QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Biota

REFERENCE MATERIAL

Biota sample 370

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Biota 370

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 370 of Zander from Noordzeekanaal, 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
2021.1	BT9	QBC067BT
2021.1	BT10	QPF022BT

Indicative Values BT9

Method: Brominated Flame Retardants - BT9

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
BDE28	µg/kg	0.0281	0.0113	40.4	12	0.0284	0.0080	0.0041	0.0209 - 0.0352
BDE47	µg/kg	0.962	0.3006	31.3	15	1.000	0.1990	0.0970	0.796 - 1.13
BDE66	µg/kg	0.0201	0.0070	34.8	8	0.0213	0.0048	0.0031	0.0144 - 0.0258
BDE99	µg/kg	0.320	0.1539	48.1	14	0.346	0.1115	0.0514	0.232 - 0.408
BDE100	µg/kg	0.246	0.1536	62.4	13	0.290	0.1150	0.0533	0.154 - 0.338
BDE153	µg/kg	0.0681	0.0289	42.4	14	0.0730	0.0200	0.0096	0.0516 - 0.0847
BDE154	µg/kg	0.0808	0.0439	54.3	13	0.0894	0.0324	0.0152	0.0545 - 0.107
BDE183	µg/kg	0.0068	0.0027	40.2	5	0.0080	0.0020	0.0015	0.0036 - 0.0099
Total lipid	(%)	1.82	0.308	16.9	5	1.85	0.226	0.172	1.47 - 2.18

Indicative Values BT10

Method: Perfluorinated alkyl substances - BT10

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
n-PFOS	µg/kg	8.20	1.862	22.7	7	8.17	1.273	0.880	6.53 - 9.86
total-PFOS	µg/kg	8.34	2.604	31.2	6	8.48	1.885	1.329	5.74 - 10.9
PFOSA	µg/kg	0.881	0.2643	30.0	7	0.903	0.1970	0.1249	0.645 - 1.12
PFDA	µg/kg	0.597	0.0936	15.7	6	0.594	0.0575	0.0478	0.504 - 0.691
PFUnDA	µg/kg	0.282	0.0729	25.9	6	0.274	0.0450	0.0372	0.209 - 0.355
PFDoA	µg/kg	0.459	0.1634	35.6	6	0.454	0.1010	0.0834	0.295 - 0.622
PFTeDA	µg/kg	0.252	0.0548	21.7	4	0.273	0.0410	0.0343	0.176 - 0.329
L-PFHxS	µg/kg	0.104	0.0100	9.6	5	0.105	0.0070	0.0056	0.0929 - 0.116