



QUASIMEME

Quality assurance of information
for marine environmental monitoring

Certificate of Analysis



Biota

REFERENCE MATERIAL

Biota sample 349



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 % probability) 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
2023.2	BT2	QOR156BT
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		
pp'-DDE	µg/kg	0.259	0.0704	27.2	87	0.268	0.0470	0.0094	0.244	-	0.274
pp'-DDD	µg/kg	0.459	0.1146	25.0	89	0.460	0.0690	0.0152	0.435	-	0.483
HCB	µg/kg	0.188	0.0635	33.8	87	0.196	0.0360	0.0085	0.174	-	0.201
PCB28	µg/kg	1.17	0.300	25.5	107	1.21	0.200	0.036	1.12	-	1.23
PCB52	µg/kg	2.48	0.480	19.3	107	2.46	0.299	0.058	2.39	-	2.57
PCB101	µg/kg	2.48	0.406	16.4	114	2.50	0.238	0.048	2.41	-	2.56
PCB105	µg/kg	0.387	0.0849	21.9	69	0.384	0.0520	0.0128	0.366	-	0.407
PCB118	µg/kg	2.88	0.424	14.7	112	2.88	0.265	0.050	2.80	-	2.96
PCB138+PCB163	µg/kg	0.759	0.0798	10.5	17	0.760	0.0460	0.0242	0.718	-	0.799
PCB153	µg/kg	4.92	0.663	13.5	114	4.91	0.398	0.078	4.80	-	5.05
PCB156	µg/kg	0.395	0.0796	20.2	67	0.400	0.0500	0.0122	0.375	-	0.414
PCB180	µg/kg	3.34	0.497	14.9	113	3.35	0.281	0.058	3.24	-	3.43
PCB31	µg/kg	3.61	0.745	20.7	57	3.69	0.484	0.123	3.41	-	3.81
PCB138	µg/kg	0.743	0.1334	18.0	98	0.746	0.0855	0.0168	0.716	-	0.770

Method: Lipids - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Total-Lipid	%	2.97	0.344	11.6	51	2.97	0.210	0.060	2.88	-	3.07
Extractable-Lipid	%	2.99	0.369	12.3	29	2.99	0.250	0.086	2.85	-	3.13



Indicative Values BT2

Method: Chlorinated organics - BT2

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits	
a-HCH	µg/kg	0.0208	0.0206	99.3	27	0.0230	0.0120	0.0050	0.0126	- 0.0289
g-HCH	µg/kg	0.0308	0.0354	115.1	24	0.0634	0.0336	0.0090	0.0158	- 0.0457
Dieldrin	µg/kg	0.653	0.1982	30.3	29	0.680	0.1380	0.0460	0.578	- 0.729
b-HCH	µg/kg	0.0825	0.0333	40.3	40	0.0915	0.0210	0.0066	0.0719	- 0.0932
HCBD	µg/kg	0.284	0.2602	91.7	16	0.349	0.1700	0.0813	0.146	- 0.422
d-HCH	µg/kg	0.0700	0.0320	45.7	15	0.0710	0.0190	0.0103	0.0524	- 0.0876
Heptachlor-epoxide (sum)	(µg/kg)	-	-	-	5	0.330	0.3	-	-	-
PCB170	(µg/kg)	0.397	0.0619	15.6	6	0.398	0.0470	0.0316	0.335	- 0.458



Indicative Values BT8

Method: Organometals - BT8

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits		
Tributyltin (TBT)	µg Sn/kg	2.44	0.614	25.2	16	2.49	0.475	0.192	2.11	-	2.76
Dibutyltin (DBT)	µg Sn/kg	1.32	0.355	26.9	14	1.31	0.185	0.119	1.12	-	1.52
Monobutyltin (MBT)	µg Sn/kg	2.82	0.728	25.8	14	2.86	0.440	0.243	2.41	-	3.24
Triphenyltin (TPhT)	µg Sn/kg	0.669	0.1840	27.5	8	0.710	0.0655	0.0813	0.519	-	0.819