



QUASIMEME

Quality assurance of information
for marine environmental monitoring

Certificate of Analysis



Nutrients in Seawater

REFERENCE MATERIAL

AQ1 sample 180



Certificate of Analysis AQ1 180

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 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 10 results while the relative uncertainty is smaller than 6.25%. Indicative Values are based on a relative uncertainty of maximum 35% with at least 4 and less than 10 results or a relative uncertainty higher than 6.25%.

For each determinand the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation) and the uncertainty in the assigned value. The confidence limits (at 95 % probability) are calculated for these determinands.

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 180 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
2023.2	AQ1	QNU396SW



Consensus Values AQ1

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Ammonia	µmol/l	0.734	0.2055	28.0	33	0.750	0.1300	0.0447	0.661	-	0.806
TOTAL-N	µmol/l	17.0	1.48	8.7	25	16.8	0.96	0.37	16.4	-	17.6

Method: Salinity - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Salinity	psu	31.0	0.02	0.1	19	31.0	0.01	0.01	31.00	-	31.02



Indicative Values AQ1

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
Nitrite	µmol/l	0.0198	0.0168	84.6	17	0.0200	0.0100	0.0051	0.0112	- 0.0284
TOxN	µmol/l	0.0972	0.0962	99.0	19	0.0950	0.0650	0.0276	0.0510	- 0.143
TOTAL-P	µmol/l	0.222	0.0929	41.8	22	0.231	0.0507	0.0248	0.181	- 0.263
Silicate	µmol/l	0.187	0.1840	98.2	21	0.260	0.1600	0.0502	0.104	- 0.271
Phosphate	µmol/l	0.0254	0.0221	87.2	22	0.0318	0.0150	0.0059	0.0156	- 0.0352

Method: Salinity - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
Salinity indicative	psu	30.9	0.46	1.5	6	30.9	0.25	0.24	30.40	- 31.33