QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Volatile Organics in seawater

REFERENCE MATERIAL

AQ6 sample 74

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis AQ6 74

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 AQ6 sample 74 of Seawater spiked with volatiles from North Sea 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	AQ6	QVC073SW

Consensus Values AQ6

Method: VOCs - AQ6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Chloroform	µg/L	2.91	0.304	10.4	10	2.92	0.200	0.120	2.70 - 3.12

Indicative Values AQ6

Method: VOCs - AQ6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Carbon-tetrachloride	µg/L	0.849	0.1083	12.8	8	0.871	0.0650	0.0479	0.761 - 0.937
1-1-1-trichloroethane	µg/L	0.652	0.0647	9.9	7	0.680	0.0409	0.0306	0.595 - 0.710
1-2-dichloroethane	µg/L	1.04	0.188	18.1	7	1.10	0.098	0.089	0.873 - 1.21
Tetrachloroethene	µg/L	2.75	0.487	17.7	10	2.76	0.425	0.193	2.40 - 3.09
Trichlorethene	µg/L	0.998	0.0865	8.7	8	1.000	0.0380	0.0382	0.927 - 1.07
1-1-2-trichloroethane	µg/L	0.987	0.0329	3.3	7	1.000	0.0200	0.0155	0.958 - 1.02
Benzene	µg/L	1.81	0.175	9.7	9	1.80	0.100	0.073	1.67 - 1.94
Styrene	µg/L	1.54	0.131	8.5	7	1.56	0.040	0.062	1.42 - 1.65
4-chlorotoluene	µg/L	-	-	-	5	1.80	0.2	-	- - -
1,1-dichloroethane	µg/L	1.73	0.234	13.5	7	1.70	0.072	0.110	1.52 - 1.94
1,2-dichloropropane	µg/L	1.50	0.179	12.0	7	1.54	0.078	0.085	1.34 - 1.66
1,2-dichlorobenzene	µg/L	-	-	-	5	1.78	0.2	-	- - -
1,3-dichlorobenzene	µg/L	-	-	-	4	1.04	0.1	-	- - -
1,3,5-trimethylbenzene	µg/L	-	-	-	4	1.47	0.2	-	- - -
Chlorobenzene	µg/L	1.43	0.126	8.8	6	1.43	0.076	0.064	1.30 - 1.55
cis-1,2-dichloroethene	µg/L	2.25	0.643	28.6	8	2.25	0.291	0.284	1.72 - 2.77
trans-1,2-dichloroethene	µg/L	2.94	0.498	17.0	7	2.96	0.302	0.235	2.49 - 3.38
Toluene	µg/L	1.30	0.025	1.9	7	1.30	0.010	0.012	1.27 - 1.32
Ethylbenzene	µg/L	0.499	0.0831	16.6	6	0.502	0.0355	0.0424	0.416 - 0.582
o-Xylene	µg/L	1.44	0.091	6.3	8	1.46	0.045	0.040	1.37 - 1.52
m+p-Xylene	µg/L	0.636	0.0643	10.1	6	0.647	0.0282	0.0328	0.572 - 0.700
Isopropylbenzene	µg/L	-	-	-	4	1.00	0.1	-	- - -
tert-bytylbenzene	µg/L	-	-	-	4	1.17	0.1	-	- - -