



# QUASIMEME

Quality assurance of information  
for marine environmental monitoring

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## Certificate of Analysis



Chlorophyll and Pheopigments in seawater

REFERENCE MATERIAL

AQ11 sample 67

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## Certificate of Analysis    AQ11 67

### 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 67 of Filter with natural algae from Lake Ketelmeer, 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
2020.1	AQ11	QCH100SW



### Consensus Values AQ11

Method: Pigments - AQ11

Element

Chlorophyll-a

Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
µg/l	5.89	1.109	18.8	28	5.68	0.770	0.262	5.46	-	6.32



### Indicative Values AQ11

#### Method: Pigments - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
Chlorophyll-b	µg/l	0.598	0.1619	27.1	5	0.616	0.1257	0.0905	0.412	- 0.784
Pheopigments	µg/l	1.54	0.473	30.7	16	1.67	0.314	0.148	1.29	- 1.79
Chlorophyll-a (Corr.)	µg/l	4.55	1.012	22.2	9	4.39	0.691	0.422	3.79	- 5.31

#### Method: Pigments-HPLC - AQ11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
Chlorophyll-a (HPLC)	µg/l	5.87	0.242	4.1	4	5.96	0.185	0.152	5.54	- 6.21