QUASIMEME

Quality assurance of information for marine environmental monitoring

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Certificate of Analysis

Biota

REFERENCE MATERIAL

Biota sample 361

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Biota 361

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 361 of Bream from Volkerak, the Netherlands 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
2023.1	BT10	QPF030BT
2020.2	BT10	QPF020BT
2020.2	BT9	QBC065BT
2019.2	BT9	QBC062BT

Consensus Values BT10

Method: Perfluorinated alkyl substances - BT10

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
n-PFOS	µg/kg	9.37	1.713	18.3	14	9.68	0.935	0.572	8.39 - 10.4
PFDoA	µg/kg	0.633	0.0725	11.5	11	0.628	0.0370	0.0273	0.585 - 0.681

Indicative Values BT10

Method: Perfluorinated alkyl substances - BT10

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
PFOSA	µg/kg	0.447	0.0900	20.2	9	0.450	0.0500	0.0375	0.379 - 0.515
PFDS	µg/kg	0.0958	0.0426	44.5	6	0.108	0.0290	0.0218	0.0532 - 0.138
PFOA	µg/kg	-	-	-	5	0.500	0.4	-	- - -
PFNA	µg/kg	0.438	0.0989	22.6	8	0.431	0.0370	0.0437	0.358 - 0.519
PFDA	µg/kg	1.17	0.214	18.2	13	1.20	0.100	0.074	1.04 - 1.30
PFUnDA	µg/kg	0.547	0.1373	25.1	11	0.560	0.0900	0.0517	0.456 - 0.638
PFTrDA	µg/kg	0.322	0.1192	37.0	8	0.340	0.0675	0.0527	0.225 - 0.419
PFTeDA	µg/kg	0.395	0.0705	17.9	8	0.405	0.0230	0.0312	0.337 - 0.452
n-PFHxS	µg/kg	0.141	0.0224	15.9	7	0.140	0.0100	0.0106	0.121 - 0.161
total-PFOS	µg/kg	10.2	1.99	19.5	12	9.84	1.17	0.72	8.99 - 11.5
PFBSA	µg/kg	-	-	-	4	0.440	0.0	-	- - -
PFHxSA	µg/kg	-	-	-	4	0.383	0.0	-	- - -

Consensus Values BT9

Method: Brominated Flame Retardants - BT9

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
BDE47	µg/kg	1.08	0.231	21.5	36	1.08	0.168	0.048	0.999 - 1.16
BDE100	µg/kg	0.350	0.0728	20.8	34	0.352	0.0437	0.0156	0.325 - 0.375
BDE153	µg/kg	0.159	0.0386	24.3	34	0.160	0.0300	0.0083	0.145 - 0.172
BDE154	µg/kg	0.427	0.0998	23.4	35	0.430	0.0700	0.0211	0.392 - 0.461

Indicative Values BT9

Method: Brominated Flame Retardants - BT9

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
BDE28	µg/kg	0.0320	0.0125	39.2	25	0.0320	0.0090	0.0031	0.0268 - 0.0372
BDE209	µg/kg	-	-	-	4	0.0560	0.0	-	- - -
Total HBCD	µg/kg	-	-	-	4	0.514	0.1	-	- - -
a-HBCD	µg/kg	-	-	-	5	0.230	0.1	-	- - -
BDE85	µg/kg	-	-	-	4	0.0150	0.0	-	- - -
Total lipid	(%)	6.31	0.565	9.0	9	6.30	0.200	0.236	5.88 - 6.74