



APMP-APLAC Joint Proficiency Testing Programme
(APLAC T106)
Organochlorine Pesticides in Ginseng Root



FINAL REPORT SUMMARY

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Organized by

Government Laboratory of Hong Kong (GLHK)

July 2019



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Summary

1. This APMP-APLAC joint proficiency testing programme (APLAC T106) was organized by the Government Laboratory of Hong Kong (GLHK) under the auspices of the Asia-Pacific Metrology Programme (APMP) - Asia Pacific Laboratory Accreditation Cooperation (APLAC) Joint Proficiency Testing Working Group (PTWG). The purpose of the study is to assist participating laboratories to demonstrate their capabilities in measuring organochlorine pesticides alpha-hexachlorocyclohexane (α -BHC, CAS No. 319-84-6) and gamma-hexachlorocyclohexane (lindane, CAS No. 58-89-9) in ginseng root by various analytical techniques; and (ii) to identify areas for improvement.
2. A total of 51 laboratories from 18 economies enrolled in the PT programme and 46 of them returned the Result Proforma on or before the final deadline of 31 March 2017.
3. The APLAC T106 was concurrently conducted in parallel with the supplementary comparison APMP.QM-S11 “Organochlorine Pesticides in Ginseng Root” using the same test material. It was stipulated in the proposal for the PT programme that the supplementary comparison reference values (SCRV) obtained from APMP.QM-S11 which had participation from national metrology institutes (NMIs) and designated institutes (DIs) worldwide, were to be used as the assigned values for evaluating the performance of participants in the APLAC T106. The standard deviation for proficiency assessment was derived from the Horwitz Equation [9.1]. The z-scores were used to show the performance of participants with respect to the assigned values of the analytes of interest.
4. Participants’ z-scores on the two analytes are summarized as follows:

z-Score	Number of Participants (Percentage)	
	α -BHC	lindane
$ z \leq 2.0$	29 (66%)	32 (70%)
$2.0 < z < 3.0$	7 (16%)	6 (13%)
$ z \geq 3.0$	8 (18%)	8 (17%)
Total:	44 (100%)	46 (100%)



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5. To allow participants to check for transcription errors, an Interim Report of APLAC T106 was issued in June 2017. The proposed SCRVs for α -BHC and lindane were discussed at the meetings of the Organic Analysis Working Group (OAWG) of the Consultative Committee for Amount of Substance: Metrology in Chemistry and Biology (CCQM) in September 2017 and April 2018, and were approved by the CCQM OAWG in Oct 2018 and the APMP TCQM Meetings in Nov 2018 [9.2, 9.3]. As it was agreed that the SCRVs of APMP.QM-S11 would be used as the assigned values for performance evaluation, confirmation of these values was required prior to issue of this Final Report on APLAC T106. This Final Report gives a comprehensive overview of participants' results and detailed discussions on methods of analysis used by participants.