QUASIMEME

Quality assurance of information for marine environmental monitoring

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Certificate of Analysis

Sediment

REFERENCE MATERIAL

Sediment sample 54

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Sediment 54

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 54 of Open sea sediment from Open sea sediment near Barrow-in-Furness 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	MS2	QOR150MS

Consensus Values MS2

Method: Carbon - MS2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
TOC	%	0.252	0.0343	13.6	11	0.257	0.0234	0.0129	0.230 - 0.275

Indicative Values MS2

Method: Chlorinated organics - MS2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
PCB28	µg/kg	0.138	0.0443	32.1	13	0.140	0.0300	0.0154	0.112 - 0.165
PCB31	µg/kg	0.0976	0.0135	13.8	7	0.1000	0.0100	0.0064	0.0856 - 0.110
PCB52	µg/kg	0.156	0.0436	28.0	13	0.149	0.0310	0.0151	0.130 - 0.182
PCB66	µg/kg	0.131	0.0152	11.6	4	0.138	0.0115	0.0095	0.110 - 0.153
PCB101	µg/kg	0.272	0.0668	24.6	15	0.272	0.0480	0.0216	0.235 - 0.309
PCB105	µg/kg	0.0638	0.0169	26.5	5	0.0720	0.0120	0.0094	0.0444 - 0.0832
PCB110	µg/kg	0.192	0.0567	29.5	6	0.195	0.0410	0.0289	0.136 - 0.249
PCB118	µg/kg	0.168	0.0474	28.1	14	0.168	0.0340	0.0158	0.141 - 0.196
PCB138+PCB163	µg/kg	0.384	0.1365	35.6	6	0.469	0.1040	0.0696	0.247 - 0.520
PCB138	µg/kg	0.339	0.1385	40.9	14	0.365	0.1015	0.0463	0.260 - 0.418
PCB149	µg/kg	0.398	0.1494	37.5	8	0.404	0.1050	0.0660	0.276 - 0.520
PCB151	µg/kg	0.106	0.0363	34.1	4	0.122	0.0175	0.0227	0.0560 - 0.157
PCB153	µg/kg	0.370	0.1526	41.2	16	0.390	0.1085	0.0477	0.290 - 0.451
PCB170	µg/kg	0.0889	0.0260	29.2	7	0.1020	0.0210	0.0123	0.0656 - 0.112
PCB180	µg/kg	0.177	0.1002	56.6	15	0.206	0.0760	0.0323	0.122 - 0.232
PCB187	µg/kg	0.110	0.0126	11.4	4	0.116	0.0095	0.0079	0.0930 - 0.128
HCB	µg/kg	0.145	0.0499	34.3	9	0.165	0.0310	0.0208	0.108 - 0.183
pp'-DDD	µg/kg	0.302	0.0839	27.8	13	0.308	0.0590	0.0291	0.252 - 0.352
pp'-DDE	µg/kg	0.110	0.0334	30.2	12	0.119	0.0240	0.0120	0.0895 - 0.131
pp'-DDT	µg/kg	0.105	0.0601	57.0	10	0.125	0.0445	0.0238	0.0631 - 0.148