

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE

EGA

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Cellosolve acetate 2-Ethoxyethyl acetate Glycol monoethyl ether acetate Poly-solv EE acetate		Liquid Colorless Pleasant odor
Call fire department. Avoid contact with liquid. Notify local health and pollution control agencies. Protect water intakes.		Floats and mixes slowly with water.
Fire	Combustible. Extinguish with dry chemical, alcohol foam, or carbon dioxide. Cool exposed containers with water.	
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to 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.	
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

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: 34; Ester
- 2.2 Formula: CH₃COOCH₂CH₂OC₂H₅
- 2.3 IMO/UN Designation: 3.3/1172
- 2.4 DOT ID No.: 1172
- 2.5 CAS Registry No.: 111-15-9
- 2.6 NAERG Guide No.: 129
- 2.7 Standard Industrial Trade Classification: 51616

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Chemical safety goggles
- 3.2 **Symptoms Following Exposure:** Vapors irritate nose and eyes in high concentrations. Liquid irritates skin in prolonged or repeated contact.
- 3.3 **Treatment of Exposure:** INHALATION: if victim is overcome, remove him to fresh air and call physician. EYES: flush with large amounts of water. SKIN: wash exposed areas.
- 3.4 **TLV-TWA:** 5 ppm
- 3.5 **TLV-STEL:** Not listed.
- 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 2; LD₅₀ = 0.5 to 5 g/kg (rabbit)
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Causes kidney damage in laboratory animals. Effects unknown in humans.
- 3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause a slight smarting of the eyes and 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:** 0.056 ppm
- 3.13 **IDLH Value:** 500 ppm
- 3.14 **OSHA PEL-TWA:** 100 ppm
- 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:** 200°F O.C.
- 4.2 **Flammable Limits in Air:** 1.7%-6.7%
- 4.3 **Fire Extinguishing Agents:** Alcohol foam, dry chemical or carbon dioxide
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Not pertinent
- 4.6 **Behavior in Fire:** Not pertinent
- 4.7 **Auto Ignition Temperature:** 715°F
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Currently not available
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** 35.7 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 12.0 (calc.)
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** CO₂ diluent: 11.0%

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:** 4000 ppm/24 hr/brine shrimp/TL_m
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** 36% of theoretical in 5 days, freshwater
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:** Not listed

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Open (flame arrester)
- 7.5 **IMO Pollution Category:** C
- 7.6 **Ship Type:** 3
- 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:** III
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	1
Flammability (Red).....	2
Instability (Yellow).....	-
- 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:** 132.16
- 9.3 **Boiling Point at 1 atm:** 313°F = 156°C = 429°K
- 9.4 **Freezing Point:** -79.1°F = -61.7°C = 211.5°K
- 9.5 **Critical Temperature:** 633.2°F = 334°C = 607.2°K
- 9.6 **Critical Pressure:** 440 psia = 30 atm = 3.0 MN/m²
- 9.7 **Specific Gravity:** 0.974 at 20°C (liquid)
- 9.8 **Liquid Surface Tension:** Not pertinent
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** 1.054
- 9.12 **Latent Heat of Vaporization:** 130 Btu/lb = 74 cal/g = 3.1 X 10⁵ J/kg
- 9.13 **Heat of Combustion:** (est.) -10,700 Btu/lb = -6,000 cal/g = -250 X 10⁵ 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:** 0.1 psia

NOTES

ETHYLENE GLYCOL MONOETHYL ETHER ACETATE

EGA

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	61.820	15	0.464		N		N
50	61.450	20	0.467		O		O
60	61.080	25	0.470		T		T
70	60.710	30	0.473				
80	60.350	35	0.476		P		P
90	59.980	40	0.478		E		E
100	59.610	45	0.481		R		R
110	59.240	50	0.484		T		T
120	58.880	55	0.487		I		I
130	58.510	60	0.489		N		N
140	58.140	65	0.492		E		E
150	57.770	70	0.495		N		N
160	57.410	75	0.498		T		T
170	57.040	80	0.501				
180	56.670	85	0.503				
190	56.300	90	0.506				
200	55.940	95	0.509				
210	55.570	100	0.512				

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
77	23.000	60	0.020	60	0.00048	0	0.267
		70	0.031	70	0.00072	25	0.277
		80	0.046	80	0.00105	50	0.287
		90	0.068	90	0.00152	75	0.297
		100	0.097	100	0.00214	100	0.307
		110	0.138	110	0.00298	125	0.316
		120	0.192	120	0.00408	150	0.326
		130	0.263	130	0.00550	175	0.335
		140	0.356	140	0.00732	200	0.344
		150	0.476	150	0.00962	225	0.353
		160	0.628	160	0.01249	250	0.362
		170	0.820	170	0.01603	275	0.371
		180	1.058	180	0.02037	300	0.379
		190	1.353	190	0.02563	325	0.388
		200	1.712	200	0.03196	350	0.396
		210	2.148	210	0.03949	375	0.405
		220	2.672	220	0.04841	400	0.413
		230	3.298	230	0.05888	425	0.421
		240	4.040	240	0.07109	450	0.429
		250	4.913	250	0.08523	475	0.436
		260	5.934	260	0.10150	500	0.444
		270	7.122	270	0.12020	525	0.451
		280	8.496	280	0.14140	550	0.459
		290	10.080	290	0.16550	575	0.466
		300	11.880	300	0.19260	600	0.473