BT-1 Trace Metals in Biota	
Year: 2024	Participants: 50 laboratories expected
Number of rounds: 2 per year	Start exercise: 1 April, 1 October
Number of materials: 2 per round	Sample size: 30-50 g

Participation form | Timetable | PT Scheme | Costs

This study covers the determination of trace metals, ash weight, dry weight and total and extractable lipid in biota test materials.

Test Materials

The test materials cover a range of natural biota species from contaminated waters from the North Sea and/or Mediterranean. The supplied biota test materials can consist of fish muscle, fish liver and shellfish tissue. Wet biota test materials are homogenised and sterilised by autoclaving. These biota test materials have been shown to be stable over a number of years when stored at room temperature.

Determinands and concentration ranges

The trace metals to be determined are given in the table below. The table also shows:
- The expected concentration range for the determinands in the test materials.
- The constant and proportional error that will be used for assessment of the results.

In addition to the parameters given in this table, we will add several additional metals into the dataset form on the Participant's sites. There you will find e.g. Li, Be, S, Sc, Rb, Sr, Y, Zr, Pd, Sb, Te, Cs, La, Ce, Nd, Ta, W, Pt, Au, Tl, Bi, Th and MeHg. In case enough participants report results these additional metals will be added permanently to the programme.

Determinand*	Unit	Concentration Range			Error	
		Fish Liver Tissue	Fish Muscle Tissue	Shellfish Tissue	Const	Prop
Aluminium	mg/kg	1–100	0.5-10	2-50	0.6	25.0%
Antimony	µg/kg				0.5	25.0%
Arsenic	mg/kg	1-5	1-10	0.2-10	0.02	10.0%
Barium	µg/kg	5–500	5-500	100–10000	35	15.0%
Cadmium	µg/kg	5-1000	0.5-50	10-500	2	10.0%
Calcium	mg/kg	20–1000	50-5000	50-2000		
Chromium	µg/kg	20-1000	25-500	10-5000	20	22.5%
Cobalt	µg/kg	10-500	1-100	10-500	1	10.0%
Copper	µg/kg	2000-10000	100-1500	50-10000	40	10.0%
Iron	mg/kg	10-500	2.5-200	5-200	1	12.5%
Lead	µg/kg	10-1000	2.5-50	10-1000	5	10.0%
Magnesium	mg/kg	50-1000	50-1000	100-2000	12.5	7.5%
Manganese	µg/kg	200-5000	50-5000	500-5000	25	12.5%

Determinand*	Unit	Concentration Range			Error	
		Fish Liver Tissue	Fish Muscle Tissue	Shellfish Tissue	Const	Prop
Mercury	µg/kg	20-100	10-1000	2-500	1	12.5%
Molybdenum	µg/kg	20–500	2-200	10-500	5	15.0%
Nickel	µg/kg	20-1000	10-200	10-2000	15	12.5%
Phosphorus	mg/kg	2000-3000	2000-5000	2000-5000		
Potassium	mg/kg	500–5000	500-5000	500-5000		
Selenium	µg/kg	200-5000	50-2000	200-1000	30	12.5%
Silver	µg/kg	20-1000	0.5-50	1-500	1	20.0%
Sodium	mg/kg	200-5000	200-5000	1000-10000	0.01	10.0%
Tin	µg/kg	10-1000	10-1000	10-1000	15	25.0%
Titanium	µg/kg	50-2000	50-2000	50-2000		
Uranium	µg/kg	0.2-50	0.2-50	2-100	0.4	12.5%
Vanadium	µg/kg	5-200	2-200	50-5000	6	17.5%
Zinc	mg/kg	10-50	2-20	2-200	0.4	10.0%
Ash-weight	%					
Dry-weight	%				0.25	3.0%
Total-Lipid	%				0.4	7.5%
Extractable-Lipid	%					

*Determinands which are not in bold are not in the scope of accreditation