

ACETYL CHLORIDE

ACC

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Ethanoyl chloride		Liquid	Colorless	Sharp odor
Reacts violently with water. Irritating visible vapor cloud is produced.				
<p>Shut off ignition sources. Call fire department. Avoid contact with liquid and vapor. Keep people away. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Stop discharge if possible. 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. Wear chemical protective suit with self-contained breathing apparatus. Extinguish with dry chemicals or carbon dioxide. DO NOT USE WATER OR FOAM ON FIRE. Evacuate surrounding area.</p>			
Exposure	<p>Call for medical aid.</p> <p>VAPOR Irritating to eyes, nose and throat. If inhaled will cause difficult breathing. Move victim to fresh air. If breathing is difficult, give oxygen.</p> <p>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. DO NOT INDUCE VOMITING.</p>			
Water Pollution	<p>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.</p>			

<p>1. CORRECTIVE RESPONSE ACTIONS Dilute and disperse Stop discharge Chemical and Physical Treatment: Neutralize Do not add water to undissolved material</p>	<p>2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed 2.2 Formula: CH₃COCl 2.3 IMO/UN Designation: 8/1717 2.4 DOT ID No.: 1717 2.5 CAS Registry No.: 75-36-5 2.6 NAERG Guide No.: 132 2.7 Standard Industrial Trade Classification: 51371</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Safety goggles; rubber or plastic gloves; self-contained breathing apparatus. 3.2 Symptoms Following Exposure: Vapor irritates mucous membranes. Ingestion of liquid or contact with eyes or skin causes severe irritation. 3.3 Treatment of Exposure: INHALATION: remove from exposure; seek medical attention. EYES: flush with copious amounts of water. SKIN: flush with copious amounts of water. INGESTION: give plenty of water; do NOT induce vomiting. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Readily hydrolyzes to form hydrochloric and acetic acids. Oral human LD₅₀ = 1470 mg/kg (acetic acid). Grade 2; oral rat LD₅₀ = 3310 mg/kg (acetic acid). 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: None 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause severe irritation of eyes and throat and can cause eye and lung injury. They cannot be tolerated even at low concentrations. 3.11 Liquid or Solid Characteristics: Severe skin irritant. Causes second-and third-degree burns on short contact and is very injurious to the eyes. 3.12 Odor Threshold: Acetic acid-1 ppm; hydrochloric acid-1 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</p>	

<p>4. FIRE HAZARDS</p> <p>4.1 Flash Point: 40°F C.C. 4.2 Flammable Limits in Air: 5% lower limit 4.3 Fire Extinguishing Agents: Carbon dioxide, dry chemical 4.4 Fire Extinguishing Agents Not to Be Used: Water, foam 4.5 Special Hazards of Combustion Products: When heated to decomposition, hydrogen chloride and phosgene, extremely poisonous gases, are evolved. 4.6 Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. 4.7 Auto Ignition Temperature: 734°F 4.8 Electrical Hazards: I, D 4.9 Burning Rate: 2.6 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</p>	<p>7. SHIPPING INFORMATION</p> <p>7.1 Grades of Purity: Commercial 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Stable 7.5 IMO Pollution Category: Currently not available 7.6 Ship Type: Currently not available 7.7 Barge Hull Type: Currently not available</p> <p>8. HAZARD CLASSIFICATIONS</p> <p>8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: II 8.4 Marine Pollutant: No 8.5 NFPA Hazard Classification:</p> <table border="0"> <tr> <td>Category</td> <td>Classification</td> </tr> <tr> <td>Health Hazard (Blue).....</td> <td>3</td> </tr> <tr> <td>Flammability (Red).....</td> <td>3</td> </tr> <tr> <td>Instability (Yellow).....</td> <td>2</td> </tr> <tr> <td>Special (White).....</td> <td>W</td> </tr> </table> <p>8.6 EPA Reportable Quantity: 5000 8.7 EPA Pollution Category: D 8.8 RCRA Waste Number: U006 8.9 EPA FWPC List: Yes</p>	Category	Classification	Health Hazard (Blue).....	3	Flammability (Red).....	3	Instability (Yellow).....	2	Special (White).....	W
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<p>5. CHEMICAL REACTIVITY</p> <p>5.1 Reactivity with Water: Reacts vigorously with water, evolving hydrogen chloride fumes (hydrochloric acid). 5.2 Reactivity with Common Materials: May form phosgene and HCl when heated to decomposition is highly corrosive to most metals in the presence of moisture. 5.3 Stability During Transport: Stable 5.4 Neutralizing Agents for Acids and Caustics: Following dilution with water, limestone or sodium bicarbonate can be used. 5.5 Polymerization: Not pertinent 5.6 Inhibitor of Polymerization: Not pertinent</p>	<p>9. PHYSICAL & CHEMICAL PROPERTIES</p> <p>9.1 Physical State at 15° C and 1 atm: Liquid 9.2 Molecular Weight: 78.5 9.3 Boiling Point at 1 atm: 124°F = 51°C = 324°K 9.4 Freezing Point: -170°F = -112°C = 161°K 9.5 Critical Temperature: (est.) 475°F = 246°C = 519°K 9.6 Critical Pressure: (est.) 845 psia = 57.5 atm = 5.83 MN/m² 9.7 Specific Gravity: 1.1039 at 21°C (liquid) 9.8 Liquid Surface Tension: 26 dynes/cm = 0.026 N/m at 20°C 9.9 Liquid Water Interfacial Tension: Not pertinent 9.10 Vapor (Gas) Specific Gravity: 3 9.11 Ratio of Specific Heats of Vapor (Gas): 1.1467 9.12 Latent Heat of Vaporization: 160 Btu/lb = 88 cal/g = 3.7 X 10⁵ J/kg 9.13 Heat of Combustion: -6,000 Btu/lb = -3,300 cal/g = -140 X 10³ J/kg 9.14 Heat of Decomposition: Not pertinent 9.15 Heat of Solution: (est.) -54 Btu/lb = -30 cal/g = -1.3 X 10⁵ 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</p>										
<p>6. WATER POLLUTION</p> <p>6.1 Aquatic Toxicity: 10-100 ppm (est.) 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: 1 Human Oral hazard: I Human Contact hazard: II Reduction of amenities: XX</p>											
<p>NOTES</p>											

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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
40	72.599	40	0.346	35	1.087	35	0.548
50	71.349	50	0.347	40	1.083	40	0.530
60	70.099	60	0.349	45	1.080	45	0.512
70	68.849	70	0.350	50	1.077	50	0.496
80	67.599	80	0.352	55	1.074	55	0.481
90	66.360	90	0.353	60	1.071	60	0.466
100	65.110	100	0.354	65	1.068	65	0.452
110	63.860	110	0.356	70	1.065	70	0.439
120	62.611	120	0.357	75	1.061	75	0.426
				80	1.058	80	0.414
				85	1.055	85	0.402
				90	1.052	90	0.391
				95	1.049	95	0.381
				100	1.046	100	0.371
				105	1.043	105	0.361
				110	1.040	110	0.352
				115	1.036	115	0.343
				120	1.033	120	0.335

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
	R	40	2.118	40	0.03100	100	0.203
	E	50	2.737	50	0.03927	120	0.207
	A	60	3.502	60	0.04928	140	0.211
	C	70	4.440	70	0.06130	160	0.214
	T	80	5.579	80	0.07560	180	0.218
	S	90	6.953	90	0.09251	200	0.222
		100	8.598	100	0.11230	220	0.226
		110	10.550	110	0.13550	240	0.229
		120	12.860	120	0.16220	260	0.232
		130	15.570	130	0.19300	280	0.236
		140	18.720	140	0.22830	300	0.240
		150	22.380	150	0.26850	320	0.243
		160	26.610	160	0.31400	340	0.247
		170	31.460	170	0.36530	360	0.250
		180	36.990	180	0.42290	380	0.254
		190	43.290	190	0.48720	400	0.258
		200	50.410	200	0.55880	420	0.261
		210	58.440	210	0.63820	440	0.265