QUASIMEME

Quality assurance of information for marine environmental monitoring

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Certificate of Analysis

Biota

REFERENCE MATERIAL

Biota sample 349

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Biota 349

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 349 of Mussels from Chile from Commercial mussels from Chile 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
2020.2	BT2	QOR145BT
2018.2	BT2	QOR136BT
2018.1	BT8	QSP066BT
2017.1	BT2	QOR131BT
2016.2	BT2	QOR129BT
2016.2	BT8	QSP059BT

Consensus Values BT2

Method: Chlorinated organics - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
PCB28	µg/kg	1.18	0.290	24.7	88	1.21	0.205	0.039	1.12 - 1.24
PCB31	µg/kg	3.65	0.737	20.2	48	3.72	0.497	0.133	3.43 - 3.86
PCB52	µg/kg	2.50	0.437	17.5	87	2.45	0.304	0.059	2.40 - 2.59
PCB101	µg/kg	2.48	0.352	14.2	94	2.51	0.245	0.045	2.40 - 2.55
PCB105	µg/kg	0.378	0.0660	17.4	57	0.379	0.0440	0.0109	0.361 - 0.396
PCB118	µg/kg	2.87	0.356	12.4	93	2.88	0.247	0.046	2.79 - 2.94
PCB138+PCB163	µg/kg	0.748	0.0717	9.6	14	0.746	0.0490	0.0240	0.707 - 0.790
PCB138	µg/kg	0.744	0.1203	16.2	80	0.737	0.0835	0.0168	0.717 - 0.770
PCB153	µg/kg	4.91	0.558	11.4	94	4.91	0.391	0.072	4.79 - 5.02
PCB156	µg/kg	0.394	0.0751	19.0	56	0.401	0.0510	0.0125	0.374 - 0.414
PCB180	µg/kg	3.36	0.417	12.4	94	3.38	0.283	0.054	3.27 - 3.44
HCB	µg/kg	0.186	0.0579	31.0	73	0.199	0.0390	0.0085	0.173 - 0.200
pp'-DDD	µg/kg	0.459	0.0993	21.6	75	0.466	0.0690	0.0143	0.436 - 0.482
pp'-DDE	µg/kg	0.256	0.0636	24.9	73	0.263	0.0430	0.0093	0.241 - 0.271

Method: Lipids - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Total-Lipid	%	3.01	0.267	8.9	40	2.98	0.187	0.053	2.93 - 3.10
Extractable-Lipid	%	3.00	0.363	12.1	27	2.99	0.250	0.087	2.85 - 3.14

Indicative Values BT2

Method: Chlorinated organics - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
a-HCH	µg/kg	0.0227	0.0228	100.4	22	0.0295	0.0175	0.0061	0.0126 - 0.0327
b-HCH	µg/kg	0.0850	0.0354	41.7	31	0.0970	0.0260	0.0080	0.0720 - 0.0979
d-HCH	µg/kg	0.0775	0.0178	22.9	12	0.0795	0.0105	0.0064	0.0663 - 0.0886
HCBD	µg/kg	0.291	0.2604	89.5	13	0.367	0.1830	0.0903	0.135 - 0.447
Dieldrin	µg/kg	0.659	0.1906	28.9	23	0.700	0.1300	0.0497	0.577 - 0.741

Indicative Values BT8

Method: Organometals - BT8

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Dibutyltin (DBT)	µg Sn/kg	1.30	0.260	20.0	14	1.31	0.185	0.087	1.15 - 1.45
Monobutyltin (MBT)	µg Sn/kg	2.82	0.626	22.2	14	2.86	0.440	0.209	2.46 - 3.18
Tributyltin (TBT)	µg Sn/kg	2.44	0.654	26.8	16	2.49	0.475	0.204	2.09 - 2.79
Triphenyltin (TPhT)	µg Sn/kg	0.709	0.0862	12.2	8	0.710	0.0655	0.0381	0.639 - 0.780