



QUASIMEME

Quality assurance of information
for marine environmental monitoring

Certificate of Analysis



Chlorophyll and Pheopigments in seawater

REFERENCE MATERIAL

AQ11 sample 73



Certificate of Analysis AQ11 73

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 % probability) 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 73 of Filter with natural algae from Alterra pond, Wageningen, 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
2023.1	AQ11	QCH113SW
2021.1	AQ11	QCH105SW



Consensus Values AQ11

Method: Pigments - AQ11

Element

Chlorophyll-a

Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
µg/l	5.78	1.194	20.6	73	5.79	0.814	0.175	5.50	-	6.06



Indicative Values AQ11

Method: Pigments - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Pheopigments	µg/l	1.84	0.916	49.9	35	1.94	0.726	0.194	1.52	-	2.15
Chlorophyll-b	µg/l	1.01	0.386	38.1	8	0.958	0.144	0.170	0.699	-	1.33
Chlorophyll-c	µg/l	0.927	0.6220	67.1	8	0.737	0.2474	0.2749	0.420	-	1.43
Chlorophyll-a (Corr.)	µg/l	4.54	1.360	30.0	19	4.41	0.768	0.390	3.88	-	5.19

Method: Pigments-HPLC - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Chlorophyll-a (HPLC)	µg/l	5.21	0.898	17.2	10	5.15	0.436	0.355	4.58	-	5.85
Chlorophyll-b (HPLC)	µg/l	0.635	0.1882	29.7	8	0.629	0.1010	0.0832	0.481	-	0.788