

Magnesium Table

Note: If you took 1.5 ml of water in step 1 then multiply the calcium values by 2!

Reading in ml's (step 6)	Magnesium Concentration in ppm
0.00	1500
0.02	1470
0.04	1440
0.06	1410
0.08	1380
0.10	1350
0.12	1320
0.14	1290
0.16	1260
0.18	1230
0.20	1200
0.22	1170
0.24	1140
0.26	1110
0.28	1080
0.30	1050
0.32	1020
0.34	990
0.36	960
0.38	930
0.40	900
0.42	870
0.44	840
0.46	810
0.48	780
0.50	750
0.52	720
0.54	690
0.56	660
0.58	630
0.60	600
0.62	570
0.64	540
0.66	510
0.68	480
0.70	450
0.72	420
0.74	390
0.76	360
0.78	330
0.80	300
0.82	270
0.84	240
0.86	210
0.88	180
0.90	150
0.92	120
0.94	90
0.96	60
0.98	30

Specifications

Instructions:

1. Add with the 5 ml syringe 3 ml of water in the test vial.
2. Add 6 drops of Mg-1 and swirl gently for 30 seconds.
3. Add 1 spoon of Mg-2 powder (spoon inside) to test vial and swirl for 10 seconds.
4. Place the plastic tip firmly on the 1 ml syringe and draw into this Mg-3 reagent until the lower end of the black syringe part is at the 1.00 ml mark. Ensure that during this that the plastic tip is submersed in the Mg-3 reagent to avoid that air bubbles are withdrawn instead of liquid. An air layer between the liquid and the piston is normal.

This is air which was present between the end of the tip and the piston, this will not influence the result.

5. Start adding the Mg-3 reagent with the 1 ml syringe to the testvial until the color changes to gray or blue (whichever color is observed first). Do this drop wise and swirl after each drop for a second or two.
6. Hold the syringe with the tip facing upward and read the position of the upper end of the black scringe part. Each division corresponds to 0.01 ml. The magnesium concentration can be obtained from the table or by use of the following equation:

$$\text{ppm Mg} = (1 - \text{reading in step 6}) \times 1500$$

Natural sea water has a magnesium concentration of approx. 1300 - 1500 ppm. The concentration varies with salinity.

Too low magnesium concentration makes maintaining correct calcium and alkalinity concentration difficult. Magnesium concentration can be increased with Salifert's magnesium.