QUASIMEME

Quality assurance of information
for marine environmental monitoring

Certificate of Analysis

Nutrients in Seawater

REFERENCE MATERIAL

AQ1 sample 174

WAGENINGEN
UNIVERSITY & RESEARCH

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 % probabilty) 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 174 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
2022.2	AQ1	QNU382SW

Consensus Values   AQ1

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
TOTAL-N	µmol/l	5.48	0.971	17.7	26	5.78	0.692	0.238	5.09	-	5.88
TOxN	µmol/l	0.365	0.0666	18.3	31	0.365	0.0450	0.0149	0.340	-	0.389

Method: Salinity - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Salinity	psu	32.3	0.01	0.0	24	32.3	0.01	0.00	32.26	-	32.27
Salinity indicative	psu	32.0	0.38	1.2	10	32.1	0.26	0.15	31.77	-	32.30

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
Ammonia	µmol/l	0.354	0.1075	30.4	32	0.362	0.0735	0.0237	0.315 -	0.392
Nitrate	µmol/l	0.304	0.0702	23.1	17	0.310	0.0450	0.0213	0.269 -	0.340
Nitrite	µmol/l	0.0497	0.0151	30.4	33	0.0500	0.0100	0.0033	0.0443 -	0.0550
Phosphate	µmol/l	0.0199	0.0201	101.1	23	0.0259	0.0159	0.0053	0.0112 -	0.0286
Silicate	µmol/l	0.186	0.1728	92.8	24	0.204	0.1276	0.0441	0.113 -	0.259
TOTAL-P	µmol/l	0.111	0.0682	61.4	21	0.120	0.0480	0.0186	0.0802 -	0.142