



WEPAL-QUASIMEME

Certificate of Analysis



Polycyclic Aromatic Hydrocarbons in seawater

REFERENCE MATERIAL

AQ13 sample 60

2026-Aug-13



Certificate of Analysis AQ13 60

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, the 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 8 results and a maximum relative uncertainty of 6.25%. Indicative Values are based on a maximum relative uncertainty of 35% and a minimum of 4 and maximum of 7 results, or a relative uncertainty greater than 6.25% when there are at least 8 results.

For each measurand, the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation), the uncertainty of the mean (consensus or indicative) value and the relative uncertainty.

Please note: Most WEPAL-QUASIMEME reference materials are found to be stable over the long term (>10 years) for most measurand/matrix combinations. There are a few exceptions known to us as being less stable over the long term. These are organotins in sediment (MS6), ASP in shellfish (BT7), some PAHs and PCBs in sediment (SETOC) and N-NH₄ (as N) & N-NO₃ (as N) in clay soils (ISE).

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 60 of Estuarine seawater spiked with PAHs from North Sea, the Netherlands is prepared for the QUASIMEME proficiency programs. The results on which the values in this report are based were taken from the rounds given in the following table.

Year.Round	Program	Sample Round Id
2026.1	AQ13	QPH058SW



Indicative Values AQ13

Method: Polycyclic aromatic hydrocarbons - AQ13

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Indeno[1,2,3-cd]pyrene	µg/L	2.24	0.892	39.8	15	2.30	0.540	0.288	12.9
Phenanthrene	µg/L	1.37	0.607	44.3	13	1.31	0.389	0.211	15.4
Benzo[g,h,i]perylene	µg/L	1.90	1.11	58.3	15	2.00	0.808	0.357	18.8
Fluoranthene	µg/L	11.5	4.48	39.1	15	12.0	2.60	1.45	12.6
Benzo[b]fluoranthene	µg/L	3.47	1.63	46.9	14	3.38	1.28	0.545	15.7
Benzo[a]pyrene	µg/L	2.55	1.18	46.2	15	2.44	0.757	0.380	14.9
Naphthalene	µg/L	0.135	0.210	155.1	12	0.152	0.124	0.076	56.0
Benzo[k]fluoranthene	µg/L	2.17	1.14	52.5	13	2.34	0.630	0.394	18.2
Anthracene	µg/L	0.443	0.207	46.8	14	0.495	0.162	0.069	15.6
Acenaphthene	µg/L	0.052	0.043	82.5	12	0.066	0.032	0.016	29.8
Acenaphthylene	µg/L	0.443	0.362	81.9	13	0.356	0.229	0.126	28.4
Pyrene	µg/L	8.36	3.11	37.2	14	8.00	1.89	1.04	12.4
Dibenzo[ah]anthracene	µg/L	0.628	0.405	64.6	12	0.668	0.237	0.146	23.3
Benzo[a]anthracene	µg/L	4.40	1.62	36.8	14	4.29	1.52	0.540	12.3
Benzo[e]pyrene	µg/L	2.28	1.17	51.0	6	2.29	0.625	0.595	26.0
Chrysene	µg/L	4.82	1.89	39.2	14	4.87	1.24	0.631	13.1
Fluorene	µg/L	0.042	0.029	69.9	12	0.046	0.016	0.011	25.2