QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Nutrients in Seawater

REFERENCE MATERIAL

AQ1 sample 177

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis   AQ1 177

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 177 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
2023.1	AQ1	QNU389SW

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
TOTAL-N	µmol/l	16.9	1.80	10.6	22	16.8	0.77	0.48	16.1	-	17.7

Method: Salinity - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Salinity	psu	32.2	0.05	0.2	24	32.2	0.03	0.01	32.16	-	32.20
Salinity indicative	psu	32.0	0.28	0.9	10	32.0	0.14	0.11	31.81	-	32.21

Method: Nutrients - AQ1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
Nitrite	µmol/l	0.0131	0.0077	59.0	12	0.0135	0.0045	0.0028	0.0082 -	0.0179
Ammonia	µmol/l	0.588	0.1731	29.4	34	0.591	0.0950	0.0371	0.528 -	0.648
TOxN	µmol/l	0.120	0.0700	58.5	26	0.121	0.0450	0.0172	0.0914 -	0.148
TOTAL-P	µmol/l	0.148	0.0552	37.2	22	0.153	0.0375	0.0147	0.124 -	0.173
Silicate	µmol/l	0.418	0.1875	44.9	29	0.455	0.1292	0.0435	0.346 -	0.489
Phosphate	µmol/l	0.0212	0.0196	92.4	17	0.0240	0.0140	0.0060	0.0112 -	0.0313
Nitrate	µmol/l	0.117	0.0774	66.2	10	0.122	0.0540	0.0306	0.0624 -	0.171