

Strontium + Calcium Profi Test

For marine water only.

Warning:

Reagent Sr-1 contains sodium hydroxide and is corrosive! In case of contact with the skin wash with plenty of water. In case of contact with the eyes wash with plenty of water and contact a physician immediately. If swallowed **do not** induce vomiting. Contact a physician immediately **Keep out of reach of children!**

General information

Salifert has been the first to offer a strontium test kit. This is the third version and has been improved. The color change is better, number of steps have been reduced and accuracy and precision have been improved as well. Strontium, however, remains difficult to measure because it resembles calcium in many respects and is present in a far lower concentration than calcium. You can compare it with trying to find 10 slightly off-white marbles between 800 white marbles.

Strontium is a very important element and assists many corals and calcareous algae to grow. Strontium is next to calcium and carbonate (alkalinity) the most abundant element found in skeletal material of corals. Natural seawater contains approx. 7 - 9 mg/L (= ppm) strontium. In reef tanks values between approx. 10 and 15 mg/L are excellent.

If possible conduct a strontium measurement once or twice a month, depending on coral growth (strontium depletion rate).

Calcium is present in natural seawater in a concentration of approx. 400 - 450 mg/L. Alkalinity should be approx. 8 dKH (use our alkalinity test kit)

Strontium concentration can be increased and maintained with Salifert Strontium. For the sake of just maintaining strontium concentration together with calcium and trace elements, Salifert Coral Grower can be used.

To increase and maintain calcium concentration Salifert Coral Calcium can be used. Or just for maintaining calcium, together with strontium and trace elements use Salifert Coral Grower.

More information can be found in our 16 page booklet and on our web-site: www.salifert.com

Caution

Using the wrong syringes can spoil the reagents and can lead to inaccurate results. The tables which are included in this instruction can vary from batch to batch so use only the instructions which came with this particular test.

Cleaning

After use rinse the test vial several times with warm water. If some material keeps adhering on the walls fill the test vial with vinegar. Rinse after a few minutes several times with water.

Clean the scoop with water and make it dry with some tissue.

Empty the syringes after use. Remaining reagent can be put back (do not put back the reagent in a wrong bottle!!). Never rinse the syringes with water.

Instructions

1] Fill test vial with 5 ml of water (use the 5 ml syringe)

2] Add 12 drops of Sr-1 and swirl gently for approx. 10 seconds

3] Add 1 level spoon of Sr-2. Swirl gently for 5 seconds. The color should be red/pink.

4] Fit the 1 ml syringe without the red label with the small plastic tip. Ensure that the tip is mounted firmly.

Fill this syringe with 1 ml of Sr-3 (lower end of black rubber ring at 1.00 ml mark) Dose this amount in the test vial end swirl gently for 20 seconds. If the color has changed to blue and remains so even after an additional 30 seconds then the calcium concentration is far too low (approx. 300 mg/L or less) and should be corrected first before doing strontium testing.

5] Again fill this syringe with 1 ml of Sr-3. Add this drop wise to the test vial. Swirl gently for a few seconds after each drop until the color changes to blue.

If the color has changed to blue then swirl gently for 15 seconds. It is very likely that the color will revert back and will not be pure blue. In that case add one more drop of Sr-3 and swirl again for 15 seconds. Repeat this until the color remains blue.

6] Hold the syringe with the plastic tip facing upward. Read the value at the upper part of the black rubber ring. Look for this value in the calcium table to get the calcium concentration.

7] Fill the 1 ml syringe with the red label (no plastic tip needed and is not supplied) with 0.5 ml Sr-4 (lower end of black rubber ring at 0.50 ml mark. Add this to the test vial and swirl gently for 10 seconds. The color will now be red/pink.

8] Add two level scoops of Sr-5 and swirl gently until this powder has dissolved. Let it stand for 12 - 15 minutes (use a clock).

9] Fill the 1 ml syringe without the yellow label and fitted with the plastic tip with 1 ml of Sr-3. Add this drop wise to the test vial. Swirl gently for 20 seconds (should

definitely not be less than 20 seconds!) after each drop until the color changes to blue.

10] Hold the syringe with the plastic tip facing upward. Read the value at the upper part of the black rubber ring. Look for this value in the strontium table to obtain the strontium concentration.

Calcium Table

Reading from step #5 mg/L	Calcium
0.96	308
0.92	320
0.88	332
0.84	344
0.80	356
0.76	368
0.72	380
0.68	392
0.64	404
0.60	416
0.56	428
0.52	440
0.48	452
0.44	464
0.40	476
0.36	488
0.32	500
0.28	512
0.24	524
0.20	536
0.16	548
0.12	560
0.08	572
0.04	584
0.0	596

Strontium table

Reading step # 10 mg/L	Strontium
1.0	40 or higher
0.99	34
0.98	28
0.97	22
0.96	16 good
0.95	10 good
0.94	4
0.93	0 - 3

Error in strontium measurement is approx.

+/- 5 mg/L. Error in calcium measurement is approx. 2%.

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