QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Chlorophyll and Pheopigments in seawater

REFERENCE MATERIAL

AQ11 sample 78

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.

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 78 of Lake Ijsselmeer from Ijsselmeer, the Netherlands 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	QCH110SW
2022.1	AQ11	QCH109SW

Method: Pigments - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Chlorophyll-a	µg/l	12.5	1.40	11.2	63	12.3	0.97	0.22	12.14	-	12.84
Chlorophyll-a (Corr.)	µg/l	10.6	1.94	18.4	25	10.7	1.39	0.49	9.77	-	11.4

Method: Pigments-HPLC - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Chlorophyll-a (HPLC)	µg/l	11.7	1.30	11.0	10	11.6	0.92	0.51	10.8	-	12.7

Method: Pigments - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Chlorophyll-b	µg/l	0.370	0.2587	69.8	12	0.399	0.1820	0.0933	0.208	-	0.533
Chlorophyll-c	µg/l	0.748	0.3534	47.2	12	0.724	0.2410	0.1275	0.526	-	0.971
Pheopigments	µg/l	2.66	1.425	53.6	34	2.73	0.963	0.306	2.16	-	3.16

Method: Pigments-HPLC - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Chlorophyll-b (HPLC)	µg/l	0.316	0.1424	45.1	8	0.281	0.0970	0.0629	0.200	-	0.432