QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Sediment

REFERENCE MATERIAL

Sediment sample 76

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Sediment 76

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.

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 76 of Oostende spiked from Oostende harbor spiked 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
2023.2	MS8	QPF024MS
2023.1	MS6	QSP086MS

Indicative Values MS6

Method: Organometals - MS6

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Tributyltin (TBT)	µg Sn/kg	12.1	3.28	27.1	16	12.3	2.30	1.02	10.4	-	13.8
Dibutyltin (DBT)	µg Sn/kg	10.2	2.30	22.6	15	9.83	1.59	0.74	8.90	-	11.4
Monobutyltin (MBT)	µg Sn/kg	40.8	20.91	51.3	12	41.1	15.50	7.55	27.6	-	54.0
Triphenyltin (TPhT)	µg Sn/kg	15.6	3.28	21.0	9	16.5	1.48	1.37	13.2	-	18.1

Consensus Values MS8

Method: Perfluorinated alkyl substances - MS8

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
PFPeA	µg/kg	0.912	0.1025	11.2	10	0.919	0.0774	0.0405	0.840 - 0.984
PFHxA	µg/kg	1.24	0.103	8.3	10	1.26	0.050	0.041	1.17 - 1.31
PFOA	µg/kg	1.10	0.087	7.9	11	1.13	0.037	0.033	1.05 - 1.16
PFNA	µg/kg	1.12	0.085	7.5	10	1.13	0.050	0.033	1.07 - 1.18
PFDA	µg/kg	0.825	0.0637	7.7	10	0.835	0.0326	0.0252	0.780 - 0.870
PFUnDA	µg/kg	1.14	0.159	13.9	10	1.13	0.108	0.063	1.03 - 1.26
PFDoA	µg/kg	0.557	0.0649	11.7	10	0.559	0.0375	0.0256	0.511 - 0.602
total-PFOS	µg/kg	2.62	0.253	9.7	11	2.68	0.184	0.095	2.45 - 2.79

Indicative Values MS8

Method: Perfluorinated alkyl substances - MS8

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
n-PFOS	µg/kg	2.18	0.329	15.1	9	2.14	0.150	0.137	1.93 - 2.43
PFOSA	µg/kg	1.05	0.265	25.3	9	1.03	0.185	0.110	0.846 - 1.25
PFBA	µg/kg	0.893	0.1297	14.5	9	0.906	0.0955	0.0540	0.796 - 0.991
PFTrDA	µg/kg	0.875	0.2597	29.7	10	0.854	0.1500	0.1027	0.692 - 1.06
PFTeDA	µg/kg	0.971	0.1427	14.7	8	0.983	0.0712	0.0631	0.855 - 1.09
n-PFBS	µg/kg	1.39	0.172	12.4	8	1.41	0.100	0.076	1.25 - 1.53
n-PFHps	µg/kg	1.26	0.299	23.8	8	1.23	0.240	0.132	1.01 - 1.50
PFODA	µg/kg	-	-	-	5	0.656	0.3	-	- - -
GenX	µg/kg	1.13	0.220	19.4	9	1.17	0.162	0.092	0.967 - 1.30
PFBSA	µg/kg	-	-	-	5	0.171	0.0	-	- - -
total-PFBS	µg/kg	-	-	-	4	1.42	0.1	-	- - -
total-PFHpS	µg/kg	-	-	-	4	1.24	0.2	-	- - -