

PROPYLENE GLYCOL

PPG

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS	7. SHIPPING INFORMATION								
Common Synonyms 1,2-Dihydroxypropane Methylethyleneglycol 1,2-Propanediol	Thick liquid Mixes with water.	Colorless	Odorless	<p>4.1 Flash Point: 225°F O.C. 210°F C.C.</p> <p>4.2 Flammable Limits in Air: 2.6%-12.5%</p> <p>4.3 Fire Extinguishing Agents: Water fog, alcohol foam, carbon dioxide, dry chemical.</p> <p>4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent</p> <p>4.5 Special Hazards of Combustion Products: Not pertinent</p> <p>4.6 Behavior in Fire: Not pertinent</p> <p>4.7 Auto Ignition Temperature: 700°F</p> <p>4.8 Electrical Hazards: Not pertinent</p> <p>4.9 Burning Rate: 1.5 mm/min.</p> <p>4.10 Adiabatic Flame Temperature: Currently not available</p> <p>4.11 Stoichiometric Air to Fuel Ratio: 19.0 (calc.)</p> <p>4.12 Flame Temperature: Currently not available</p> <p>4.13 Combustion Molar Ratio (Reactant to Product): 7.0 (calc.)</p> <p>4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed</p>	<p>7.1 Grades of Purity: USP, industrial, food (all 99+%)</p> <p>7.2 Storage Temperature: Ambient</p> <p>7.3 Inert Atmosphere: No requirement</p> <p>7.4 Venting: Open (flame arrester)</p> <p>7.5 IMO Pollution Category: Currently not available</p> <p>7.6 Ship Type: Currently not available</p> <p>7.7 Barge Hull Type: Currently not available</p>								
Fire	Combustible. Extinguish with water, dry chemical, alcohol foam, or carbon dioxide. Cool exposed containers with water.				8. HAZARD CLASSIFICATIONS								
Exposure	Not harmful.				<p>8.1 49 CFR Category: Not listed</p> <p>8.2 49 CFR Class: Not pertinent</p> <p>8.3 49 CFR Package Group: Not listed</p> <p>8.4 Marine Pollutant: No</p> <p>8.5 NFPA Hazard Classification:</p> <table> <thead> <tr> <th>Category</th> <th>Classification</th> </tr> </thead> <tbody> <tr> <td>Health Hazard (Blue).....</td> <td>0</td> </tr> <tr> <td>Flammability (Red).....</td> <td>1</td> </tr> <tr> <td>Instability (Yellow).....</td> <td>0</td> </tr> </tbody> </table>	Category	Classification	Health Hazard (Blue).....	0	Flammability (Red).....	1	Instability (Yellow).....	0
Category	Classification												
Health Hazard (Blue).....	0												
Flammability (Red).....	1												
Instability (Yellow).....	0												
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.				<p>8.6 EPA Reportable Quantity: Not listed.</p> <p>8.7 EPA Pollution Category: Not listed.</p> <p>8.8 RCRA Waste Number: Not listed</p> <p>8.9 EPA FWPCA List: Not listed</p>								
1. CORRECTIVE RESPONSE ACTIONS		2. CHEMICAL DESIGNATIONS	5. CHEMICAL REACTIVITY	9. PHYSICAL & CHEMICAL PROPERTIES									
Dilute and disperse Stop discharge		<p>2.1 CG Compatibility Group: 20; Alcohol, glycol</p> <p>2.2 Formula: CH₂CH(OH)CH₂OH</p> <p>2.3 IMO/UN Designation: Not listed</p> <p>2.4 DOT ID No.: Not listed</p> <p>2.5 CAS Registry No.: 57-55-6</p> <p>2.6 NAERG Guide No.: Not listed</p> <p>2.7 Standard Industrial Trade Classification: 51229</p>	<p>5.1 Reactivity with Water: No reaction</p> <p>5.2 Reactivity with Common Materials: None</p> <p>5.3 Stability During Transport: Stable</p> <p>5.4 Neutralizing Agents for Acids and Caustics: Not pertinent</p> <p>5.5 Polymerization: Not pertinent</p> <p>5.6 Inhibitor of Polymerization: Not pertinent</p>	<p>9.1 Physical State at 15° C and 1 atm: Liquid</p> <p>9.2 Molecular Weight: 76.10</p> <p>9.3 Boiling Point at 1 atm: 369.1°F = 187.3°C = 460.5°K</p> <p>9.4 Freezing Point: <-76°F = <-60°C = <213°K</p> <p>9.5 Critical Temperature: Not pertinent</p> <p>9.6 Critical Pressure: Not pertinent</p> <p>9.7 Specific Gravity: 1.04 at 20°C (liquid)</p> <p>9.8 Liquid Surface Tension: 36 dynes/cm = 0.036 N/m at 25°C</p> <p>9.9 Liquid Water Interfacial Tension: Not pertinent</p> <p>9.10 Vapor (Gas) Specific Gravity: Not pertinent</p> <p>9.11 Ratio of Specific Heats of Vapor (Gas): 1.073</p> <p>9.12 Latent Heat of Vaporization: 306 Btu/lb = 170 cal/g = 7.12 X 10⁵ J/kg</p> <p>9.13 Heat of Combustion: -10,310 Btu/lb = -5,728 cal/g = -239.8 X 10⁵ J/kg</p> <p>9.14 Heat of Decomposition: Not pertinent</p> <p>9.15 Heat of Solution: Not pertinent</p> <p>9.16 Heat of Polymerization: Not pertinent</p> <p>9.17 Heat of Fusion: Currently not available</p> <p>9.18 Limiting Value: Currently not available</p> <p>9.19 Reid Vapor Pressure: Currently not available</p>	NOTES								
3.1 Personal Protective Equipment: Goggles.		3. HEALTH HAZARDS	6. WATER POLLUTION										
3.2 Symptoms Following Exposure: Liquid may irritate eyes.													
3.3 Treatment of Exposure: Flush eyes with plenty of water.													
3.4 TLV-TWA: Not listed.													
3.5 TLV-STEL: Not listed.													
3.6 TLV-Ceiling: Not listed.													
3.7 Toxicity by Ingestion: Grade 2; LD ₅₀ = 0.5 to 5 g/kg (mouse)													
3.8 Toxicity by Inhalation: Currently not available.													
3.9 Chronic Toxicity: None													
3.10 Vapor (Gas) Irritant Characteristics: Vapors are nonirritating to the eyes and throat.													
3.11 Liquid or Solid Characteristics: No appreciable hazard. Practically harmless to the skin.													
3.12 Odor Threshold: Odorless													
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													

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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	65.700	0	0.540		N		N
50	65.419	10	0.548		O		O
60	65.139	20	0.556		T		T
70	64.860	30	0.563		E		E
80	64.589	40	0.571		R		R
90	64.309	50	0.579		I		I
100	64.030	60	0.587		N		N
110	63.750	70	0.594		E		E
120	63.480	80	0.602		T		T
130	63.200	90	0.610		I		I
140	62.920	100	0.618		N		N
150	62.640	110	0.626		E		E
160	62.370	120	0.633		T		T
170	62.090	130	0.641		I		I
180	61.810	140	0.649		N		N
190	61.530	150	0.657		E		E
200	61.260	160	0.664		T		T
210	60.980	170	0.672		I		I
		180	0.680		N		N
		190	0.688		E		E
		200	0.696		T		T
		210	0.703		I		I

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
M	80	0.002	80	0.00002	0	0.355	
I	100	0.005	100	0.00007	25	0.365	
S	120	0.014	120	0.00017	50	0.375	
C	140	0.033	140	0.00039	75	0.385	
I	160	0.074	160	0.00085	100	0.394	
B	180	0.153	180	0.00170	125	0.404	
L	200	0.297	200	0.00319	150	0.413	
E	220	0.544	220	0.00568	175	0.422	
	240	0.950	240	0.00963	200	0.431	
	260	1.589	260	0.01565	225	0.440	
	280	2.557	280	0.02450	250	0.448	
	300	3.975	300	0.03710	275	0.457	
	320	5.995	320	0.05451	300	0.465	
	340	8.795	340	0.07797	325	0.473	
	360	12.590	360	0.10880	350	0.481	
	380	17.610	380	0.14870	375	0.489	
					400	0.497	
					425	0.504	
					450	0.512	
					475	0.519	
					500	0.526	
					525	0.533	
					550	0.540	
					575	0.547	
					600	0.553	