QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Biota

REFERENCE MATERIAL

Biota sample 308

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Biota 308

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 a wet weight basis.

Sample information

QUASIMEME reference materials cover a range of natural Biota species from contaminated waters from the North Sea and/or Mediterranean. The supplied wet test materials are homogenised and sterilised by autoclaving.

This Biota sample 308 of Herring from Baltic 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
2015.1	BT2	QOR122BT

Consensus Values BT2

Method: Chlorinated organics - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
PCB28	µg/kg	0.618	0.1380	22.3	23	0.657	0.0970	0.0360	0.558 - 0.677
PCB52	µg/kg	1.06	0.241	22.7	24	1.11	0.168	0.062	0.962 - 1.17
PCB101	µg/kg	2.77	0.688	24.8	27	2.83	0.496	0.166	2.50 - 3.04
PCB105	µg/kg	0.637	0.0896	14.1	17	0.650	0.0600	0.0272	0.591 - 0.682
PCB118	µg/kg	2.08	0.327	15.8	27	2.06	0.225	0.079	1.95 - 2.20
PCB138	µg/kg	3.90	0.582	14.9	22	4.03	0.420	0.155	3.64 - 4.16
PCB153	µg/kg	5.86	1.020	17.4	27	6.06	0.713	0.245	5.45 - 6.26
PCB180	µg/kg	0.931	0.1521	16.3	26	0.946	0.1080	0.0373	0.869 - 0.992
pp'-DDE	µg/kg	9.54	2.190	23.0	26	9.65	1.421	0.537	8.66 - 10.4
Transnonachlor	µg/kg	1.04	0.102	9.8	12	1.02	0.071	0.037	0.976 - 1.10

Method: Lipids - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Total-Lipid	%	16.9	0.85	5.1	15	16.8	0.60	0.28	16.4 - 17.4
Extractable-Lipid	%	16.7	0.78	4.7	13	16.4	0.52	0.27	16.2 - 17.2

Indicative Values BT2

Method: Chlorinated organics - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
PCB31	µg/kg	0.410	0.1233	30.1	12	0.434	0.0900	0.0445	0.332 - 0.487
PCB138+PCB163	µg/kg	4.39	1.050	23.9	7	4.42	0.729	0.496	3.45 - 5.32
PCB156	µg/kg	0.199	0.0775	38.9	14	0.210	0.0536	0.0259	0.155 - 0.244
a-HCH	µg/kg	0.177	0.1007	56.9	16	0.195	0.0735	0.0315	0.124 - 0.231
b-HCH	µg/kg	0.420	0.0996	23.7	17	0.408	0.0680	0.0302	0.369 - 0.471
g-HCH	µg/kg	0.304	0.0638	21.0	16	0.299	0.0430	0.0199	0.270 - 0.338
HCB	µg/kg	1.15	0.340	29.5	25	1.19	0.227	0.085	1.01 - 1.29
Dieldrin	µg/kg	2.95	1.303	44.2	8	3.18	0.710	0.576	1.89 - 4.01
pp'-DDD	µg/kg	2.31	0.728	31.5	20	2.36	0.456	0.203	1.97 - 2.65
pp'-DDT	µg/kg	1.64	0.672	41.0	20	1.65	0.455	0.188	1.32 - 1.95