
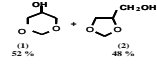


SOLVENT PROPERTY TABLE

	Methylal	Ethylal	Propylal	Butylal	TOU	2-Ethylhexylal	1,3-Dioxolane	Glycerol formal	
Molecular formula	C ₃ H ₈ O ₂	C ₅ H ₁₂ O ₂	C ₇ H ₁₆ O ₂	C ₉ H ₂₀ O ₂	C ₇ H ₁₆ O ₄	C ₁₇ H ₃₆ O ₂	C ₃ H ₆ O ₂	2 (C ₄ H ₈ O ₃)	
Chemical structure	<chem>CH3-O-CH2-O-CH3</chem>	<chem>CH3-CH2-O-CH2-O-CH2-CH3</chem>	<chem>CH3-(CH2)2-O-CH2-O-(CH2)2-CH3</chem>	<chem>CH3-(CH2)3-O-CH2-O-(CH2)3-CH3</chem>	<chem>CH3-O-(CH2)2-O-CH2-O-(CH2)2-O-CH3</chem>	<chem>CH3-(CH2)3-CH(C2H4)-CH2-O-CH2-O-(C2H4)CH-(CH2)3-CH3</chem>			
Synonym	Dimethoxymethane	Diethoxymethane	Dipropoxymethane	Dibutoxymethane	2,5,7,10-Tetraoxaundecane		1,3-dioxacyclopentane	(1) 5-hydroxy-1,3-dioxane (2) 4-hydroxymethyl - 1,3-	
CAS N°	109-87-5	462-95-3	505-84-0	2568-90-3	4431-83-8	22174-70-5	646-06-0	4740-78-7 and 5464-28-8	
EINECS N°	203-714-2	207-330-6	208-021-9	219-909-0	224-631-8	244-815-1	211-463-5	225-248-9 and 226-758-4	
Molecular weight	76.08	104.15	132.20	160.26	164.20	272.4	74.08	104.11	
Density (g/cm³) 20°C	0.861	0.830	0.8338	0.8354	0.9921	0.8490	1.06	1.215	
Vapour density	2.6	3.6	Not available	Not available			2.6	Not available	
Boiling point (°C) 101 325 Pa	42.3	88	137.20-137.60	180.5	210	290	74-75	191-195	
Freezing point (°C)	-104.8	-66	-97.3	-58.1	< -65	< -65	-95	Not available	
Flash point (°C)	Closed cup (Pensky-Martens)	-18	-7	26	62	88	142	-6	99
	Open cup (Cleveland)	-18	6	35	64	92	144	2	98
Vapour pressure (bar) 20°C (ASTM D 323 modified)	0.40	0.17	< 0.02	<0.02	0.0225	< 0,0001	0.09	<0.01	
Kinematic viscosity (E-7 m²/s) 25°C	3.71	5.07	7.697	10.83			5.53	117	
Refractory index η_D^{20}	1.3531	13,725	1.3930	1.4054	1.4142	1,435	1.4005	1.4500	
Explosion limits (Vol%)	LEL ₂₀ : 2.2	LEL : 2.1	Not available	LEL ₂₀ : 0.63	Not available	LEL : 2.1	LEL ₄₅ : 2.1	Not available	
	UEL ₂₀ : 19.9	UEL : 20		UEL ₁₈₀ : 23.6		UEL : 20	UEL ₆₅ : 20.5		
Autoignition temperature (°C) (ASTM E 659)	237	174	330	220	210	280	274	>400	
Surface tension (mN/m) 25°C	21.20	21.62	23.43	25.20	31.5	25.2	34.3	44.49	
Evaporation (DIN 53170) rate compared to.	Diethyl ether (= 1)	1.36	3	Not available	Not available		3.60	Not available	
	Butyl acetate (= 1)	0.11	0.25	0.8	5.54	17.38	No evaporation	0.29	Not available
Solubility of the acetal in water (%)	32.3	6.33	0.40	Not soluble	Fully miscible	Not soluble	Fully miscible	Fully miscible	
Solubility of water in the acetal (%)	4	1.21	0.45	0.24	Fully miscible	Not soluble	Fully miscible	Fully miscible	
Kauri-butanol index (ASTM D 1133-90) measured with	gum 4938	101	92	73	62	> 200	31	>218	71
	gum 4939	164	120	94	75	> 200	33	>207	74
Solubility parameters (MPa^{1/2})	Total δ_t	18.24	17.06		16.23	18.74		22.07	25.79
	Dispersion δ_d	14.83	14.87		14.70	15.16		16.95	16.37
	Polarity δ_p	6.01	4.67		3.43	6.09		7.85	11.99
	Hydrogen bond δ_h	8.76	6.95		5.96	9.19		11.76	19.63