

Supplemental Table S3 for: Erickson, Mount, Highland, Hockett, Hoff, Jenson, Norberg-King, and Peterson. “The acute toxicity of major ion salts to Ceriodaphnia dubia. III. Mathematical models for mixture toxicity”

Estimated total ion concentrations, ion activities, and osmolarities at 50% mortality in tests with field-based mixtures. For concentrations, normal text denotes nominal values when measurements indicated no significant precipitation of CaCO₃ or CaSO₄, and bold red underlined text denotes values when measurements indicated precipitation, the measurements being used to estimate values at 50% mortality during the second day of the test for Ca, SO₄, and alkalinity. Values for pH are averages of measurements at test termination, to nearest 0.05 pH unit. For the first F6 test, values are for highest tested concentration, at which there was no mortality.

Test ID	pH	Na Concentration	K Concentration	Ca Concentration	Mg Concentration	Cl Concentration	SO ₄ Concentration	Alkalinity	Ca Activity
		mM	mM	mM	mM	mM	mM	meq/L	mM
NaCl Reference	7.95	34.59	0.04	0.36	0.17	34.52	0.16	0.86	0.171
F0	7.95	37.88	0.22	1.24	1.52	42.59	0.04	0.91	0.546
F1	7.85	39.16	0.17	7.09	0.94	54.41	0.04	0.86	2.850
F2	9.30	25.33	0.11	<u>0.13</u>	0.13	2.44	0.15	<u>23.20</u>	0.031
F3	7.95	54.21	0.42	3.96	1.47	14.60	24.99	0.86	0.899
F4	9.20	38.15	0.53	<u>0.24</u>	0.22	8.16	7.18	<u>17.00</u>	0.055
MgSO ₄ Reference	7.90	0.28	0.04	0.36	18.55	0.22	18.54	0.86	0.103
F5	8.20	0.98	1.09	<u>14.60</u>	28.98	0.42	<u>42.50</u>	<u>3.75</u>	2.994
F6	8.20	5.84	1.11	<u>9.35</u>	40.28	0.47	<u>50.85</u>	<u>4.00</u>	1.763
F7	8.00	37.72	2.35	<u>14.70</u>	7.64	39.00	<u>22.20</u>	1.41	3.654
F8	8.80	27.32	0.97	<u>0.57</u>	13.23	2.75	<u>21.00</u>	<u>11.10</u>	0.132
F9	7.95	43.72	0.81	<u>8.71</u>	15.15	18.49	<u>33.95</u>	<u>5.82</u>	1.818
MgSO ₄ Repeat	8.00	0.28	0.04	0.36	17.33	0.22	17.31	0.86	0.106
F6 Repeat	8.40	6.29	1.19	<u>9.32</u>	43.29	0.52	<u>54.30</u>	<u>3.50</u>	1.710

Mg Activity	Na Activity	K Activity	Cl Activity	SO ₄ Activity	CO ₃ Activity	HCO ₃ Activity	H ₂ CO ₃ Activity	Nom Osmolarity	Osmolarity
mM	mM	mM	mM	mM	mM	mM	mM	mOsm/L	mOsm/L
0.08	28.68	0.03	28.63	0.07	0.00	0.70	0.02	70.7	66.6
0.65	30.86	0.18	34.62	0.01	0.00	0.71	0.02	84.4	78.7
0.37	31.13	0.14	43.09	0.01	0.00	0.63	0.02	102.7	94.2
0.04	20.95	0.10	2.06	0.07	1.33	14.17	0.02	51.5	44.2
0.36	40.93	0.31	11.34	8.08	0.00	0.64	0.02	100.5	85.5
0.06	30.36	0.42	6.65	3.01	0.76	10.16	0.01	71.5	62.1
5.70	0.22	0.03	0.17	5.66	0.00	0.63	0.02	38.8	27.0
6.54	0.72	0.80	0.32	9.29	0.02	2.31	0.03	92.3	60.9
8.39	4.24	0.79	0.35	10.64	0.02	2.43	0.03	111.9	74.6
2.00	28.29	1.75	29.62	5.45	0.00	0.95	0.02	125.0	103.5
3.42	21.00	0.74	2.15	6.53	0.20	6.67	0.02	76.9	60.9
3.44	32.18	0.59	13.92	8.46	0.02	3.99	0.10	126.7	100.8
5.46	0.23	0.03	0.17	5.42	0.00	0.63	0.01	36.4	25.5
8.79	4.54	0.85	0.38	11.13	0.02	1.96	0.02	118.4	78.5