

Appendix A: Table of Densities of Water

Density of Water at 1 atmosphere

(from: *Handbook of Chemistry and Physics*, CRC press, 64th Ed.)

Temperature °C	Density g/mL	Temperature °C	Density g/mL
15	0.999103	22	0.997774
16	0.998946	23	0.997542
17	0.998778	24	0.997300
18	0.998599	25	0.997048
19	0.998408	26	0.996787
20	0.998207	27	0.996516
21	0.997996	28	0.996237

To accurately calibrate volumetric ware, consideration must be given to the "buoyancy effect" caused by the difference in mass of air, the water displacing it, and the mass of the balance weights. Harris (*"Exploring Chemical Analysis"*, W. H. Freeman, 1996) gives the following table of correction factors to use in calibrating volumetric glassware.

Correction factors for volumetric calibration

T (°C)	Corr. Fact. (mL/g)	T (°C)	Corr. Fact. (mL/g)
15	1.0020	23	1.0035
16	1.0021	24	1.0038
17	1.0023	25	1.0040
18	1.0025	26	1.0043
19	1.0027	27	1.0046
20	1.0029	28	1.0048
21	1.0031	29	1.0051
22	1.0033	30	1.0054

Factors are based on the density of water and are corrected for buoyancy.