

All standard solution conductivity standards are referenced at 25 degrees Celcius

**Linear =**  $\$E\$31+(\$E\$31*N7*0.021)$  = original value + (original x no. of places from 25 x 0.021) This gives

**previous =**  $"D7-(D7*.021)$  = previous value +/- (previous value x 0.021) This gives a curve.

Notice we suggest a linear correlation for low conductivities and a curve for higher conductivities.

**Actual test results will vary since the depend on several other factors. These are meant to k**

Cat #	S51M003	23075-42	14400-42	2105-53	23074-42					
uS/cm -->	<b>1409</b>	<b>1409</b>	<b>180</b>	<b>180</b>	<b>1000</b>	<b>1000</b>	<b>1,990</b>	<b>1,990</b>	<b>18,000</b>	<b>18,000</b>
Salt -->	<b>KCl</b>	<b>KCl</b>	<b>NaCl</b>	<b>NaCl</b>	<b>NaCl</b>	<b>NaCl</b>	<b>NaCl</b>	<b>NaCl</b>	<b>NaCl</b>	<b>NaCl</b>
Temp. (deg. C)	curve ?	linear ?	curve	<b>linear in book</b>	curve	<b>linear in book</b>	<b>curve in book</b>	linear	<b>curve in book</b>	linear
0	829	669	106	86	588	475	1171	945	10589	8550
1	847	699	108	89	601	496	1196	987	10816	8928
2	865	728	110	93	614	517	1221	1029	11048	9306
3	883	758	113	97	627	538	1248	1071	11285	9684
4	902	788	115	101	640	559	1274	1112	11527	10062
5	922	817	118	104	654	580	1302	1154	11774	10440
6	941	847	120	108	668	601	1330	1196	12027	10818
7	962	876	123	112	682	622	1358	1238	12285	11196
8	982	906	125	116	697	643	1387	1280	12548	11574
9	1003	936	128	120	712	664	1417	1321	12817	11952
10	1025	965	131	123	727	685	1447	1363	13092	12330
11	1047	995	134	127	743	706	1478	1405	13373	12708
12	1069	1024	137	131	759	727	1510	1447	13660	13086
13	1092	1054	140	135	775	748	1543	1489	13953	13464
14	1116	1084	143	138	792	769	1576	1530	14252	13842
15	1140	1113	146	142	809	790	1609	1572	14558	14220
16	1164	1143	149	146	826	811	1644	1614	14870	14598
17	1189	1172	152	150	844	832	1679	1656	15189	14976
18	1214	1202	155	154	862	853	1715	1697	15515	15354
19	1241	1231	158	157	880	874	1752	1739	15848	15732
20	1267	1261	162	161	899	895	1790	1781	16188	16110
21	1294	1291	165	165	919	916	1828	1823	16535	16488
22	1322	1320	169	169	938	937	1867	1865	16890	16866
23	1350	1350	173	172	958	958	1907	1906	17252	17244
24	1379	1379	176	176	979	979	1948	1948	17622	17622
<b>25</b>	<b>1409</b>	<b>1409</b>	<b>180</b>	<b>180</b>	<b>1000</b>	<b>1000</b>	<b>1,990</b>	<b>1,990</b>	<b>18,000</b>	<b>18,000</b>
26	1439	1439	184	184	1021	1021	2032	2032	18378	18378
27	1469	1468	188	188	1042	1042	2074	2074	18764	18756
28	1500	1498	192	191	1064	1063	2118	2115	19158	19134
29	1531	1527	196	195	1087	1084	2162	2157	19560	19512
30	1563	1557	200	199	1110	1105	2208	2199	19971	19890
31	1596	1587	204	203	1133	1126	2254	2241	20390	20268
32	1630	1616	208	206	1157	1147	2302	2283	20819	20646
33	1664	1646	213	210	1181	1168	2350	2324	21256	21024
34	1699	1675	217	214	1206	1189	2399	2366	21702	21402

35	1734	1705	222	218	1231	1210	2450	2408	22158	21780
36	1771	1734	226	222	1257	1231	2501	2450	22623	22158
37	1808	1764	231	225	1283	1252	2554	2491	23098	22536
38	1846	1794	236	229	1310	1273	2607	2533	23583	22914
39	1885	1823	241	233	1338	1294	2662	2575	24079	23292
40	1924	1853	246	237	1366	1315	2718	2617	24584	23670
41	1965	1882	251	240	1394	1336	2775	2659	25101	24048
42	2006	1912	256	244	1424	1357	2833	2700	25628	24426
43	2048	1942	262	248	1454	1378	2893	2742	26166	24804
44	2091	1971	267	252	1484	1399	2954	2784	26715	25182
45	2135	2001	273	256	1515	1420	3016	2826	27276	25560
46	2180	2030	278	259	1547	1441	3079	2868	27849	25938
47	2226	2060	284	263	1580	1462	3144	2909	28434	26316
48	2272	2090	290	267	1613	1483	3210	2951	29031	26694
49	2320	2119	296	271	1647	1504	3277	2993	29641	27072
50	2369	2149	303	275	1681	1525	3346	3035	30263	27450

Formula is  $-2.1\%$  for every degree below 25 and  $+2.1\%$  for every degree above 25.

Due to precision of temperature measurement and only two digits in the correction, the conductivities are only precise for the first two digits.

Real values can vary from theoretical values with changes in density due to concentration.

3.

is a straight line as  $y=mx+b$

Use approximations.

27143-49

<b>53,000</b>	<b>53,000</b>	
<b>NaCl</b>	<b>NaCl</b>	No. of
curve	linear	places
		<u>from 25</u>
31178	25175	-25
31846	26288	-24
32530	27401	-23
33227	28514	-22
33940	29627	-21
34668	30740	-20
35412	31853	-19
36171	32966	-18
36947	34079	-17
37740	35192	-16
38549	36305	-15
39376	37418	-14
40221	38531	-13
41084	39644	-12
41965	40757	-11
42865	41870	-10
43784	42983	-9
44724	44096	-8
45683	45209	-7
46663	46322	-6
47664	47435	-5
48686	48548	-4
49731	49661	-3
50797	50774	-2
51887	51887	-1
<b>53,000</b>	<b>53,000</b>	0
54113	54113	1
55249	55226	2
56410	56339	3
57594	57452	4
58804	58565	5
60039	59678	6
61299	60791	7
62587	61904	8
63901	63017	9

65243	64130	10
66613	65243	11
68012	66356	12
69440	67469	13
70898	68582	14
72387	69695	15
73907	70808	16
75459	71921	17
77044	73034	18
78662	74147	19
80314	75260	20
82000	76373	21
83723	77486	22
85481	78599	23
87276	79712	24
89109	80825	25

25

n formula,

entrainment.