

Table 1-37. PROPERTIES OF COMMON LIQUIDS\*

At 1.0 Atm Pressure, 77°F (25°C), Except as Noted

For thermal properties see Table 1-38. For properties of oils, see Tables 6-25 and 6-26.

Common name	Chemical formula	Molecular weight	Density, $\frac{\text{lb}}{\text{ft}^3}$	Specific gravity	Viscosity, $\frac{\text{lb}_m}{\text{ft sec}}$	Viscosity, cp	Sound velocity, $\frac{\text{meters}}{\text{sec}}$	Surface tension, $\frac{\text{dynes}}{\text{cm}}$	Dielectric constant	Refractive index
Acetic acid	$\text{C}_2\text{H}_4\text{O}_2$	60.0537	65.493	1.049	7.76	1.155	1584 <sup>50</sup>	27.3	6.15	1.37
Acetone	$\text{C}_3\text{H}_6\text{O}$	58.081	48.98	.787	2.12	0.316	1174	23.1	20.7	1.36
Alcohol, ethyl	$\text{C}_2\text{H}_5\text{OH}$	46.070	49.01	.787	7.36	1.095	1144	22.33	24.3	1.36
Alcohol, methyl	$\text{CH}_3\text{OH}$	32.043	49.10	.789	3.76	0.56	1103	22.2	32.6	1.33
Alcohol, propyl	$\text{C}_3\text{H}_8\text{O}$	60.098	49.94	.802	12.9	1.92	1205	23.5	20.1	1.38
Ammonia (aqua)	—	17.698	51.411	.826	—	—	—	—	16.9	—
Benzene	$\text{C}_6\text{H}_6$	78.117	54.55	.876	4.04	0.601	1298	28.18	2.2	1.50
Bromine	$\text{Br}_2$	159.818	—	—	6.38	0.95	—	41.5	3.20	—
Carbon disulfide	$\text{CS}_2$	76.140	78.72	1.265	2.42	0.36	1149	32.33	2.64	1.63
Carbon tetrachloride	$\text{CCl}_4$	153.824	98.91	1.59	6.11	0.91	924	26.3	2.23	1.46
Castor oil	—	—	59.69	0.960	—	650	1474	—	4.7	—
Chloroform	$\text{CHCl}_3$	119.378	91.44	1.47	3.56	0.53	995	27.14	4.8	1.44
Decane	$\text{C}_{10}\text{H}_{22}$	142.290	45.34	.728	5.77	0.859	—	23.43	2.0	1.41
Dodecane	$\text{C}_{12}\text{H}_{26}$	170.345	47.11	—	9.23	1.374	—	—	—	1.41
Ether	$\text{C}_4\text{H}_{10}\text{O}$	74.125	44.54	0.715	1.50	0.223	985	16.42	4.3	1.35
Ethylene glycol	$\text{C}_2\text{H}_6\text{O}_2$	62.070	68.47	1.100	109	16.2	1644	48.2	37.7	1.43
Fluorine refrigerant R-11	$\text{CCl}_3\text{F}$	137.369	92.14	1.480	2.82	0.42	—	18.3	2.0	1.37
Fluorine refrigerant R-12	$\text{CCl}_2\text{F}_2$	120.914	81.84	1.315	—	—	—	8.87	2.0	1.29
Fluorine refrigerant R-22	$\text{CHF}_2\text{Cl}$	86.469	74.53	1.197	—	—	—	8.35	2.0	1.26
Glycerine	$\text{C}_3\text{H}_8\text{O}_3$	92.096	78.62	1.263	6380	950	1909	63.0	40	1.47
Heptane	$\text{C}_7\text{H}_{16}$	100.208	42.42	.681	2.53	0.376	1138	19.9	1.92	1.38
Hexane	$\text{C}_6\text{H}_{14}$	86.181	40.88	.657	2.00	0.297	1203	18.0	—	1.37
Iodine	$\text{I}_2$	253.809	—	—	—	—	—	—	11	—
Kerosene	—	—	51.2	0.823	11.0	1.64	1320	—	—	—
Linseed oil	—	—	58.0	0.93	222	33.1	—	—	3.3	—
Mercury	Hg	200.59	—	13.633	10.3	1.53	1450	484	—	—
Octane	$\text{C}_8\text{H}_{18}$	114.235	43.61	.701	3.43	0.51	1171	21.14	—	1.40
Phenol	$\text{C}_6\text{H}_6\text{O}$	94.116	66.94	1.071	54	8.0	1274 <sup>100</sup>	40.4	9.8	—
Propane	$\text{C}_3\text{H}_8$	44.098	30.81	.495	0.74	0.11	—	6.6	1.27	1.34
Propylene	$\text{C}_3\text{H}_6$	42.082	32.11	.516	0.60	0.09	—	7.0	—	1.36
Propylene glycol	$\text{C}_3\text{H}_8\text{O}_2$	76.097	60.26	.968	—	42	—	36.3	—	1.43
Sea water	—	18.52	64.0	1.03	—	—	1535	—	—	—
Toluene	$\text{C}_7\text{H}_8$	92.144	53.83	0.865	3.70	0.550	1275 <sup>30</sup>	27.3	2.4	1.49
Turpentine	$\text{C}_{10}\text{H}_{16}$	136.242	54.2	0.87	9.24	1.375	1240	—	—	1.47
Water	$\text{H}_2\text{O}$	18.0153	62.247	1.00	6.0	0.89	1498	71.97	78.54	1.33

\*Compiled from several sources.