

Table 10-1 REFRACTIVE INDEX, DIPOLE MOMENT, AND RADIUS OF GYRATION - ORGANIC COMPOUNDS

NO	FORMULA	NAME	Refractive Index		Dipole Moment		Radius of Gyration
			T, C	Value @ T	State	Debye	
1	CBrClF ₂	BROMOCHLORODIFLUOROMETHANE	—	—	—	—	3.105
2	CBrCl ₃	BROMOTRICHLOROMETHANE	—	—	—	—	3.577
3	CBrF ₃	BROMOTRIFLUOROMETHANE	25.0	1.5060	in benzene	0.59	2.810
4	CB ₂ F ₂	DIBROMODIFLUOROMETHANE	25.0	1.2380	gas	0.65	3.243
5	CClF ₃	CHLOROTRIFLUOROMETHANE	14.9	1.4016	gas	0.66	2.894
6	CClN	CYANOGEN CHLORIDE	25.0	1.1990	gas	0.51	1.250
7	CCl ₂ F ₂	DICHLORODIFLUOROMETHANE	—	—	gas	2.82	3.052
8	CCl ₂ O	PHOSGENE	26.6	1.2850	gas	0.51	2.877
9	CCl ₃ F	TRICHLOROFLUOROMETHANE	25.0	1.3561	gas	1.17	3.289
10	CCl ₄	CARBON TETRACHLORIDE	25.0	1.3740	gas	0.45	3.482
11	CF ₂ O	CARBONYL FLUORIDE	25.0	1.4573	gas	0.00	2.269
12	CF ₄	CARBON TETRAFLUORIDE	—	—	gas	0.95	2.668
13	CHBr ₃	TRIBROMOMETHANE	-73.2	1.1510	gas	0.00	3.730
14	CHClF ₂	CHLORODIFLUOROMETHANE	25.0	1.5956	gas	0.99	2.689
15	CHCl ₂ F	DICHLOROFLUOROMETHANE	25.0	1.2560	gas	1.42	3.015
16	CHCl ₃	CHLOROFORM	25.0	1.3540	gas	1.29	3.249
17	CHF ₃	TRIFLUOROMETHANE	25.0	1.4431	gas	1.01	2.454
18	CHI ₃	TRIiodOMETHANE	-73.2	1.2150	gas	1.65	—
19	CHN	HYDROGEN CYANIDE	—	—	in benzene	0.90	0.654
20	CHNS	ISOTHIOCYANIC-ACID	25.0	1.2594	gas	2.98	—
21	CH ₂ BrCl	BROMOCHLOROMETHANE	—	—	gas	1.72	2.247
22	CH ₂ Br ₂	DIBROMOMETHANE	25.0	1.4808	in benzene	1.66	2.327
23	CH ₂ ClF	CHLOROFLUOROMETHANE	25.0	1.5389	gas	1.43	—
24	CH ₂ Cl ₂	DICHLOROMETHANE	—	—	gas	1.82	2.322
25	CH ₂ F ₂	DIFLUOROMETHANE	25.0	1.4212	gas	1.60	1.950
26	CH ₂ I ₂	DIiodOMETHANE	25.0	1.1960	gas	1.96	2.438
27	CH ₂ O	FORMALDEHYDE	25.0	1.7380	in benzene	1.22	1.215
28	CH ₂ O ₂	FORMIC ACID	—	—	gas	2.33	1.847
29	CH ₃ Br	METHYL BROMIDE	25.0	1.3693	gas	1.42	1.173
30	CH ₃ Cl	METHYL CHLORIDE	25.0	1.4187	gas	1.81	1.265
31	CH ₃ Cl ₃ Si	METHYL TRICHLOROSILANE	25.0	1.3362	gas	1.87	—
32	CH ₃ F	METHYL FLUORIDE	25.0	1.4085	gas	1.91	1.410
33	CH ₃ I	METHYL IODIDE	25.0	1.1740	gas	1.85	1.035
34	CH ₃ NO	FORMAMIDE	25.0	1.5270	gas	1.62	1.894
35	CH ₃ NO ₂	NITROMETHANE	25.0	1.4468	gas	3.73	2.354
36	CH ₃ NO ₂	METHYL-NITRITE	—	—	—	—	—
37	CH ₃ NO ₃	METHYL-NITRATE	—	—	in benzene	2.88	—
38	CH ₄	METHANE	25.0	1.0004	gas	0.00	1.118
39	CH ₄ Cl ₂ Si	METHYL DICHLOROSILANE	19.9	1.3992	in benzene	1.91	3.256
40	CH ₄ O	METHANOL	25.0	1.3265	gas	1.70	1.552
41	CH ₄ O ₃ S	METHANESULFONIC ACID	17.9	1.4317	—	—	2.817
42	CH ₄ S	METHYL MERCAPTAN	—	—	gas	1.52	1.606
43	CH ₅ ClSi	METHYL CHLOROSILANE	—	—	in cyclohexane	1.93	—
44	CH ₅ N	METHYLAMINE	25.0	1.3491	gas	1.31	1.722
45	CH ₆ Si	METHYL SILANE	—	—	gas	0.73	—
46	CN ₄ O ₈	TETRANITROMETHANE	25.0	1.4358	gas	0.00	4.147
47	CO	CARBON MONOXIDE	25.0	1.0003	gas	0.11	0.558
48	COS	CARBONYL SULFIDE	—	1.3785	gas	0.71	1.270
49	CO ₂	CARBON DIOXIDE	25.0	1.0004	gas	0.00	1.040
50	CS ₂	CARBON DISULFIDE	25.0	1.6241	gas	0.00	1.569
51	C ₂ BrF ₃	BROMOTRIFLUOROETHYLENE	—	—	gas	0.76	3.366
52	C ₂ Br ₂ F ₄	1,2-DIBROMOTETRAFLUOROETHANE	25.0	1.3670	—	—	3.779
53	C ₂ ClF ₃	CHLOROTRIFLUOROETHYLENE	19.9	1.0010	gas	0.40	3.293
54	C ₂ ClF ₅	CHLOROPENTAFLUOROETHANE	25.0	1.2140	gas	0.52	3.587
55	C ₂ Cl ₂ F ₄	1,2-DICHLOROTETRAFLUOROETHANE	25.0	1.2880	gas	0.56	3.602
56	C ₂ Cl ₃ F ₃	1,1,2-TRICHLOROTRIFLUOROETHANE	25.0	1.3540	—	—	3.791
57	C ₂ Cl ₄	TETRACHLOROETHYLENE	25.0	1.5055	in benzene	0.00	4.059
58	C ₂ Cl ₄ F ₂	1,1,2,2-TETRACHLORODIFLUOROETHANE	25.0	1.4130	—	—	3.628
59	C ₂ Cl ₄ O	TRICHLOROACETYL CHLORIDE	—	—	in benzene	1.20	4.037
60	C ₂ Cl ₆	HEXACHLOROETHANE	—	—	gas	0.00	4.143
61	C ₂ F ₄	TETRAFLUROETHYLENE	—	—	—	—	3.232
62	C ₂ F ₆	HEXAFLUROETHANE	-73.2	1.2060	gas	0.00	3.419
63	C ₂ HBrClF ₃	HALOTHANE	25.0	1.3961	—	—	3.735
64	C ₂ HClF ₂	2-CHLORO-1,1-DIFLUOROETHYLENE	—	—	—	—	2.994
65	C ₂ HCl ₃	TRICHLOROETHYLENE	25.0	1.4750	liquid	0.77	3.742
66	C ₂ HCl ₃ O	DICHLOROACETYL CHLORIDE	15.9	1.4638	in CCl ₄	1.58	3.988
67	C ₂ HCl ₃ O	TRICHLOROACETALDEHYDE	19.9	1.4559	gas	1.96	3.649
68	C ₂ HCl ₅	PENTACHLOROETHANE	25.0	1.5005	gas	0.92	4.172
69	C ₂ H ₂ F ₃	TRIFLUOROETHENE	—	—	—	—	—
70	C ₂ H ₂ F ₃ O ₂	TRIFLUOROACETIC ACID	19.9	1.2850	gas	2.28	3.294
71	C ₂ H ₂ F ₅	PENTAFLUROETHANE	18.9	1.5012	gas	1.54	3.282
72	C ₂ H ₂	ACETYLENE	—	—	gas	0.00	0.744
73	C ₂ H ₂ Br ₄	1,1,2,2-TETRABROMOETHANE	25.0	1.6323	in hexane	1.30	4.540
74	C ₂ H ₂ Cl ₂	1,1-DICHLOROETHYLENE	19.9	1.4247	gas	1.34	3.011
75	C ₂ H ₂ Cl ₂	cis-1,2-DICHLOROETHYLENE	19.9	1.4490	gas	1.90	2.991
76	C ₂ H ₂ Cl ₂	trans-1,2-DICHLOROETHYLENE	19.9	1.4462	in CCl ₄	0.00	2.634
77	C ₂ H ₂ Cl ₂ O	CHLOROACETYL CHLORIDE	—	—	gas	2.23	3.394
78	C ₂ H ₂ Cl ₂ O	DICHLOROACETALDEHYDE	—	—	in benzene	2.36	3.419