QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Chlorophyll and Pheopigments in seawater

REFERENCE MATERIAL

AQ11 sample 82

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis AQ11 82

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.

The results of each determinand is expressed on volumetric basis.

Sample information

QUASIMEME reference materials cover a range of natural AQ11 species from contaminated waters from the North Sea and/or Mediterranean.

This AQ11 sample 82 of Water from lake Veerse Meer 2022 from Lake Veerse Meer (brackish) 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	AQ11	QCH111SW

Consensus Values AQ11

Method: Pigments - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Chlorophyll-a	µg/l	3.26	0.703	21.6	35	3.21	0.493	0.149	3.02 - 3.50

Indicative Values AQ11

Method: Pigments - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Chlorophyll-b	µg/l	0.435	0.1435	33.0	8	0.465	0.1005	0.0634	0.318 - 0.552
Chlorophyll-c	µg/l	0.382	0.2306	60.3	7	0.394	0.1543	0.1089	0.176 - 0.588
Pheopigments	µg/l	0.687	0.5205	75.8	21	0.699	0.3690	0.1420	0.451 - 0.923
Chlorophyll-a (Corr.)	µg/l	2.71	0.572	21.1	14	2.73	0.385	0.191	2.38 - 3.04

Method: Pigments-HPLC - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Chlorophyll-a (HPLC)	µg/l	2.82	0.504	17.9	5	2.75	0.370	0.282	2.24 - 3.40
Chlorophyll-b (HPLC)	µg/l	0.328	0.0657	20.0	4	0.327	0.0450	0.0411	0.237 - 0.419