



FILMTEC Membranes
Addendum: Conductivity of Solutions

Conductivity of
Solutions

Table 9.3 Conductivity of solutions, acids, alkalies and salts 77°F (25°C) expressed as $\mu\text{S}/\text{cm}$ per meq/l

Component	Infin. diluted	Concentration in meq/l						
		0.1	0.5	1.0	5.0	10.0	50.0	100.0
HCl	426	425	423	421	415	412	399	392
HNO ₃	421	420	417	416	410	407	394	386
H ₂ SO ₄	430	424	412	407	390	380	346	317
H ₃ PO ₄	419	394	359	336	264	223	133	104
NaOH	248	247	246	245	241	238	227	221
KOH	271	270	269	268	264	261	251	246
NH ₄ OH	271	109	49	36	17	12	5.6	3.9
NaCl	126	126	124	124	121	118	111	107
Na ₂ SO ₄	130	128	126	124	117	113	97.7	90.0
Na ₂ CO ₃	124	122	120	119	112	108	93.2	86.3
NaHCO ₃	96.0	95.2	94.2	93.5	90.5	88.4	80.6	76.0
KCl	150	149	148	141	144	141	133	129

The graphs on the following page relate the conductivity of a solution containing one given chemical to the concentration of this chemical.

The conductivity of solutions at other temperatures can be calculated by multiplying conductivities at 77°F (25°C) with the correction factors in the following table. These factors are only valid for diluted solutions as they presuppose total ionic dissociation of the chemical.

Table 9.4 Conductivity correction factors

	32°F (0°C)	64°F (18°C)	77°F (25°C)	122°F (50°C)
HCl	0.66	0.89	1.00	1.37
H ₂ SO ₄	0.66	0.87	1.00	1.38
NaCl	0.53	0.86	1.00	1.57
NaOH	0.54	0.89	1.00	1.51
KOH	0.55	0.89	1.00	1.50

Figure 9.1 Conductivity of ionic solutions at 77°F (25°C)

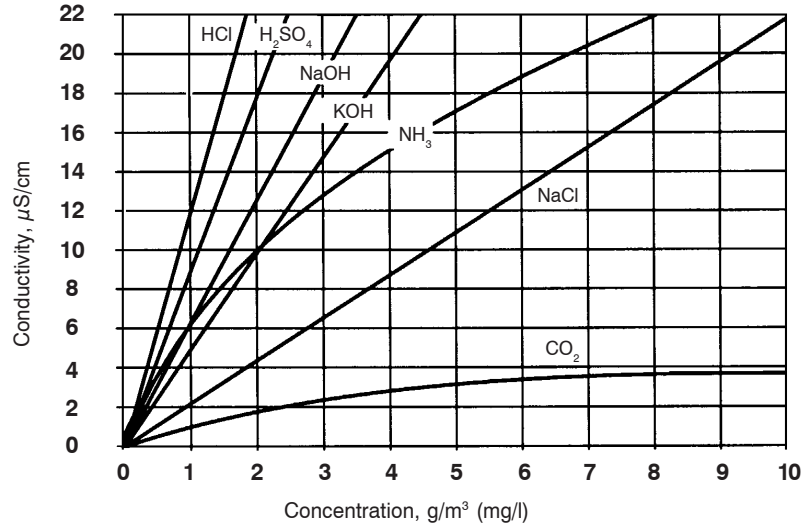
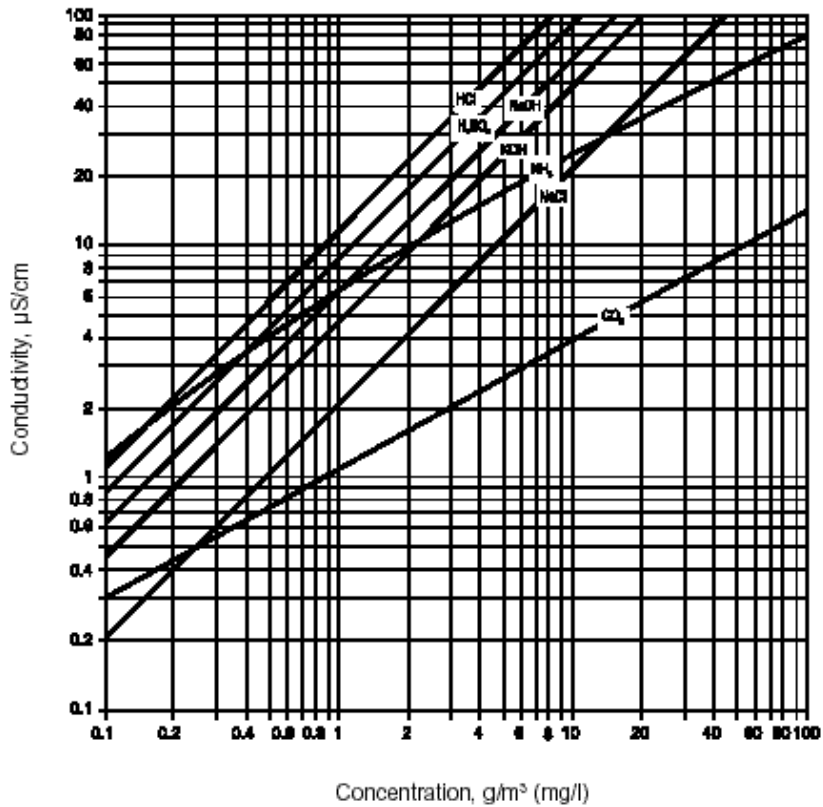


Figure 9.2 Conductivity of ionic solutions at 77°F (25°C)



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