



# QUASIMEME

Quality assurance of information  
for marine environmental monitoring

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## Certificate of Analysis



Volatile Organics in seawater

REFERENCE MATERIAL

AQ6 sample 73

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## Certificate of Analysis AQ6 73

### 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 73 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	QVC072SW



## Consensus Values AQ6

### Method: VOCs - AQ6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Benzene	µg/L	13.3	1.49	11.2	11	13.1	1.11	0.56	12.3	-	14.3
Chloroform	µg/L	5.99	0.943	15.7	11	5.77	0.634	0.355	5.36	-	6.61
Tetrachloroethene	µg/L	1.45	0.125	8.6	11	1.44	0.080	0.047	1.37	-	1.53
Trichloroethene	µg/L	2.68	0.371	13.9	11	2.61	0.250	0.140	2.43	-	2.92
1-1-1-trichloroethane	µg/L	1.81	0.158	8.7	11	1.80	0.110	0.060	1.70	-	1.91
1-1-2-trichloroethane	µg/L	7.55	0.743	9.8	10	7.56	0.535	0.294	7.03	-	8.07



## Indicative Values AQ6

### Method: VOCs - AQ6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Carbon-tetrachloride	µg/L	2.90	0.541	18.7	10	2.90	0.355	0.214	2.52	-	3.28
Chlorobenzene	µg/L	3.56	0.748	21.0	7	3.35	0.550	0.354	2.90	-	4.23
2-chlorotoluene	µg/L	2.39	0.591	24.7	7	2.30	0.390	0.279	1.87	-	2.92
4-chlorotoluene	µg/L	2.63	0.763	29.1	7	2.54	0.514	0.361	1.94	-	3.31
1,2-dichlorobenzene	µg/L	2.57	0.602	23.4	7	2.36	0.439	0.284	2.03	-	3.11
1,3-dichlorobenzene	µg/L	3.49	1.198	34.4	7	3.12	0.876	0.566	2.41	-	4.56
1,4-dichlorobenzene	µg/L	1.73	0.855	49.5	7	2.00	0.590	0.404	0.965	-	2.49
1,1-dichloroethane	µg/L	1.05	0.191	18.2	7	1.10	0.130	0.090	0.880	-	1.22
1-2-dichloroethane	µg/L	1.60	0.337	21.1	11	1.57	0.230	0.127	1.37	-	1.82
1,1-dichloroethene	µg/L	3.80	0.574	15.1	7	3.87	0.344	0.271	3.29	-	4.31
cis-1,2-dichloroethene	µg/L	2.73	0.658	24.1	9	2.57	0.445	0.274	2.23	-	3.22
trans-1,2-dichloroethene	µg/L	0.111	0.0274	24.8	6	0.115	0.0200	0.0140	0.0833	-	0.138
Dichloromethane	µg/L	10.5	1.89	18.1	10	10.3	1.28	0.75	9.13	-	11.8
1,2-dichloropropane	µg/L	2.07	0.184	8.9	8	2.08	0.133	0.081	1.92	-	2.22
Ethylbenzene	µg/L	0.448	0.1778	39.7	6	0.455	0.1230	0.0907	0.271	-	0.626
Isopropylbenzene	µg/L	1.33	0.161	12.1	6	1.32	0.115	0.082	1.16	-	1.49
tert-butylbenzene	µg/L	2.38	0.717	30.1	4	2.27	0.475	0.448	1.39	-	3.38
1,3,5-trimethylbenzene	µg/L	2.26	0.845	37.3	4	2.18	0.550	0.528	1.09	-	3.44
Toluene	µg/L	1.90	0.188	9.9	9	1.90	0.130	0.078	1.76	-	2.04
m+p-Xylene	µg/L	1.15	0.373	32.5	8	1.15	0.247	0.165	0.843	-	1.45
o-Xylene	µg/L	3.52	0.391	11.1	9	3.52	0.280	0.163	3.22	-	3.81