QUASIMEME

Quality assurance of information for marine environmental monitoring

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Certificate of Analysis

Sediment

REFERENCE MATERIAL

Sediment sample 78

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Sediment 78

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 determinand 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.

The results of each determinand is expressed on dried sediment.

Sample information

QUASIMEME reference materials cover a range of natural Marine sediment species from contaminated waters from the North Sea and/or Mediterranean. There is no spiking, mixing or other alterations of the samples. For sample preparation the sediment samples are dried at 40 oC and milled to pass a 0.5 mm sieve.

This Sediment sample 78 of North Sea, near Sylt (spiked) from North Sea, near Sylt (Station KS11) 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
2024.1	MS6	QSP090MS
2024.1	MS8	QPF026MS

Indicative Values MS6

Method: Organometals - MS6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
Tributyltin (TBT)	µg Sn/kg	1.77	0.493	27.9	16	1.78	0.302	0.154	8.72
Dibutyltin (DBT)	µg Sn/kg	3.91	1.04	26.5	14	3.95	0.735	0.346	8.87
Monobutyltin (MBT)	µg Sn/kg	7.74	3.54	45.8	12	7.60	1.88	1.28	16.5
Triphenyltin (TPhT)	µg Sn/kg	1.34	0.463	34.6	9	1.31	0.252	0.193	14.4
Diphenyltin (DPhT)	µg Sn/kg	2.03	0.498	24.5	4	2.04	0.360	0.312	15.3

Consensus Values MS8

Method: Perfluorinated alkyl substances - MS8

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
PFBA	µg/kg	0.456	0.043	9.5	9	0.471	0.026	0.018	3.94
PFPeA	µg/kg	1.39	0.216	15.5	10	1.41	0.145	0.085	6.14
PFOA	µg/kg	0.460	0.050	10.9	10	0.472	0.027	0.020	4.32
PFNA	µg/kg	1.12	0.087	7.7	10	1.11	0.037	0.034	3.05
PFDA	µg/kg	0.512	0.055	10.7	10	0.515	0.039	0.022	4.24
PFUnDA	µg/kg	0.824	0.105	12.8	10	0.823	0.055	0.042	5.04
PFDoA	µg/kg	0.598	0.084	14.0	9	0.585	0.067	0.035	5.84
PFTeDA	µg/kg	1.24	0.122	9.8	9	1.27	0.073	0.051	4.10
n-PFBS	µg/kg	0.441	0.041	9.4	8	0.429	0.026	0.018	4.15
total-PFOS	µg/kg	0.812	0.045	5.6	9	0.814	0.023	0.019	2.33

Indicative Values MS8

Method: Perfluorinated alkyl substances - MS8

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
n-PFOS	µg/kg	0.667	0.128	19.3	7	0.682	0.067	0.061	9.10
PFOSA	µg/kg	0.962	0.143	14.8	8	0.949	0.069	0.063	6.56
PFHxA	µg/kg	0.170	0.027	15.6	9	0.173	0.015	0.011	6.52
PFTrDA	µg/kg	0.430	0.069	16.0	8	0.428	0.049	0.030	7.09
n-PFHps	µg/kg	1.30	0.116	8.9	7	1.32	0.110	0.055	4.19
PFODA	µg/kg	0.092	0.022	23.6	4	0.091	0.010	0.014	14.7
GenX	µg/kg	0.127	0.024	19.2	7	0.125	0.011	0.012	9.07
total-PFHpS	µg/kg	1.30	0.164	12.6	4	1.30	0.102	0.102	7.86