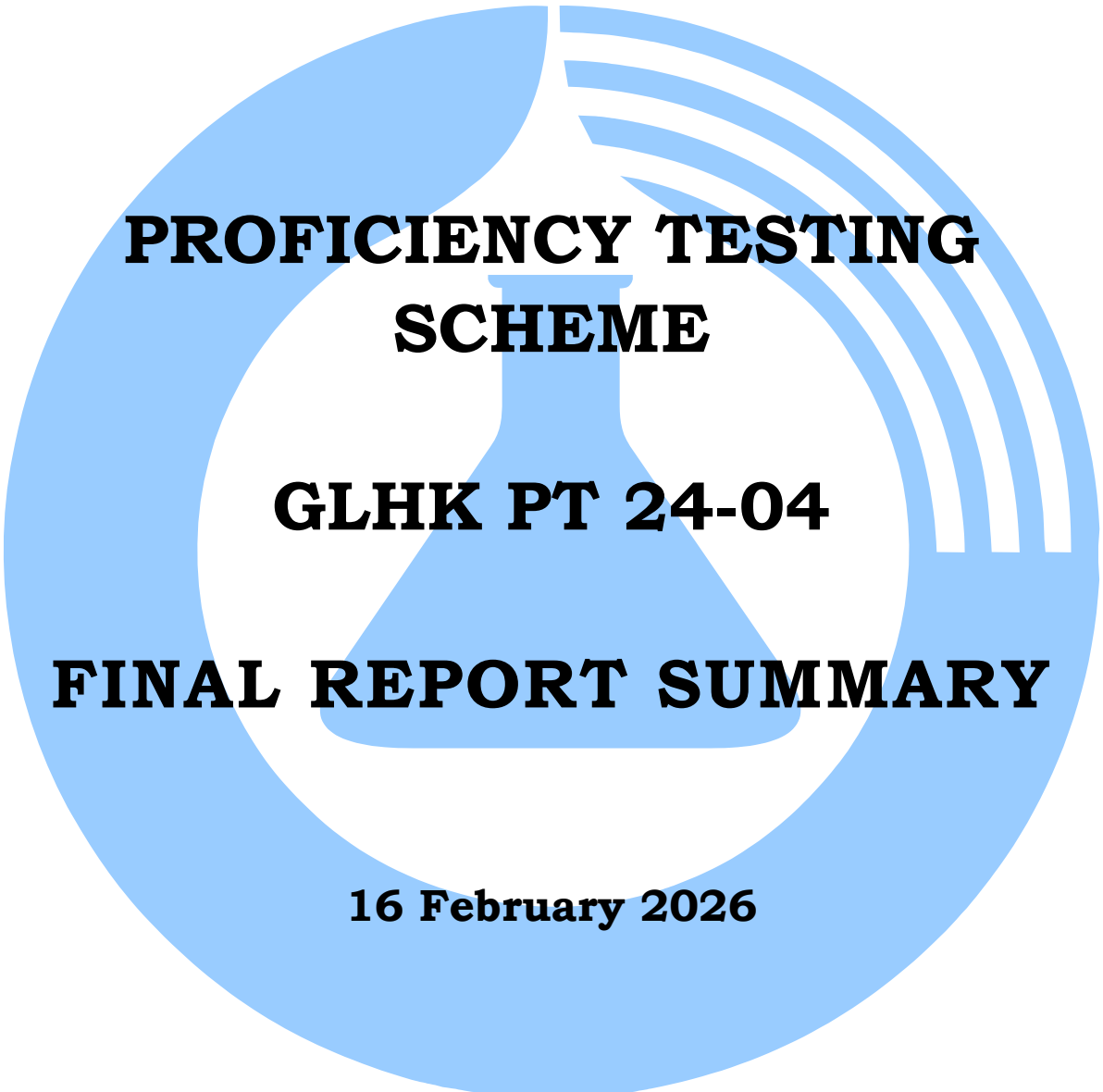


TOXIC ELEMENTS IN COSMETICS



**PROFICIENCY TESTING
SCHEME**

GLHK PT 24-04

FINAL REPORT SUMMARY

16 February 2026



Government Laboratory of Hong Kong
Proficiency Testing Scheme (GLHK PT 24-04)
Toxic Elements in Cosmetics

Summary of Results

1. This proficiency testing (PT) scheme (GLHK PT 24-04) was organised by the Government Laboratory of the Government of the Hong Kong Special Administrative Region (GLHK). The main objective of the PT scheme is to provide a platform to evaluate the testing capability of participating laboratories in analysing toxic elements in cosmetics.
2. A total of 6 laboratories enrolled in the scheme and all of them returned the analytical results to the organiser on or before the deadline of result submission.
3. The mass fraction of arsenic (As), cadmium (Cd) and lead (Pb) determined by GLHK using the method of inductively coupled plasma mass spectrometry with gravimetric standard additions was used as the assigned value for proficiency assessment (x_{pt}). The standard deviation for proficiency assessment (σ_{pt}) was derived from the Horwitz equation. The performance of the participants was evaluated using z' -scores.
4. The z' -scores of the participants for arsenic (As), cadmium (Cd) and lead (Pb), respectively are summarised as follows:

i) Arsenic (As)

z' -score	Number of participants (Percentage)
$ z' \leq 2.0$	5 (83%)
$2.0 < z' < 3.0$	0 (0%)
$ z' \geq 3.0$	1 (17%)
Total:	6 (100%)

ii) Cadmium (Cd)

z' -score	Number of participants (Percentage)
$ z' \leq 2.0$	6 (100%)
$2.0 < z' < 3.0$	0 (0%)
$ z' \geq 3.0$	0 (0%)
Total:	6 (100%)



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iii) Lead (Pb)

z' -score	Number of participants (Percentage)
$ z' \leq 2.0$	5 (83%)
$2.0 < z' < 3.0$	0 (0%)
$ z' \geq 3.0$	1 (17%)
Total:	6 (100%)