



APMP Proficiency Testing Programme (APMP PT 11-01)
Essential and Toxic Elements in Seafood

**APMP Proficiency Testing Programme
(APMP PT 11-01)**

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Final Report Summary

6 September 2013



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Summary of Results

1. This proficiency testing programme APMP PT 11-01 “Essential and Toxic Elements in Seafood” was organised as a joint initiative of the Technical Committee for Amount of Substance (TCQM) and the Developing Economies’ Committee (DEC) of the Asia-Pacific Metrology Programme (APMP) and was coordinated by Government Laboratory of Hong Kong (GLHK). The main objective of the PT programme was to assist participating laboratories in demonstrating competence on the measurement of the mass fractions of four incurred analytes (iron, zinc, total arsenic and cadmium) at $\mu\text{g/g}$ levels in the dried shrimp powder by various analytical techniques. The mass fractions of the analytes were to be reported on a dry mass basis to assist in assessing comparability.
2. A total of 14 laboratories registered for the PT programme and 12 of them returned the results to the organiser.
3. The PT programme was conducted in parallel with the APMP supplementary comparison (APMP.QM-S5) using the same test material of dried shrimp powder. The Supplementary Comparison Reference Values (SCRV) of APMP.QM-S5 were agreed to be used as the assigned values for evaluating the performance of the participants of this PT programme. The z -score and E_n number were used as the numerical indicators to show the participants’ performance with respect to the assigned values. The standard deviations for proficiency assessment were calculated using the Horwitz Equation.
4. The participants’ z -scores are summarized as follows:

z -score	Number of Participants (Percentage)			
	Iron	Zinc	Arsenic (total)	Cadmium
$ z \leq 2$	6 (50.0%)	9 (75.0%)	2 (33.3%)	7 (70%)
$2 < z < 3$	1 (8.3%)	1 (8.3%)	2 (33.3%)	3 (30%)
$ z \geq 3$	5 (41.7%)	2 (16.7%)	2 (33.3%)	0 (0%)
Total:	12 (100%)	12 (100%)	6 (100%)	10 (100%)

5. The participants’ E_n numbers are summarized as follows:

	Iron	Zinc	Arsenic (total)	Cadmium
$ E_n \leq 1$	5 (45.5 %)	5 (45.5 %)	2 (33.3 %)	4 (40.0 %)
$ E_n > 1$	6 (54.5 %)	6 (54.5 %)	4 (66.7 %)	6 (60.0 %)
Total:	11 (100%)	11 (100%)	6 (100%)	10 (100%)