PROPYLENE GLYCOL METHYL ETHER

PME

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Colorless	Mild odor
Dowanol 33B Dowanol PM 1-Methoxy-2-propanol	Mixes with water. Irritating vapor is produced.		

Call fire department.
Avoid contact with vapor.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

FLAMMABLE
Flashback along vapor trail may occur.
Vapor may explode if ignited in an enclosed area.
Extinguish with dry chemical, alcohol foam, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

VAPOR
Irritating to eyes, nose, and throat.
Move to fresh air.

LIQUID
Irritating to skin and eyes.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.

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: Not listed.
2.2 Formula: $CH_3CH(OH)CH_2OCH_3$
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: 3092
2.5 CAS Registry No.: 107-98-2
2.6 NAERG Guide No.: 129
2.7 Standard Industrial Trade Classification: 51616

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Safety goggles, protective clothing.
3.2 Symptoms Following Exposure: Liquid irritates eyes and skin.
3.3 Treatment of Exposure: EYES: wash with water for 15 min.; call a physician. SKIN: remove contaminated clothing and wash skin with water.
3.4 TLV-TWA: 100 ppm
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: 150 ppm
3.7 Toxicity by Ingestion: Grade 1; LD_{50} = 5 to 15 g/kg (rat)
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation, such that personnel will find high concentrations unpleasant. 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
3.13 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

4. FIRE HAZARDS

4.1 Flash Point: 90°F O.C.
4.2 Flammable Limits in Air: 1.6 - 13.8%
4.3 Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide
4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective.
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 26.2 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 9.0 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

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: Currently not available
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: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: Technical
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open (flame arrester)
7.5 IMO Pollution Category: D
7.6 Ship Type: Data not avaialable
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).....	0
Flammability (Red).....	3
Instability (Yellow).....	0

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: 90.12
9.3 Boiling Point at 1 atm: 250°F = 121°C = 394°K
9.4 Freezing Point: Not pertinent
9.5 Critical Temperature: 537.8°F = 281°C = 554.2°K
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 0.924 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): 1.066
9.12 Latent Heat of Vaporization: (est.) 166 Btu/lb = 92.3 cal/g = 3.86 X 10^5 J/kg
9.13 Heat of Combustion: (est.) –13,600 Btu/lb = –7580 cal/g = –317 X 10^5 J/kg
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: (est.) –9 Btu/lb = –5 cal/g = –0.2 X 10^5 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

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
55	58.240		CURRENTLY NOT AVAILABLE		NOT PERTINENT		NOT PERTINENT
60	58.050						
65	57.860						
70	57.670						
75	57.470						
80	57.280						
85	57.090						
90	56.900						
95	56.710						
100	56.520						
105	56.330						
110	56.140						
115	55.950						
120	55.760						
125	55.570						
130	55.380						
135	55.190						
140	54.990						

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
	MISCIBLE	70	0.161	70	0.00255	0	0.324
		80	0.230	80	0.00358	25	0.336
		90	0.324	90	0.00494	50	0.347
		100	0.448	100	0.00672	75	0.358
		110	0.610	110	0.00899	100	0.369
		120	0.820	120	0.01188	125	0.379
		130	1.088	130	0.01549	150	0.390
		140	1.426	140	0.01996	175	0.400
		150	1.847	150	0.02543	200	0.410
		160	2.367	160	0.03207	225	0.420
		170	3.003	170	0.04004	250	0.430
		180	3.773	180	0.04952	275	0.440
		190	4.700	190	0.06073	300	0.449
		200	5.804	200	0.07386	325	0.458
		210	7.111	210	0.08914	350	0.468
		220	8.647	220	0.10680	375	0.477
		230	10.440	230	0.12710	400	0.485
		240	12.520	240	0.15020	425	0.494
		250	14.920	250	0.17650	450	0.503
		260	17.680	260	0.20620	475	0.511
		270	20.820	270	0.23950	500	0.519
		280	24.390	280	0.27680	525	0.527
		290	28.420	290	0.31820	550	0.535
		300	32.950	300	0.36420	575	0.543
		310	38.030	310	0.41480	600	0.551
		320	43.700	320	0.47050		