



# QUASIMEME

Quality assurance of information  
for marine environmental monitoring

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## Certificate of Analysis



Nutrients in Estuarine and low salinity Seawater

REFERENCE MATERIAL

AQ2 sample 210

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## Certificate of Analysis    AQ2 210

### 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.

### Sample information

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

This AQ2 sample 210 of Seawater spiked with nutrients from Atlantic Ocean (diluted) 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
2024.1	AQ2	QNU406EW



## Consensus Values AQ2

### Method: Nutrients - AQ2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Nitrite	µmol/l	8.11	0.393	4.8	27	8.15	0.250	0.095	1.17
Ammonia	µmol/l	12.6	1.42	11.2	28	12.5	0.884	0.335	2.66
TOxN	µmol/l	55.8	2.22	4.0	29	56.0	1.18	0.516	0.925
TOTAL-N	µmol/l	72.1	2.57	3.6	17	72.0	1.67	0.780	1.08
TOTAL-P	µmol/l	5.26	0.238	4.5	17	5.22	0.134	0.072	1.37
Silicate	µmol/l	40.2	1.53	3.8	29	40.2	0.760	0.356	0.885
Phosphate	µmol/l	5.18	0.138	2.7	29	5.16	0.091	0.032	0.619
Nitrate	µmol/l	48.0	3.16	6.6	13	47.9	2.21	1.10	2.29

### Method: Salinity - AQ2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Salinity	psu	8.24	0.006	0.1	21	8.24	0.003	0.002	0.019



### Indicative Values AQ2

**Method: Salinity - AQ2**

**Element**

Salinity indicative

<b>Unit</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>CV %</b>	<b>N</b>	<b>Median</b>	<b>MAD</b>	<b>Uncertainty</b>	<b>Rel.Uncert. %</b>
psu	8.17	0.174	2.1	4	8.18	0.080	0.109	1.33