



DENSITY OF AQUEOUS SOLUTIONS

Density of aqueous solutions at 15 °C, $\rho_m = \rho_{dis} + Ay_s$ (with $\rho_{dis} = 1000 \text{ kg/m}^3$), as a function of solute mass fraction, y_s (linear correlation).

| Solute | Formula(state) | Density coefficient $A \text{ [kg/m}^3]$ | Experimental data points $\rho_m \text{ [kg/m}^3]$ |
|------------------|---|---|---|
| Caustic potash | KOH(s) | 920 | 1092 at 10%wt, 1517 at 50%wt |
| Caustic soda | NaOH(s) | 1100 | 1115 at 10%wt, 1525 at 50%wt |
| Ethanol | C ₂ H ₆ O(l) | -200 | 982 at 10%vol, 914 at 50%vol |
| Ethylene glycol | C ₂ H ₆ O ₂ (l) | 10 | 1013 at 10%vol, 1066 at 50%vol |
| Fructose | C ₆ H ₁₂ O ₆ (s) | 400 | 1039 at 10%wt, 1340 at 70%wt (sat) |
| Methanol | CH ₄ O(l) | -200 | 982 at 10%vol, 919 at 50%vol |
| Oxygenated water | H ₂ O ₂ (l) | 350 | 1035 at 10%wt, 1196 at 50%wt |
| Salt | NaCl(s) | 770 | 1074 at 10%wt, 1204 at 26%wt (sat) |
| Sugar (sucrose) | C ₁₂ H ₂₂ O ₁₁ (s) | 400 | 1040 at 10%wt, 1300 at 60%wt (sat) |
| Sulfuric acid | H ₂ SO ₄ (l) | 705 | 1066 at 10%wt, 1395 at 50%wt |

More detailed density data, and many other properties, can be found in [Solution properties](#) for some special solutions: salt-water, sugar-water, alcohol-water, hydrogen peroxide-water, ammonia-water and carbon dioxide-water.

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