QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

Biota

REFERENCE MATERIAL

Biota sample 365

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis Biota 365

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 365 of Salmon from Commercial market 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	BT1	QTM129BT

Consensus Values BT1

Method: Metals - BT1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Arsenic	mg/kg	1.63	0.224	13.7	25	1.61	0.155	0.056	1.54 - 1.72
Copper	µg/kg	367	52.8	14.4	23	369	36.8	13.8	344 - 390
Iron	mg/kg	2.54	0.341	13.4	20	2.56	0.240	0.095	2.38 - 2.70
Mercury	µg/kg	41.2	5.02	12.2	32	40.8	3.49	1.11	39.4 - 43.0
Selenium	µg/kg	241	39.2	16.3	18	246	26.5	11.6	222 - 261
Zinc	mg/kg	3.58	0.534	14.9	28	3.58	0.365	0.126	3.37 - 3.79

Method: Weight - BT1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Dry-weight	%	36.5	0.25	0.7	17	36.5	0.19	0.08	36.35 - 36.61

Indicative Values BT1

Method: Metals - BT1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Aluminium	mg/kg	0.662	0.3102	46.9	12	0.679	0.2000	0.1119	0.467 - 0.857
Chromium	µg/kg	44.5	11.25	25.3	21	46.7	8.50	3.07	39.4 - 49.6
Cobalt	µg/kg	2.87	0.287	10.0	9	3.00	0.210	0.120	2.66 - 3.09
Lead	µg/kg	3.60	1.749	48.6	11	4.20	1.320	0.659	2.44 - 4.76
Magnesium	mg/kg	228	11.1	4.9	6	230	7.5	5.7	217 - 240
Manganese	µg/kg	56.5	21.23	37.6	15	59.5	17.00	6.85	44.8 - 68.2
Molybdene	µg/kg	6.86	3.807	55.5	5	7.00	2.700	2.128	2.49 - 11.2
Nickel	µg/kg	18.5	9.79	53.0	13	20.2	7.41	3.39	12.6 - 24.3
Tin	µg/kg	43.6	7.86	18.0	6	41.2	5.35	4.01	35.8 - 51.5
Vanadium	µg/kg	2.16	0.269	12.5	5	2.20	0.200	0.151	1.85 - 2.47

Method: Lipids - BT1

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Total-Lipid	%	16.7	1.02	6.1	4	16.4	0.77	0.64	15.3 - 18.2