

Properties of 94% Pure Calcium Chloride Solutions (CaCl₂)

Weight %	Density (kg/m ³)	CaCl ₂ (kg/m ³)	CaCl ₂ (mg/L)	Ca ⁺² (mg/L)	Cl ⁻ (mg/L)	Final Volume Factor	Freezing Point (°C)	Water Activity
1	1007	10.0	10,084	3,647	6,453	1.003	0	0.994
2	1015	20.0	20,337	7,331	12,969	1.005	-1	0.989
3	1023	30.5	30,763	11,087	19,613	1.007	-1	0.985
4	1032	41.3	41,363	14,915	26,385	1.009	-2	0.980
5	1040	51.9	52,142	18,779	33,221	1.013	-3	0.975
6	1049	62.7	63,101	22,715	40,185	1.016	-4	0.971
7	1057	73.8	74,245	26,723	47,277	1.019	-4	0.965
8	1066	85.2	85,574	30,804	54,496	1.022	-5	0.960
9	1075	96.3	97,094	34,921	61,779	1.025	-6	0.954
10	1084	108.0	108,805	39,110	69,190	1.028	-6	0.948
11	1092	120.0	120,712	43,407	76,793	1.031	-7	0.940
12	1101	132.0	132,816	47,741	84,459	1.035	-8	0.932
13	1111	143.9	145,121	52,147	92,253	1.038	-9	0.924
14	1120	156.5	157,630	56,625	100,175	1.042	-10	0.914
15	1129	169.0	170,346	61,175	108,225	1.046	-11	0.904
16	1139	181.8	183,270	65,797	116,403	1.050	-12	0.892
17	1148	194.6	196,407	70,492	124,708	1.156	-13	0.880
18	1158	207.8	209,759	75,259	133,141	1.166	-14	0.867
19	1168	221.4	223,329	80,134	141,766	1.176	-16	0.852
20	1178	234.8	237,120	85,045	150,455	1.186	-18	0.837
22	1198	262.7	265,375	95,157	168,343	1.207	-23	0.804
24	1218	291.5	294,159	105,557	186,743	1.227	-25	0.767
26	1239	321.2	324,659	116,319	205,781	1.249	-30	0.726
28	1260	352.0	354,734	127,405	225,395	1.271	-41	0.683
30	1282	383.6	387,795	138,853	245,647	1.293	-44	0.637
32	1304	416.1	420,864	150,626	266,474	1.316	-33	0.590
34	1326	449.7	454,964	162,796	288,004	1.152	-20	0.541
36	1349	484.5	490,118	175,363	310,237	1.168	-6	0.492
38	1372	520.1	526,349	188,291	333,109	1.187	3	0.443
40	1396	556.9	554,243	201,617	356,683	1.203	12	0.395

Properties based on 20°C and 100% purity

Milligrams/litre (mg/L) may be converted to parts per million (ppm) by dividing mg/L by the specific gravity.

$$\text{Specific Gravity} = \frac{\text{Density (kg/m}^3\text{)}}{1000}$$

$$\text{mg/L CaCl}_2 = \text{mg/L Chlorides} \times 1.5654$$

$$\text{mg/L Chlorides} = \text{mg/L CaCl}_2 \times 0.6391$$

$$\text{ppm CaCl}_2 = \% \text{ CaCl}_2 \text{ by weight} \times 10002$$