pH	TOTAL AMMONIA IN PPM									
	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
6.0	.001	.001	.002	.002	.003	.003	.004	.005	.005	.006
6.2	.001	.002	.003	.004	.005	.005	.006	.007	.008	.009
6.4	.002	.003	.004	.006	.007	.009	.010	.011	.013	.014
6.6	.002	.005	.007	.009	.011	.014	.016	.018	.020	.022
6.8	.004	.007	.011	.014	.018	.021	.025	.028	.032	.035
7.0	.006	.011	.017	.022	.028	.034	.039	.045	.050	.056
7.2	.009	.018	.027	.035	.044	.053	.062	.071	.080	.088
7.4	.014	.028	.042	.056	.070	.084	.098	.112	.125	.139
7.6	.022	.044	.066	.088	.110	.131	.153	.175	.197	.219
7.8	.034	.069	.103	.137	.171	.206	.240	.274	.308	.343
8.0	.053	.107	.160	.213	.266	.320	.373	.426	.479	.533
8.2	.082	.164	.246	.327	.409	.491	.573	.655	.737	.818
8.4	.124	.248	.371	.495	.619	.743	.866	.999	1.11	1.24
8.6	.183	.366	.549	.732	.915	1.10	1.28	1.46	1.65	1.83
8.8	.262	.524	.786	1.05	1.31	1.57	1.83	2.10	2.36	2.62
9.0	.360	.720	1.08	1.44	1.80	2.16	2.52	2.88	3.24	3.60

The table above gives the **level of toxic ammonia** (NH_3) in ppm, in the large coloured area, relative to the total ammonia, shown in ppm in the light grey horizontal top row, at a range of pH values shown in the dark grey vertical column on the left, at 25°C (77°F).

Significance of the different levels of toxic ammonia:

Levels of below about 0.03 ppm **(green)** are safe.
Levels of above about 0.03 ppm to 0.1 ppm NH_3 **(yellow)** should be regarded as stressful.
Levels of above about 0.1 ppm to 0.3 ppm NH_3 **(orange)** are potentially lethal.
Levels of above about 0.3 ppm NH_3 **(red)** will cause rapid death.

Examples:

(a) In water with a total ammonia reading of 8.0 ppm and a pH of 6.8 the level of toxic ammonia will be 0.028 ppm, which is safe.

(b) In water with a total ammonia reading of 10.0 ppm and a pH of 8.0 the level of toxic ammonia will be 0.533 ppm, which is deadly.

6.8 Carbon dioxide (CO_2)

In practice, problems with excessively high carbon dioxide in well managed culture systems seem to be rare, but can happen. (Problems with carbon dioxide far more often arise when underground water is used, and with packing water during shipping.) Nevertheless it is essential to be aware that excessive carbon dioxide can cause several problems in ornamental fish culture.

A small percentage of the carbon dioxide (gas) dissolved in water produces carbonic acid which has the potential to acidify the water. The extent to which it does so is determined by the degree to