

REEF ICP

Methodology: ICP-OES specific for seawater. Further methods possible via upgrades.

Recommended values are optimized for coral reef aquariums.

Sample ID: 01175776
Analysis ID: 276084
Booked upgrades: non

Sampling Point: Aquarium 1
 Volume in Liters: 0
 Sampling Date: 01-23-2026
 Sample Arrival: 02-04-2026

[To the dosing and action recommendations](#)



MACROELEMENTS, CALCIUM BALANCE ELEMENTS, AND HALOGENS in mg/Liter

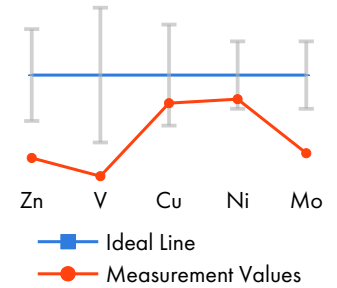
		measured	Reference Range
Sodium	Na	9915	9500 - 10700 - 11500
Sulfur	S	840	850 - 900 - 950
Sulfate	SO ₄ ²⁻	2517	2550 - 2700 - 2850
Potassium	K	273	380 - 395 - 420
Boron	B	5,39	3,8 - 4,5 - 5,5
Magnesium	Mg	1333	1200 - 1350 - 1450
Calcium	Ca	462	400 - 425 - 440
Strontium	Sr	3,77	6,5 - 8,0 - 9,0
Bromine (total bromine, ICP-OES)	Br	70,3	55 - 67 - 75
Iodine (Total Iodine, ICP-OES)	I	0,02	0,055 - 0,065 - 0,080

MACRO NUTRIENTS in mg/Liter

		measured	Reference Range
Phosphorus (ICP-OES)	P	0,007	0,006 - max. 0,060
Total Phosphate (calculated)	PO ₄ ³⁻ _{tot.}	0,021	0,02 - 0,18
Silicon	Si	0,34	0,1 - 0,2
Silicate (calculated)	SiO ₂	0,72	0,2 - 0,4

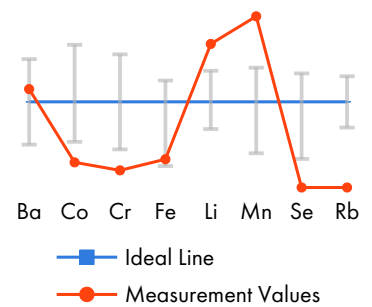
Dynamic Elements in µg/Liter

		measured	Reference Range
Zinc	Zn	0,99	3 - 5,5 - 8
Vanadium	V	n.d.	2 - 6 - 10
Copper	Cu	2,89	2 - 4 - 6
Nickel	Ni	3,43	3 - 4,5 - 6
Molybdenum	Mo	3,4	10 - 15 - 20



PHYSIOLOGICALLY RELEVANT TRACE ELEMENTS in µg/Liter

		measured	Reference Range
Barium	Ba	11,5	5 - max. 50
Cobalt	Co	0,44	n.d. - max. 1,9
Chromium	Cr	0,36	n.d. - max. 2,3
Iron	Fe	0,66	n.d. - max. 2,5
Lithium	Li	* 369	180 - max. 350
Manganese	Mn	0,2	n.d. - max. 0,25
Selenium	Se	n.d.	n.d. - max. 2

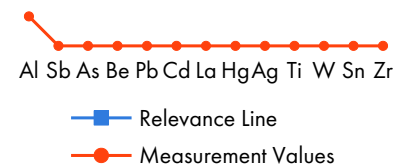


only with ICP-MS upgrade:

Rubidium	Rb	not measured
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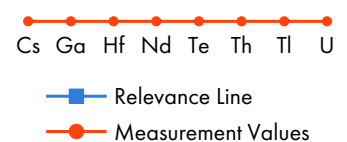
OTHER TRACE ELEMENTS AND POTENTIAL POLLUTANTS in µg/Liter

		measured	Reference Range
Aluminum	Al	3,2	5 - 30
Antimony	Sb	n.d.	n.d. - max. 10
Arsenic	As	n.d.	n.d.
Beryllium	Be	n.d.	n.d.
Lead	Pb	n.d.	n.d.
Cadmium	Cd	n.d.	n.d.
Lanthanum	La	n.d.	2 - 10
Mercury	Hg	n.d.	n.d.
Silver	Ag	n.d.	n.d. - max. 10
Titanium	Ti	n.d.	n.d. - 3,5
Tungsten	W	n.d.	n.d. - max. 30
Tin	Sn	n.d.	n.d. - max. 10
Zirconium	Zr	n.d.	n.d. - 2,2



only with ICP-MS upgrade:

Cesium	Cs	not measured
Gallium	Ga	not measured
Hafnium	Hf	not measured
Neodymium	Nd	not measured
Tellurium	Te	not measured
Thorium	Th	not measured
Thallium	Tl	not measured
Uranium	U	not measured



ORGANIC FACTORS

		measured	Reference Range
SAK254 (m ⁻¹)		not measured	only with SAK254 upgrade
NPOC (mg/l)	C	not measured	only with organic upgrade
TNb (mg/l)	N	not measured	only with organic upgrade

Overview of dosages

Product	Total quantity	spread over ...	corresponds	Priority	Checkbox
SALINITY	no need for action				
ELEMENTALS S	No dosage				
ELEMENTALS K	No dosage				
ELEMENTALS B	No dosage				
ELEMENTALS MG	No dosage				
ELEMENTALS SR	No dosage				
ELEMENTALS BR	No dosage				
TRACE I	No dosage				
ELEMENTALS N	only with organic upgrade				
ELEMENTALS P	No dosage				
TRACE ZN	No dosage				
TRACE V	No dosage				
TRACE CU	No dosage				
TRACE NI	No dosage				
TRACE MO	No dosage				
TRACE BA	No dosage				
TRACE CO	No dosage				
TRACE CR	No dosage				
TRACE FE	No dosage				
TRACE LI	No dosage				
TRACE MN	No dosage				
TRACE SE	No dosage				
TRACE RB	only with ICP-MS upgrade				

Upgrade options for a Reef ICP:

ICP-MS upgrade: Analysis of all trace elements (except aluminum and lithium) by ICP-MS with up to 1000x higher sensitivity compared to ICP-OES and analysis of exclusive elements. ICP-MS exclusive elements cannot be determined by ICP-OES, or not with sufficient sensitivity.

Organic upgrade: Determination of the concentrations of organic carbon (NPOC) and total nitrogen (TNb).

SAK254 upgrade: Determination of the indicator value for the concentration of unsaturated organic compounds.

Detection limits

Time-averaged detection limits for all relevant values are published regularly on lab.fauamarin.de.

Abbreviations:

ICP-OES (inductively coupled plasma with optical emission spectrometry), ICP-MS (inductively coupled plasma with mass spectrometry), SAK254 (spectral absorption coefficient at 254 nm), NPOC (not easily expelled organic carbon), TNb (total bound nitrogen), n.d. (not detectable).

* Measured value is too far outside the calibration range and cannot be precisely determined.