QUASIMEME

Quality assurance of information for marine environmental monitoring

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Certificate of Analysis

Polycyclic Aromatic Hydrocarbons in seawater

REFERENCE MATERIAL

AQ13 sample 48

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis AQ13 48

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.

Sample information

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

This AQ13 sample 48 of Estuarine water spiked with sediment from North Sea (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
2022.1	AQ13	QPH046EW

Indicative Values AQ13

Method: Polycyclic aromatic hydrocarbons - AQ13

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Acenaphthene	µg/L	0.0263	0.0194	73.6	10	0.0321	0.0151	0.0077	0.0127 - 0.0400
Acenaphthylene	µg/L	0.131	0.1216	92.8	11	0.138	0.0881	0.0458	0.0503 - 0.212
Anthracene	µg/L	0.159	0.0665	41.7	12	0.157	0.0465	0.0240	0.117 - 0.201
Benzo[a]anthracene	µg/L	0.951	0.1890	19.9	11	0.877	0.1280	0.0712	0.825 - 1.08
Benzo[a]pyrene	µg/L	0.523	0.2148	41.1	12	0.514	0.1583	0.0775	0.388 - 0.658
Benzo[b]fluoranthene	µg/L	0.985	0.1922	19.5	12	1.021	0.1325	0.0694	0.864 - 1.11
Benzo[k]fluoranthene	µg/L	0.431	0.1532	35.5	12	0.470	0.1142	0.0553	0.335 - 0.527
Benzo[g,h,i]perylene	µg/L	0.438	0.1606	36.7	12	0.445	0.1136	0.0580	0.337 - 0.539
Chrysene	µg/L	0.976	0.2380	24.4	11	0.971	0.1688	0.0897	0.818 - 1.13
Dibenzo[ah]anthracene	µg/L	0.151	0.0756	50.1	10	0.180	0.0554	0.0299	0.0978 - 0.204
Fluorene	µg/L	0.0217	0.0124	57.4	9	0.0180	0.0082	0.0052	0.0123 - 0.0310
Fluoranthene	µg/L	2.67	0.748	28.1	12	2.58	0.532	0.270	2.20 - 3.14
Indeno[1,2,3-cd]pyrene	µg/L	0.481	0.1337	27.8	12	0.502	0.0872	0.0482	0.397 - 0.565
Phenanthrene	µg/L	0.245	0.1332	54.4	11	0.227	0.0945	0.0502	0.156 - 0.333
Pyrene	µg/L	1.85	0.484	26.1	11	1.90	0.338	0.182	1.53 - 2.18