QUASIMEME

Quality assurance of information for marine environmental monitoring

Certificate of Analysis

DSP shellfish toxins

REFERENCE MATERIAL

BT11 sample 33

WAGENINGEN
UNIVERSITY & RESEARCH

Certificate of Analysis BT11 33

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 Shellfish toxins species from contaminated waters from the North Sea and/or Mediterranean.

This BT11 sample 33 of Cockles (Cerastoderma edule) from CEFAS, Weymouth 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	BT11	QST337BT

Consensus Values BT11

Method: Toxins(SF) - BT11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
free-Okadaic-Acid	µg/kg	92.0	12.82	13.9	29	94.1	7.94	2.97	87.1 - 96.8
Total-free-OA+DTX1+DTX2	µg OA eq./kg	123	23.3	18.9	26	123	13.0	5.7	114 - 133
Total-Okadaic-Acid	µg/kg	167	24.8	14.9	30	165	15.1	5.7	158 - 176
Total-DTX1	µg/kg	157	38.2	24.4	30	166	23.6	8.7	142 - 171
Total-DTX2	µg/kg	24.2	4.25	17.6	17	24.7	3.00	1.29	22.0 - 26.4
Total-hy-OA+DTX1+DTX2	µg OA eq./kg	329	55.9	17.0	28	336	32.9	13.2	307 - 350
AZA-1	µg/kg	197	42.6	21.7	32	200	26.0	9.4	181 - 212
AZA-2	µg/kg	53.4	11.98	22.4	31	52.1	7.67	2.69	49.0 - 57.8
AZA-3	µg/kg	30.6	7.22	23.6	30	32.3	4.44	1.65	27.9 - 33.3
AZA-total	µg AZA eq./kg	334	67.4	20.2	30	337	45.0	15.4	309 - 359
Total OA group + PTX group	µg OA eq./kg	320	63.5	19.9	19	328	30.1	18.2	289 - 350
YTX	mg/kg	0.331	0.0577	17.4	32	0.328	0.0375	0.0128	0.310 - 0.352
Total-YTX	mg YTX eq./kg	0.354	0.0700	19.8	25	0.346	0.0449	0.0175	0.325 - 0.383

Indicative Values BT11

Method: Toxins(SF) - BT11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	95 % confidence limits
Free-DTX1	µg/kg	24.8	6.89	27.7	24	25.9	4.28	1.76	21.9 - 27.7
Free-DTX2	µg/kg	15.9	3.21	20.2	16	16.2	1.75	1.00	14.2 - 17.6
PTX-2	µg/kg	-	-	-	5	10.0	5.6	-	- - -
45-OH-YTX	mg/kg	0.0409	0.0136	33.2	13	0.0420	0.0096	0.0047	0.0328 - 0.0491