



QUASIMEME

Quality assurance of information
for marine environmental monitoring

Certificate of Analysis



Nutrients in Seawater

REFERENCE MATERIAL

AQ1 sample 189



Certificate of Analysis AQ1 189

General Information

In this report an overview is given of analytical data for this sample collected in our proficiency testing program. The consensus values are calculated using a robust statistical model. With this NDA model, the mean and standard deviation are calculated using all reported data when at least 4 results are left after removal of reported 'lower than' (<) and 0 (= zero) values. No outliers are removed.

This report is divided into two sections: Consensus Values and Indicative Values. The division is made on the reliability of the data. Consensus Values are based on at least 8 results and a maximum relative uncertainty of 6.25%. Indicative Values are based on a maximum relative uncertainty of 35% and a minimum of 4 and maximum of 7 results, or a relative uncertainty greater than 6.25% when there are at least 8 results.

For each determinand, the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation), the uncertainty of the mean (consensus or indicative) value and the relative uncertainty.

Please note: Most WEPAL-QUASIMEME reference materials are found to be stable over the long term (>10 years) for most determinand/matrix combinations. There are a few exceptions known to us as being less stable over the long term. These are organotins in sediment (MS6), ASP in shellfish (BT7), some PAHs and PCBs in sediment (SETOC) and N-NH₄ (as N) in clay soils (ISE).

Sample information

QUASIMEME reference materials cover a range of natural SeaWater species from contaminated waters from the North Sea and/or Mediterranean.

This AQ1 sample 189 of Seawater unspiked from Atlantic Ocean is prepared for the QUASIMEME proficiency programs. The results on which the values in this report are based were taken from the periods given in the following table.

Year.Round	Program	Sample Round Id
2025.1	AQ1	QNU417SW



Consensus Values AQ1

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
TOTAL-N	µmol/l	7.90	1.53	19.4	25	7.86	0.723	0.383	4.85

Method: Salinity - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Salinity	psu	34.4	0.007	0.0	20	34.4	0.005	0.002	0.005
Salinity indicative	psu	34.3	0.916	2.7	13	34.4	0.570	0.318	0.926



Indicative Values AQ1

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Nitrite	µmol/l	0.013	0.008	65.3	13	0.015	0.005	0.003	22.6
Ammonia	µmol/l	0.598	0.308	51.4	39	0.680	0.229	0.062	10.3
TOxN	µmol/l	0.044	0.048	109.7	16	0.050	0.033	0.015	34.3
TOTAL-P	µmol/l	0.210	0.071	34.0	22	0.216	0.043	0.019	9.07
Silicate	µmol/l	0.212	0.139	65.4	21	0.235	0.092	0.038	17.8
Phosphate	µmol/l	0.061	0.020	32.9	34	0.068	0.018	0.004	7.06
Nitrate	µmol/l	0.054	0.069	129.5	13	0.060	0.050	0.024	44.9