DENSITY OF AQUEOUS SOLUTIONS

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

Solute	Formula(state)	Density coefficient A [kg/m^3]	Experimental data points ρ_m [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_2H_6O(l)	–200	982 at 10%vol, 914 at 50%vol
Ethylene glycol	$C_2H_6O_2$(l)	10	1013 at 10%vol, 1066 at 50%vol
Fructose	$C_6H_{12}O_6$(s)	400	1039 at 10%wt, 1340 at 70%wt (sat)
Methanol	CH_4O(l)	-200	982 at 10%vol, 919 at 50%vol
Oxygenated water	H_2O_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_2SO_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.

Back to Solutions