

APMP Supplementary Comparison

APMP.QM-S19

Toxic Elements in Seafood

Progress update

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Sample, Measurand and Scope

- **Comparison Material:** Dried shrimp spiked with selected analytes
 - Sample bottling and irradiation completed
 - Homogeneity and stability studies are underway
- **Measurand and Range:** Arsenic (total), cadmium, lead & mercury

As-tot: 0.2 – 50 mg/kg

Cd: 0.04 – 10 mg/kg

Pb: 0.04 – 10 mg/kg

Hg: 0.02 – 5 mg/kg

- **Scope: HFTLS**
- (a) Toxic elements of total arsenic, cadmium, lead, mercury
 - Possible extension: antimony, chromium, nickel etc.
 - Reason: no significant difference in difficulties of measurement from similar sample matrices
- (b) Sample Matrix in Cat. 11 (Food): Seafood of animal origin
 - Possible extension: high protein food
 - Reason: no significant difference in matrix digestion





Tentative Schedule (revised)

Revised schedule	Phase
Nov 2018 – Dec 2019	Presentation of the proposed study at the APMP TCQM and CCQM IAWG meetings
April 2020 – November 2020	Presentation of the progress update and sample preparation at the APMP TCQM and CCQM IAWG meetings
April 2021	Presentation of the homogeneity and stability studies at the CCQM IAWG meeting
January July 2021	Call for registration
March September 2021	Deadline for registration
April October 2021	Distribution of samples
October 2021 April 2022	Deadline for submission of results
Nov/Dec 2021 Nov/Dec 2022	Presentation of first report in APMP TCQM meeting



IAWG Core Capability table

Analyte groups	Matrix challenges					
	Water	High Silica content (e.g. Soils, sediments, plants, ...)	High salts content (e.g. Seawater, urine, ...)	High organics content (e.g. high carbon) (e.g. Food, blood/serum, cosmetics, ...)	Difficult to dissolve metals (Autocatalysts, ...)	High volatile matrices (e.g. solvents, fuels, ...)
Group I and II: Alkali and Alkaline earth (Li, Na, K, Rb, Cs, Be, Mg, Ca, Sr, Ba)						
Transition elements (Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Y, Zr, Nb, Mo, Tc, Ag, Cd, Ta, W, Au, Hg, Al, Ga, In, Tl, Pb, Po)				Cd, Hg, Pb		
Platinum Group elements (Ru, Rh, Pd, Os, Ir, Pt)						
Metalloids / Semi-metals (B, Si, Ge, As, Sb, Te, Se)				As		
Non-metals (P, S, C, N, O)						
Halogens (F, Cl, Br, I)						
Rare Earth Elements (Lanthanides, Actinides)						
Low level (e.g. below 50 µg/kg)						
High level (e.g. above 50 µg/kg)						



Enquiries/Comments

- Contact the following persons of GL for any enquiries:

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Thank you!

