Exposure</b>	CALL FOR MEDICAL AID.  VAPOR Irritating to eyes, nose and throat. If inhaled, will cause dizziness or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.  LIQUID Irritating to skin and eyes. Will cause frostbite. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. DO NOT RUB AFFECTED AREAS.		
<b>Water Pollution</b>	Not harmful to aquatic life. May be dangerous if it enters water intakes. Notify operators of nearby water intakes.		

1. CORRECTIVE RESPONSE ACTIONS	2. CHEMICAL DESIGNATIONS
Stop discharge	2.1 CG Compatibility Group: 36; Halogenated hydrocarbon 2.2 Formula: C <sub>2</sub> H <sub>5</sub> Cl 2.3 IMO/UN Designation: 2.0/1037 2.4 DOT ID No.: 1037 2.5 CAS Registry No.: 75-00-3 2.6 NAERG Guide No.: 115 2.7 Standard Industrial Trade Classification: 51136
<b>3. HEALTH HAZARDS</b>	
3.1 <b>Personal Protective Equipment:</b> Neoprene rubber clothing where liquid contact is likely; chemical worker's goggles. RESPIRATORY PROTECTION: for 1000 ppm to 2% for 1/2 hr or less, full face mask and organic vapor canister; for greater levels, self-contained breathing apparatus or equivalent.	
3.2 <b>Symptoms Following Exposure:</b> Vapor causes drunkenness, anesthesia, possible lung injury. Liquid may cause frostbite on eyes and skin.	
3.3 <b>Treatment of Exposure:</b> INHALATION: get person to fresh air, keep warm and quiet. Get medical attention. SKIN: treat frostbite.	
3.4 TLV-TWA: 100 ppm 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: 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 3.13IDLH Value: 3,800 ppm 3.14 OSHA PEL-TWA: 1,000 ppm 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed	

4. FIRE HAZARDS	7. SHIPPING INFORMATION								
4.1 Flash Point: -45°F O.C. -58°F C.C. 4.2 Flammable Limits in Air: 3.6%-12% 4.3 Fire Extinguishing Agents: Water fog, carbon dioxide, dry chemical. For large fires it is best to allow material to burn while cooling surrounding equipment. Stop flow of ethyl chloride.	7.1 Grades of Purity: Technical: 98-100%; USP: 100% 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Safety relief 7.5 IMO Pollution Category: Currently not available 7.6 Ship Type: 2 7.7 Barge Hull Type: 2								
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent	8. HAZARD CLASSIFICATIONS								
4.5 Special Hazards of Combustion Products: Toxic and irritating gases are generated in fires.	8.1 49 CFR Category: Flammable gas 8.2 49 CFR Class: 2.1 8.3 49 CFR Package Group: Not pertinent 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification: <table> <tr> <td style="text-align: right;">Category</td> <td style="text-align: right;">Classification</td> </tr> <tr> <td style="text-align: right;">Health Hazard (Blue).....</td> <td style="text-align: right;">2</td> </tr> <tr> <td style="text-align: right;">Flammability (Red).....</td> <td style="text-align: right;">4</td> </tr> <tr> <td style="text-align: right;">Instability (Yellow).....</td> <td style="text-align: right;">0</td> </tr> </table>	Category	Classification	Health Hazard (Blue).....	2	Flammability (Red).....	4	Instability (Yellow).....	0
Category	Classification								
Health Hazard (Blue).....	2								
Flammability (Red).....	4								
Instability (Yellow).....	0								
4.6 Behavior in Fire: Containers may explode.	8.6 EPA Reportable Quantity: 100 pounds 8.7 EPA Pollution Category: B 8.8 RCRA Waste Number: Not listed 8.9 EPA FWPCA List: Not listed								
4.7 Auto Ignition Temperature: 966°F 4.8 Electrical Hazards: Not pertinent 4.9 Burning Rate: 3.8 mm/min. 4.10 Adiabatic Flame Temperature: Currently not available 4.11 Stoichiometric Air to Fuel Ratio: 14.3 (calc.) 4.12 Flame Temperature: Currently not available 4.13 Combustion Molar Ratio (Reactant to Product): 5.0 (calc.) 4.14 Minimum Oxygen Concentration for Combustion (MOCC): N <sub>2</sub> diluent: 13.0%	5. CHEMICAL REACTIVITY								
	9. PHYSICAL & CHEMICAL PROPERTIES								
	9.1 Physical State at 15° C and 1 atm: Gas 9.2 Molecular Weight: 64.52 9.3 Boiling Point at 1 atm: 54.0°F = 12.2°C = 285.4°K 9.4 Freezing Point: -213°F = -136°C = 137°K 9.5 Critical Temperature: 369.0°F = 187.2°C = 460.4°K 9.6 Critical Pressure: 758 psia = 51.6 atm = 5.23 MN/m <sup>2</sup> 9.7 Specific Gravity: 0.906 at 12.2°C (liquid) 9.8 Liquid Surface Tension: 19.5 dynes/cm = 0.0195 N/m at 20°C 9.9 Liquid Water Interfacial Tension: (est.) 40 dynes/cm = 0.04 N/m at 0°C 9.10 Vapor (Gas) Specific Gravity: 2.2 9.11 Ratio of Specific Heats of Vapor (Gas): 1.155 9.12 Latent Heat of Vaporization: 163 Btu/lb = 90.6 cal/g = 3.79 X 10 <sup>5</sup> J/kg 9.13 Heat of Combustion: -8100 Btu/lb = -4500 cal/g = -188.4 X 10 <sup>5</sup> 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: 16.49 cal/g 9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: 34.5 psia								

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
C U R R E N T L Y  N O T  A V A I L A B L E	-20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50	0.299 0.305 0.312 0.319 0.325 0.332 0.339 0.345 0.352 0.359 0.365 0.372 0.379 0.385 0.392	28 30 32 34 36 38 40 42 44 46 48 50 52 54	0.880 0.878 0.876 0.875 0.873 0.871 0.869 0.868 0.866 0.864 0.863 0.861 0.859 0.858	15 20 25 30 35 40 45 50	0.364 0.354 0.345 0.336 0.328 0.320 0.312 0.305	

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
68	0.600	-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85	1.419 1.659 1.932 2.242 2.594 2.991 3.438 3.939 4.501 5.129 5.828 6.604 7.465 8.416 9.466 10.620 11.890 13.280 14.810 16.470 18.290 20.260 22.400 24.730 27.240	-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85	0.02008 0.02320 0.02671 0.03065 0.03506 0.03997 0.04544 0.05151 0.05822 0.06563 0.07379 0.08275 0.09257 0.10330 0.11500 0.12780 0.14160 0.15670 0.17290 0.19050 0.20950 0.22990 0.25180 0.27540 0.30060	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	0.207 0.215 0.223 0.231 0.239 0.247 0.254 0.262 0.269 0.277 0.284 0.291 0.298 0.305 0.311 0.318 0.324 0.331 0.337 0.343 0.349 0.355 0.360 0.366 0.372