WEPAL-QUASIMEME

Certificate of Analysis

DSP shellfish toxins

REFERENCE MATERIAL

BT11 sample 33

2026-Jul-7

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, the 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 8 results and a maximum relative uncertainty of 6.25%. Indicative Values are based on a maximum relative uncertainty of 35% and a minimum of 4 and maximum of 7 results, or a relative uncertainty greater than 6.25% when there are at least 8 results.

For each measurand, the following parameters are given: mean, standard deviation, coefficient of variation, number of results, median, MAD (Median of Absolute Deviation), the uncertainty of the mean (consensus or indicative) value and the relative uncertainty.

Please note: Most WEPAL-QUASIMEME reference materials are found to be stable over the long term (>10 years) for most measurand/matrix combinations. There are a few exceptions known to us as being less stable over the long term. These are organotins in sediment (MS6), ASP in shellfish (BT7), some PAHs and PCBs in sediment (SETOC) and N-NH_4 (as N) in clay soils (ISE).

The results of each measurand 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 rounds given in the following table.

Year.Round	Program	Sample Round Id
2025.1	BT11	QST372BT
2023.1	BT11	QST337BT

Consensus Values BT11

Method: Toxins(SF) - BT11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
free-Okadaic-Acid	µg/kg	90.7	16.8	18.5	63	91.8	9.71	2.64	2.91
Free-DTX1	µg/kg	24.7	6.29	25.5	54	25.1	3.75	1.07	4.33
Free-DTX2	µg/kg	15.3	3.21	21.0	33	15.5	2.00	0.699	4.57
Total-free-OA+DTX1+DTX2	µg OA eq./kg	120	25.4	21.2	58	122	16.4	4.17	3.48
Total-Okadaic-Acid	µg/kg	163	28.3	17.3	68	162	16.1	4.29	2.63
Total-DTX1	µg/kg	166	39.4	23.7	68	169	23.2	5.97	3.59
Total-DTX2	µg/kg	23.3	5.72	24.5	43	24.1	2.95	1.09	4.68
Total-hy-OA+DTX1+DTX2	µg OA eq./kg	341	54.8	16.1	65	344	31.2	8.49	2.49
AZA-1	µg/kg	196	43.8	22.3	68	199	27.0	6.65	3.38
AZA-2	µg/kg	51.2	11.9	23.2	67	50.1	7.98	1.81	3.54
AZA-3	µg/kg	30.2	7.28	24.1	63	30.1	4.90	1.15	3.80
AZA-total	µg AZA eq./kg	331	69.9	21.1	65	337	45.4	10.8	3.27
Total OA group + PTX group	µg OA eq./kg	330	79.2	24.0	36	343	46.2	16.5	4.99
YTX	mg/kg	0.335	0.059	17.6	66	0.332	0.035	0.009	2.71
Total-YTX	mg YTX eq./kg	0.356	0.069	19.3	53	0.350	0.050	0.012	3.31

Indicative Values BT11

Method: Toxins(SF) - BT11

Element	Unit	Mean	Std.Dev.	CV %	N	Median	MAD	Uncertainty	Rel.Uncert. %
PTX-2	µg/kg	5.67	2.86	50.5	12	6.08	1.68	1.03	18.2
45-OH-YTX	mg/kg	0.041	0.014	35.1	25	0.042	0.010	0.004	8.78