

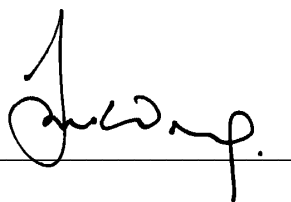
**SUDAN DYES
IN
CHILLI POWDER**

**INTER-LABORATORY
COMPARISON PROGRAM**

HKGL0904

FINAL REPORT

27 January 2010



Prepared by:

Dr. Yiu-chung WONG
Chemical Metrology Development Committee
Government Laboratory, Hong Kong



Summary of Results

1. The objective of this interlaboratory comparison program (HKGL0904) was to evaluate the capability of participants on the quantitative analysis of Sudan I and IV, and the qualitative analyses of Sudan II, III, Sudan orange G, Sudan red 7B and dimethyl yellow in chilli powder. Two dried test materials (Sample I and II) containing various concentrations of spiked Sudan dyes were used as the test samples in this program.
2. A total of 11 local laboratories registered the program and 10 of them returned results to the organizer within the scheduled timeline. Z-score was used to assess participants' performance for Sudan I and IV in which consensus mean that determined using robust test were the assigned values and target standard deviation was derived from Horwitz equation.
3. Summary of participants' results for Sudan I and IV:

Statistical Parameter	Sample I		Sample II	
	Sudan I	Sudan IV	Sudan I	Sudan IV
Data submitted	10	10	10	10
Consensus mean \pm MU (mg/kg)	1.048 \pm 0.190	0.890 \pm 0.107	0.626 \pm 0.085	1.387 \pm 0.209
Median (mg/kg)	1.028	0.888	0.611	1.390
Range (mg/kg)	0.68-1.512	0.558-1.066	0.52-0.812	0.86-1.90
Between-lab. variation (%)	23.0	15.2	17.2	19.0
Horwitz SD (%)	15.8	16.2	17.0	15.1

4. Summary of z-scores for Sudan I and IV

Lab. Code	Sample I		Sample II	
	Sudan I	Sudan IV	Sudan I	Sudan IV
1	-2.2	-0.07	-0.81	0.35
2	-0.89	0.07	-0.90	-0.32
3	1.2	-0.55	1.1	-1.2
4	-0.44	-2.3	-0.75	-2.7
5	0.20	0.73	-0.23	0.68
6	0.48	-0.36	0.74	-0.69
7	-1.0	-0.90	-0.06	2.4
8	1.3	1.0	0.45	-0.65
9	2.8	1.2	1.7	1.0
10	-0.89	0.14	-0.99	0.83