



QUASIMEME

Quality assurance of information
for marine environmental monitoring

Certificate of Analysis



Volatile Organics in seawater

REFERENCE MATERIAL

AQ6 sample 72



Certificate of Analysis AQ6 72

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.

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 72 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
2022.1	AQ6	QVC071SW



Consensus Values AQ6

Method: VOCs - AQ6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
Benzene	µg/L	0.971	0.0900	9.3	10	0.984	0.0600	0.0356	0.908	- 1.03
Chloroform	µg/L	2.10	0.312	14.8	11	2.10	0.223	0.118	1.90	- 2.31
Tetrachloroethene	µg/L	1.23	0.204	16.6	11	1.16	0.140	0.077	1.10	- 1.37
Trichloroethene	µg/L	0.746	0.0960	12.9	10	0.745	0.0645	0.0379	0.679	- 0.814
1-1-1-trichloroethane	µg/L	0.999	0.1418	14.2	10	0.995	0.1050	0.0561	0.899	- 1.10
1-1-2-trichloroethane	µg/L	2.94	0.288	9.8	10	2.92	0.205	0.114	2.73	- 3.14



Indicative Values AQ6

Method: VOCs - AQ6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Carbon-tetrachloride	µg/L	2.96	0.642	21.7	10	3.02	0.475	0.254	2.51	-	3.41
Chlorobenzene	µg/L	1.28	0.154	12.1	7	1.23	0.099	0.073	1.14	-	1.41
2-chlorotoluene	µg/L	2.70	0.515	19.0	7	2.70	0.373	0.243	2.24	-	3.16
4-chlorotoluene	µg/L	0.931	0.2195	23.6	6	0.935	0.1600	0.1120	0.712	-	1.15
1,2-dichlorobenzene	µg/L	0.963	0.3106	32.3	6	0.980	0.2200	0.1585	0.653	-	1.27
1,3-dichlorobenzene	µg/L	0.561	0.1269	22.6	6	0.580	0.0900	0.0647	0.435	-	0.688
1,4-dichlorobenzene	µg/L	0.727	0.3730	51.3	6	0.735	0.2700	0.1903	0.355	-	1.10
1,1-dichloroethane	µg/L	0.593	0.0575	9.7	7	0.593	0.0370	0.0272	0.542	-	0.644
1-2-dichloroethane	µg/L	0.869	0.0730	8.4	9	0.860	0.0500	0.0304	0.814	-	0.924
1,1-dichloroethene	µg/L	0.930	0.0536	5.8	6	0.915	0.0400	0.0274	0.876	-	0.983
cis-1,2-dichloroethene	µg/L	1.86	0.457	24.5	8	1.89	0.328	0.202	1.49	-	2.23
trans-1,2-dichloroethene	µg/L	0.0796	0.0091	11.5	5	0.0800	0.0070	0.0051	0.0691	-	0.0901
Dichloromethane	µg/L	5.48	1.118	20.4	9	5.64	0.819	0.466	4.63	-	6.32
1,2-dichloropropane	µg/L	1.50	0.272	18.1	8	1.44	0.190	0.120	1.28	-	1.72
Ethylbenzene	µg/L	0.660	0.0949	14.4	7	0.630	0.0700	0.0449	0.575	-	0.745
Isopropylbenzene	µg/L	0.974	0.2903	29.8	4	0.950	0.1850	0.1814	0.571	-	1.38
Styrene	µg/L	1.14	0.129	11.3	9	1.10	0.083	0.054	1.04	-	1.23
1,3,5-trimethylbenzene	µg/L	0.999	0.4147	41.5	4	1.000	0.2800	0.2592	0.423	-	1.57
Toluene	µg/L	1.17	0.110	9.4	9	1.18	0.080	0.046	1.09	-	1.25
m+p-Xylene	µg/L	0.830	0.1947	23.4	8	0.822	0.1240	0.0860	0.672	-	0.989
o-Xylene	µg/L	0.767	0.1213	15.8	8	0.744	0.0910	0.0536	0.668	-	0.866