Institute for
Interlaboratory Studies

Results of Proficiency Test
Total Metals in dried paint
April 2022

Organized by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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CONTENTS

1 INTRODUCTION

Since 2008 the USA Consumer Product Safety Improvement Act (CPSIA, sec. 101) bans Lead in toys. This USA legislation reduces the amount of total Lead content in the substrates of children's products to 600 mg/kg by 2009 to 100 mg/kg by 2011 and the total Lead content in surface coatings or paint to 90 mg/kg by 2009.

Since 2008 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the determination of total Lead in dried paint every year. In 2015 it was decided to extend the scope with other heavy metals on request of a number of participants. During the annual proficiency testing program 2021/2022 it was decided to continue the proficiency test for the determination of Total Metals in dried paint.

In this interlaboratory study 103 laboratories in 29 countries registered for participation, see appendix 4 for the number of participants per country. In this report the results of the Total Metals in dried paint proficiency test are presented and discussed. This report is also electronically available through the iis website www.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organizer of this proficiency test (PT). Sample analyzes for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory.
It was decided to send two different dried paint samples approximately 0.5 grams each and labelled #22545 and #22546 respectively. A number of different elements were added to the samples.
The participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, is accredited in agreement with ISO/IEC17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accreditation scope. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant’s data. Feedback from the participants on the reported data is encouraged and customer’s satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organization of this proficiency test was the one as described for proficiency testing in the report ‘iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation’ of June 2018 (iis-protocol, version 3.5). This protocol is electronically available through the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

All data presented in this report must be regarded as confidential and for use by the participating companies only. Disclosure of the information in this report is only allowed by means of the entire report. Use of the contents of this report for third parties is only allowed by written permission of the Institute for Interlaboratory Studies. Disclosure of the identity of one or more of the participating companies will be done only after receipt of a written agreement of the companies involved.

2.4 SAMPLES

For the first sample a batch of green dried paint was selected which was artificially fortified with Cobalt, Lead and Selenium. The milled paint batch was divided over 150 plastic bags of 0.5 gram each and labelled #22545. The batch for sample #22545 was used in a previous proficiency test on Total Metals in dried paint as sample #20566 in iis20V01. Therefore, homogeneity of the subsamples was assumed.

For the second sample a batch of off-white dried paint was selected which was artificially fortified with Cobalt and Lead. The milled paint batch was divided over 150 plastic bags of 0.5 grams each and labelled #22546. The batch for sample #22546 was used in a previous proficiency test on Total Metals in dried paint as sample #19531 in iis19V01. Therefore, homogeneity of the subsamples was assumed.

To each of the participating laboratories one dried paint sample labelled #22545 and one dried paint sample labelled #22546 was sent on March 2, 2022.

2.5 ANALYZES

The participants were requested to determine on samples #22545 and #22546 the total concentration of Aluminum as Al, Antimony as Sb, Arsenic as As, Cadmium as Cd, Chromium as Cr, Cobalt as Co, Copper as Cu, Lead as Pb, Manganese as Mn, Mercury as Hg, Nickel as Ni, Selenium as Se, Strontium as Sr and Zinc as Zn. It was also requested to report if the laboratory was accredited for the determined elements and to report some analytical details.

It was explicitly requested to treat the samples as if they were routine samples and to report the test results using the indicated units on the report form and not to round the test results, but report as much significant figures as possible. It was also requested not to report ‘less than’ test results, which are above the detection limit, because such test results cannot be used for meaningful statistical evaluations.

To get comparable test results a detailed report form and a letter of instructions are prepared. On the report form the reporting units are given as well as the reference test methods (when applicable) that will be used during the evaluation. The detailed report form and the letter of instructions are both made available on the data entry portal www.kpmd.co.uk/sgs-iis-cts/. The participating laboratories are also requested to confirm the sample receipt on this data entry portal. The letter of instructions can also be downloaded from the iis website www.iisnl.com.

3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal www.kpmd.co.uk/sgs-iis-cts/. The reported test results are tabulated per determination in appendices 1 and 2 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalyzes). Additional or corrected test results are used for data analysis and the original test results are placed under 'Remarks' in the result tables in appendices 1 and 2. Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1 STATISTICS

The protocol followed in the organization of this proficiency test was the one as described for proficiency testing in the report ‘iis Interlaboratory Studies, Protocol for the Organisation, Statistics and Evaluation’ of June 2018 (iis-protocol, version 3.5).
For the statistical evaluation, the *unrounded* (when available) figures were used instead of the rounded test results. Test results reported as ‘<...” or ‘>...” were not used in the statistical evaluation.

First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test, a variant of the Kolmogorov-Smirnov test and by the calculation of skewness and kurtosis. Evaluation of the three normality indicators in combination with the visual evaluation of the graphic Kernel density plot, lead to judgement of the normality being either ‘unknown’, ‘OK’, ‘suspect’ or ‘not OK’. After removal of outliers, this check was repeated. If a data set does not have a normal distribution, the (results of the) statistical evaluation should be used with due care.

The assigned value is determined by consensus based on the test results of the group of participants after rejection of the statistical outliers and/or suspect data.

According to ISO13528 all (original received or corrected) results per determination were submitted to outlier tests. In the iis procedure for proficiency tests, outliers are detected prior to calculation of the mean, standard deviation and reproducibility. For small data sets, Dixon (up to 20 test results) or Grubbs (up to 40 test results) outlier tests can be used. For larger data sets (above 20 test results) Rosner’s outlier test can be used. Outliers are marked by D(0.01) for the Dixon’s test, by G(0.01) or DG(0.01) for the Grubbs’ test and by R(0.01) for the Rosner’s test. Stragglers are marked by D(0.05) for the Dixon’s test, by G(0.05) or DG(0.05) for the Grubbs’ test and by R(0.05) for the Rosner’s test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

For each assigned value the uncertainty was determined in accordance with ISO13528. Subsequently the calculated uncertainty was evaluated against the respective requirement based on the target reproducibility in accordance with ISO13528. In this PT, the criterion of ISO13528, paragraph 9.2.1 was met for all evaluated tests, therefore the uncertainty of all assigned values may be negligible and need not be included in the PT report.

Finally, the reproducibilities were calculated from the standard deviations by multiplying them with a factor of 2.8.

3.2 GRAPHICS

In order to visualize the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also, a normal Gauss curve (dotted line) was projected over the Kernel Density Graph (smooth line) for reference. The Gauss curve is calculated from the consensus value and the corresponding standard deviation.

3.3 Z-SCORES

To evaluate the performance of the participating laboratories the z-scores were calculated. As it was decided to evaluate the performance of the participants in this proficiency test (PT) against the literature requirements (derived from e.g. ISO or ASTM test methods), the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the variation of this interlaboratory study.

The target standard deviation was calculated from the literature reproducibility by division with 2.8. In case no literature reproducibility was available, other target values were used, like Horwitz or an estimated reproducibility based on former iis proficiency tests.

When a laboratory did use a test method with a reproducibility that is significantly different from the reproducibility of the reference test method used in this report, it is strongly advised to recalculate the z-score, while using the reproducibility of the actual test method used, this in order to evaluate whether the reported test results are fit-for-use.

The z-scores were calculated according to:

$z_{(target)}$ = (test result - average of PT) / target standard deviation

The $z_{(target)}$ scores are listed in the test result tables in appendix 1.

Absolute values for z<2 are very common and absolute values for z>3 are very rare. Therefore, the usual interpretation of z-scores is as follows:

	|z|	< 1	good
1 <	|z|	< 2	satisfactory
2 <	|z|	< 3	questionable
3 <	|z|		unsatisfactory

4 EVALUATION

In this proficiency test some problems were encountered with the dispatch of the samples due to COVID-19 pandemic. Therefore, the reporting time on the data entry portal was extended with another week. Four participants reported test results after the extended reporting date and seven other participants did not report any test results. Not all participants were able to report all elements requested.
In total 96 participants reported 558 numerical test results. Observed were 9 outlying test results, which is 1.6%. In proficiency tests outlier percentages of 3% - 7.5% are quite normal.

Not all data sets proved to have a normal Gaussian distribution. These are referred to as “not OK” or “suspect”. The statistical evaluation of these data sets should be used with due care, see also paragraph 3.1.

4.1 EVALUATION PER SAMPLE AND PER ELEMENT

In this section the reported test results are discussed per sample and per element. The test methods which were used by the various laboratories were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables together with the original data in appendix 1. The abbreviations, used in these tables, are explained in appendix 5.

Unfortunately, a suitable reference test method providing the precision data is not available for the determination of total Metals in dried paint. Therefore, the calculated reproducibility was compared against the estimated reproducibility calculated with the Horwitz equation.

sample #22545

Total Aluminum as Al: This determination may be problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not at all in agreement with the estimated reproducibility calculated with the Horwitz equation. No z-scores are calculated because of the large variation in the reported test results.

Total Cobalt as Co: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Copper as Cu: This determination is not problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Lead as Pb: This determination may be problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Manganese as Mn: This determination may be problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Selenium as Se: This determination may be problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Strontium as Sr: This determination may be problematic. No statistical outliers were observed. The calculated reproducibility is not at all in agreement with the estimated reproducibility calculated with the Horwitz equation.

The majority of the participants agreed on a concentration near or below the limit of detection for all other reported elements mentioned in paragraph 2.5. Therefore, no z-scores are calculated for these elements. The reported results can be found in appendix 2.

sample #22546

Total Aluminum as Al: This determination may be problematic. No statistical outliers were observed. The calculated reproducibility is not at all in agreement with the estimated reproducibility calculated with the Horwitz equation. No z-scores are calculated because of the large variation in the reported test results.

Total Cobalt as Co: This determination is not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Lead as Pb: This determination is not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the estimated reproducibility calculated with the Horwitz equation.

The majority of the participants agreed on a concentration near or below the limit of detection for all other reported elements mentioned in paragraph 2.5. Therefore, no z-scores are calculated for these elements. The reported results can be found in appendix 2.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the reference test method and the reproducibility as found for the group of participating laboratories. The number of significant test results, the average, the calculated reproducibility (2.8 * standard deviation) and the target reproducibility are presented in the next tables.

Element	unit	n	average	2.8 * sd	R(target)
Total Aluminum as Al	mg/kg	41	1267	739	(194)
Total Cobalt as Co	mg/kg	48	41.5	12.3	10.6
Total Copper as Cu	mg/kg	37	33.7	8.4	8.9
Total Lead as Pb	mg/kg	94	60.8	17.8	14.7
Total Manganese as Mn	mg/kg	44	34.7	11.4	9.1
Total Selenium as Se	mg/kg	52	64.3	17.6	15.4
Total Strontium as Sr	mg/kg	44	724	258	120

Table 1: reproducibilities of tests on sample #22545

For results between brackets no z-scores are calculated.

Element	unit	n	average	2.8 * sd	R(target)
Total Aluminum as Al	mg/kg	44	6563	1970	(783)
Total Cobalt as Co	mg/kg	50	485	85	86
Total Lead as Pb	mg/kg	95	87	19	20

Table 2: reproducibilities of tests on sample #22546

For results between brackets no z-scores are calculated.

Without further statistical calculations it can be concluded that for most of the elements mentioned above there is not a good compliance of the group of participants with the estimated target reproducibilities calculated with the Horwitz equation. The problematic tests have been discussed in paragraph 4.1.

4.3 COMPARISON OF THE PROFICIENCY TEST OF APRIL 2022 WITH PREVIOUS PTS

	April 2022	April 2021	April 2020	April 2019	April 2018
Number of reporting laboratories	96	109	110	113	133
Number of test results	558	658	770	417	638
Number of statistical outliers	9	26	27	22	25
Percentage of statistical outliers	1.6	4.0%	3.5%	5.3%	3.9%

Table 3: comparison with previous proficiency tests

In proficiency tests, outlier percentages of 3% - 7.5% are quite normal.

The performance of the determinations of the proficiency tests was compared, expressed as relative standard deviation (RSD) of the PTs, see next table.

Element	April 2022	April 2021	April 2020	April 2019	2009-2018	Target
Total Aluminum	11-21%	19-33%	12-18%	n.e.	n.e.	5 - 10%
Total Antimony	n.e.	n.e.	n.e.	n.e.	15%	5 - 10%
Total Arsenic	n.e.	7%	n.e.	9%	9%	5 - 10%
Total Cadmium	n.e.	n.e.	n.e.	n.e.	7-8%	5 - 10%
Total Chromium	n.e.	11%	10%	10%	9-12%	5 - 10%
Total Cobalt	6-11%	12%	11%	7%	7-30%.	5 - 10%
Total Copper	9%	16%	10%	n.e.	n.e.	5 - 10%
Total Lead	8-10%	10%	10%	8%	6-10%	5 - 10%
Total Manganese	12%	10-12%	10-11%	8%	n.e.	5 - 10%
Total Mercury	n.e.	n.e.	n.e.	n.e.	14-18%.	5 - 10%
Total Nickel	n.e.	n.e.	n.e.	n.e.	5-13%.	5 - 10%
Total Selenium	10%	n.e.	10%	n.e.	n.e.	5 - 10%
Total Strontium	13%	9-11%	9-10%	n.e.	n.e.	5 - 10%

Table 4: development of uncertainties over the years

The relative standard deviation observed in this PT are in line with the relative standard deviations observed in previous PTs.

4.4 EVALUATION OF THE ANALYTICAL DETAILS

Many different test methods were mentioned. The American CPSC-CH-E1003-09 method “For determining Lead (Pb) in Paint and Other Similar Surface Coatings” was used by about 50% of the participants. Also, other methods were reported and sometimes the method used was depending on the metal to be determined. Some of these test methods are not designed to determine metals in dried paint. For example, EN16711-1 is for metals in textile and IEC62321-5 for metals in electro technical products.

For this PT also some analytical details were requested, see appendix 3 for the reported details. Based on the answers given by the participants the following can be summarized:
- About 95% of the reporting participants mentioned that they are accredited for the determination of Total Metals in dried paint.
- About 25% used less than 100 mg as sample intake, about 60% used 100 mg, about 15% used more than 100 mg as sample intake.
- Nearly all laboratories used a strong acid like Nitric Acid (or Nitric Acid in combination with Hydrochloric Acid and/or Hydrofluoric Acid) to digest the dried paint. About 60% of the participants used an acid solution with a concentration ≥ 65%.

The reported analytical details did not show any significant effect on the determination of heavy metals in dried paint in this PT.

5 DISCUSSION

Sample #22545 was used in a previous proficiency test on Total Metals in dried paint iis20V01 as sample #20566. A comparison is made between the two proficiency tests. The PT findings of sample #22545 is in line with sample #20566.

Element	unit	#22545			#20566		
		n	average	R(calc)	n	average	R(calc)
Total Aluminum	mg/kg	41	1267	739	42	1223	625
Total Cobalt	mg/kg	48	41.5	12.3	67	42.6	12.8
Total Copper	mg/kg	37	33.7	8.4	55	34.2	9.8
Total Lead	mg/kg	94	60.8	17.8	107	62.3	17.0
Total Manganese	mg/kg	44	34.7	11.4	53	33.6	10.4
Total Selenium	mg/kg	52	64.3	17.6	54	65.9	17.7
Total Strontium	mg/kg	44	724	258	43	726	201

Table 5: comparison of sample #22545 with #20566

Sample #22546 was used in a previous proficiency test on Total Metals in dried paint iis19V01 as sample #19531. A comparison is made between the two proficiency tests. The PT findings of sample #22546 is in line with sample #19531.

Element	unit	#22546			#19531		
		n	average	R(calc)	n	average	R(calc)
Total Cobalt	mg/kg	50	485	85	69	483	94
Total Lead	mg/kg	95	86.6	18.8	108	88.3	20.1

Table 6: comparison of sample #22546 with #19531

When the concentration limit recommended in UN Environment's "Model Law and Guidance for Regulating Lead Paint" 90 mg/kg total Lead is taken into account all reporting laboratories would have accepted sample #22545 based on the total Lead content and about 80% of the participants would have accepted sample #22546 based on the total Lead content.

6 CONCLUSION

The participants were able to detect the added elements in both samples in this proficiency test. More difficulties are found with the elements Aluminum and Strontium which are part of the paint matrix. The high concentration of both elements may (partly) explain the large variation found for Aluminum and Strontium.

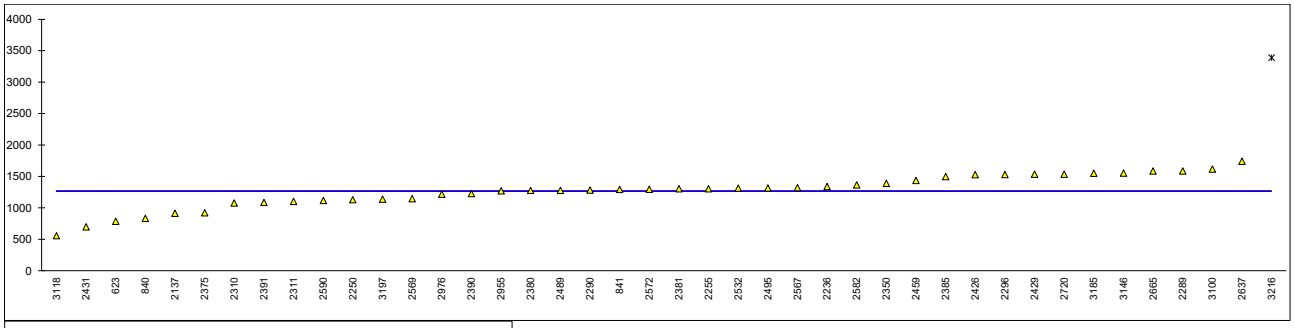
Each participating laboratory will have to evaluate its performance in this study and decide about any corrective actions if necessary. Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and thus increase of the quality of the analytical results.

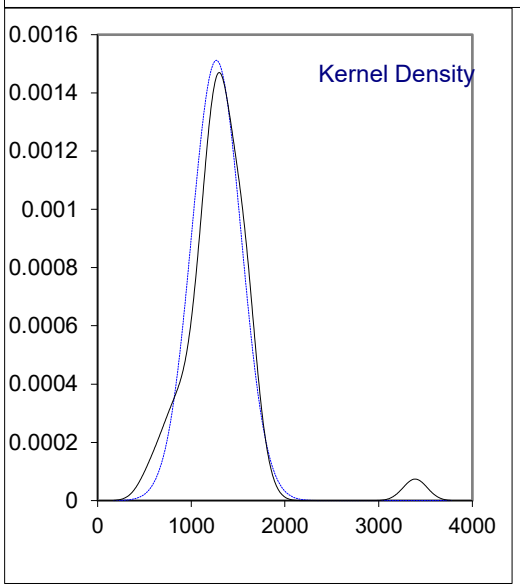
APPENDIX 1

Determination of Total Aluminum as Al on sample #22545; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	784.64	C	-----	first reported 581,17
840	In house	830.74		-----	
841	ISO8124-5	1293		-----	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137	IEC62321-5	913.50		-----	
2139	CPSC-CH-E1003-09	< 10		-----	possibly a false negative test result?
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	1340		-----	
2250	EN16711-1	1128		-----	
2255	CPSC-CH-E1003-09	1304		-----	
2256		-----		-----	
2258	CPSC-CH-E1003-09	not detected		-----	possibly a false negative test result?
2289	CPSC-CH-E1003-09	1586.4		-----	
2290	CPSC-CH-E1003-09	1282.8		-----	
2294		-----		-----	
2296	In house	1530		-----	
2301		-----		-----	
2310	EN16711-1	1076		-----	
2311	ASTM F963	1101.36		-----	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	1390		-----	
2352		-----		-----	
2355		-----		-----	
2357	GB/T30647	not analyzed		-----	
2358		-----		-----	
2365		-----		-----	
2366	ASTM F963	not analyzed		-----	
2373	CPSC-CH-E1003-09	not applicable		-----	
2375	EN16711-1	920		-----	
2378	GB/T30157	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	1275.88		-----	
2381	CPSC-CH-E1003-09	1302.30		-----	
2382		-----		-----	
2385	EPA3051	1496		-----	
2390	CPSC-CH-E1003-09	1224.78		-----	
2391		1086		-----	
2392	IEC62321-5	Not analyzed		-----	
2406		-----		-----	
2426	CPSC-CH-E1003-09	1528.3		-----	
2429	CPSC-CH-E1003-09	1534.7		-----	
2431	CPSC-CH-E1002-08	696.72	C	-----	first reported 584.87
2453		-----		-----	
2459	CPSC-CH-E1003-09	1435		-----	
2460		-----		-----	
2480		-----		-----	
2489	In house	1277.3		-----	
2495	CPSC-CH-E1003-09	1314.75		-----	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509		-----		-----	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	1313.1		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	1320		-----	
2569	CPSC-CH-E1003-09	1145		-----	
2572	CPSC-CH-E1003-09	1295.6		-----	
2582	CPSC-CH-E1003-09	1362.19		-----	
2590	CPSC-CH-E1003-09	1117.10		-----	
2637	EPA3052	1740		-----	
2665	In house	1586		-----	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	1536		-----	
2736		-----		-----	
2788	In house	Not Analyzed		-----	
2799		-----	W	-----	reported 433.9
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	1270.1		-----	
2976	ASTM F963	1214.86		-----	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	ASTM F963	1616.100		-----	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	555.80	C	-----	first reported 5470.2253
3146	In house	1552		-----	
3160	CPSC-CH-E1003-09	not determined		-----	
3172		-----		-----	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	1549.33		-----	
3197	CPSC-CH-E1003-09	1139.0		-----	
3216	In house	3389.1565	C,R(0.01)	-----	first reported 3055.50666618169
3218		-----		-----	
3225		-----		-----	
3246		not applicable		-----	
8005		-----		-----	
	normality	OK			
	n	41			
	outliers	1			
	mean (n)	1267.423			
	st.dev. (n)	263.9771	RSD = 21%		
	R(calc.)	739.136			
	st.dev.(Horwitz)	(69.1840)			
	R(Horwitz)	(193.715)			

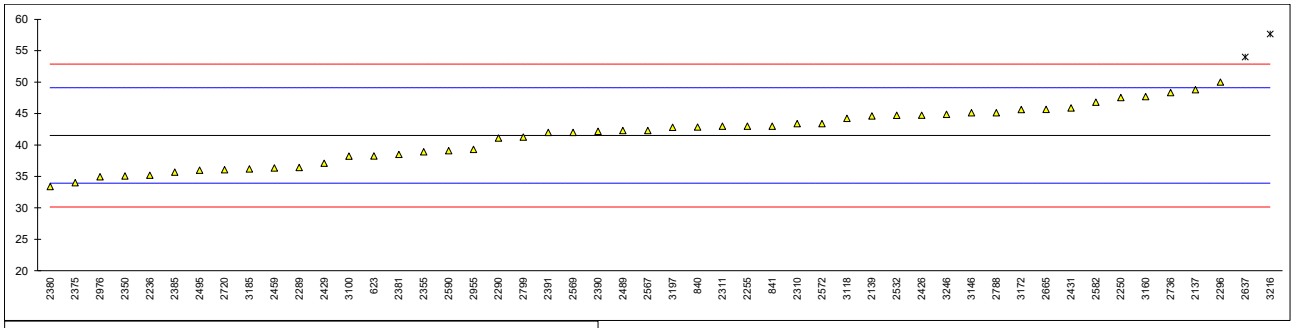


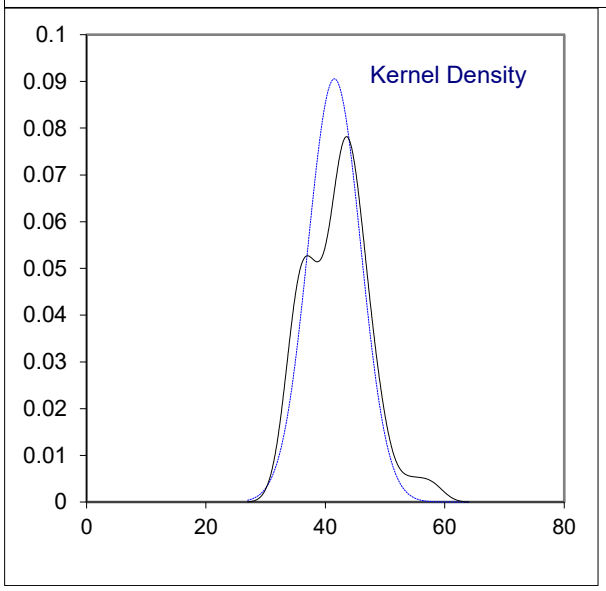


Determination of Total Cobalt as Co on sample #22545; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	38.24		-0.86	
840	In house	42.84		0.35	
841	ISO8124-5	43		0.39	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137	IEC62321-5	48.80		1.92	
2139	CPSC-CH-E1003-09	44.6		0.81	
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	35.17		-1.67	
2250	EN16711-1	47.53		1.59	
2255	CPSC-CH-E1003-09	43.0		0.39	
2256		-----		-----	
2258	CPSC-CH-E1003-09	not analyzed	C	-----	first reported not detected
2289	CPSC-CH-E1003-09	36.41		-1.35	
2290	CPSC-CH-E1003-09	41.1		-0.11	
2294		-----		-----	
2296	In house	50		2.24	
2301		-----		-----	
2310	EN16711-1	43.4		0.50	
2311	ASTM F963	42.98		0.39	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	35.07		-1.70	
2352		-----		-----	
2355	EPA3052	38.9		-0.69	
2357	GB/T30647	not analyzed		-----	
2358		-----		-----	
2365		-----		-----	
2366	ASTM F963	not analyzed		-----	
2373	CPSC-CH-E1003-09	not analyzed		-----	
2375	EN16711-1	34		-1.98	
2378	GB/T30157	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	33.38		-2.15	
2381	CPSC-CH-E1003-09	38.50		-0.80	
2382		-----		-----	
2385	EPA3051	35.7		-1.53	
2390	CPSC-CH-E1003-09	42.16		0.17	
2391		42		0.13	
2392	IEC62321-5	Not analyzed		-----	
2406		-----		-----	
2426	CPSC-CH-E1003-09	44.72		0.85	
2429	CPSC-CH-E1003-09	37.1		-1.16	
2431	CPSC-CH-E1002-08	45.89		1.15	
2453		-----		-----	
2459	CPSC-CH-E1003-09	36.34		-1.37	
2460		-----		-----	
2480		-----		-----	
2489	In house	42.3		0.21	
2495	CPSC-CH-E1003-09	35.97		-1.46	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509		-----		-----	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	44.7		0.84	
2564		-----		-----	
2567	CPSC-CH-E1003-09	42.3		0.21	
2569	CPSC-CH-E1003-09	42		0.13	
2572	CPSC-CH-E1003-09	43.4		0.50	
2582	CPSC-CH-E1003-09	46.80		1.39	
2590	CPSC-CH-E1003-09	39.10		-0.64	
2637	EPA3052	54	DG(0.05)	3.29	
2665	In house	45.64		1.09	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	36.04		-1.44	
2736	In house	48.323		1.80	
2788	In house	45.114		0.95	
2799	In house	41.25		-0.07	
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	39.3		-0.58	
2976	ASTM F963	34.94		-1.73	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	ASTM F963	38.236		-0.87	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	44.2297		0.72	
3146	In house	45.11		0.95	
3160	CPSC-CH-E1003-09	47.7		1.63	
3172	ISO8124-5	45.633		1.09	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	36.19		-1.40	
3197	CPSC-CH-E1003-09	42.8		0.34	
3216	In house	57.6545172354519	DG(0.05)	4.26	
3218		-----		-----	
3225		-----		-----	
3246		44.876		0.89	
8005		-----		-----	
	normality	OK			
	n	48			
	outliers	2			
	mean (n)	41.516			
	st.dev. (n)	4.4047	RSD = 11%		
	R(calc.)	12.333			
	st.dev.(Horwitz)	3.7912			
	R(Horwitz)	10.615			

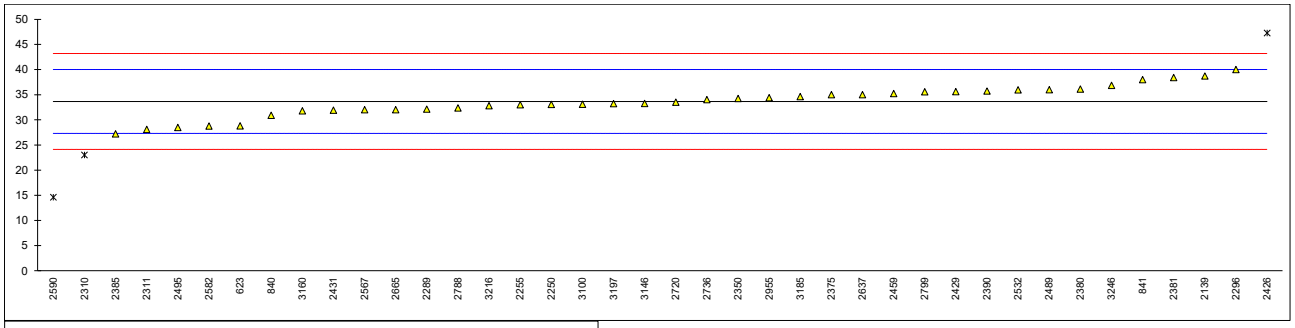


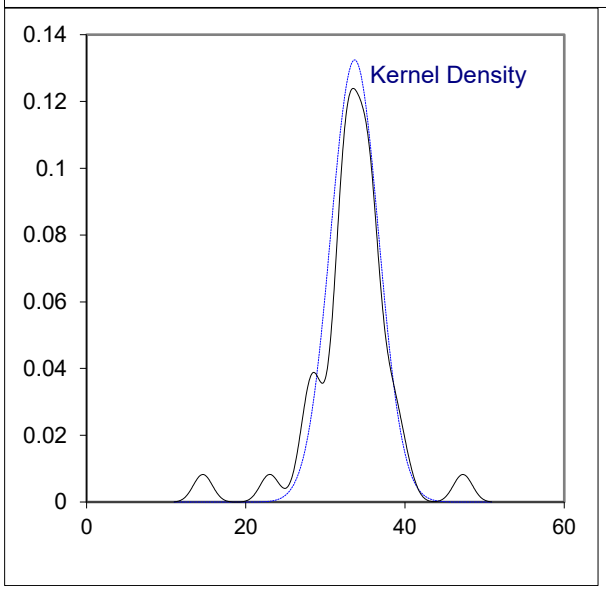


Determination of Total Copper as Cu on sample #22545; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	28.79		-1.54	
840	In house	30.89		-0.88	
841	ISO8124-5	38		1.36	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137		-----		-----	
2139	CPSC-CH-E1003-09	38.7		1.59	
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	<500		-----	
2250	EN16711-1	33.06		-0.19	
2255	CPSC-CH-E1003-09	33.0		-0.21	
2256		-----		-----	
2258	CPSC-CH-E1003-09	not analyzed	C	-----	first reported not detected
2289	CPSC-CH-E1003-09	32.11		-0.49	
2290		-----		-----	
2294		-----		-----	
2296	In house	40		2.00	
2301		-----		-----	
2310	EN16711-1	23	C,R(0.05)	-3.36	first reported 43.3
2311	ASTM F963	28.11		-1.75	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	34.23		0.18	
2352		-----		-----	
2355		-----		-----	
2357	GB/T30647	not analyzed		-----	
2358		-----		-----	
2365		-----		-----	
2366	ASTM F963	not analyzed		-----	
2373	CPSC-CH-E1003-09	not analyzed		-----	
2375	EN16711-1	35		0.42	
2378	GB/T30157	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	36.12		0.77	
2381	CPSC-CH-E1003-09	38.40		1.49	
2382		-----		-----	
2385	EPA3051	27.2		-2.04	
2390	CPSC-CH-E1003-09	35.71		0.64	
2391		<1	C	<-10.02	possibly a false neg. test result? fr. 16
2392	IEC62321-5	Not analyzed		-----	
2406		-----		-----	
2426	CPSC-CH-E1003-09	47.27	R(0.05)	4.29	
2429	CPSC-CH-E1003-09	35.6		0.61	
2431	CPSC-CH-E1002-08	31.92		-0.55	
2453		-----		-----	
2459	CPSC-CH-E1003-09	35.25	C	0.50	first reported 49.84
2460		-----		-----	
2480		-----		-----	
2489	In house	36		0.73	
2495	CPSC-CH-E1003-09	28.48		-1.64	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509		-----		-----	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	35.95		0.72	
2564		-----		-----	
2567	CPSC-CH-E1003-09	32		-0.53	
2569	CPSC-CH-E1003-09	Not determined		-----	
2572		-----		-----	
2582	CPSC-CH-E1003-09	28.76		-1.55	
2590	CPSC-CH-E1003-09	14.6	C,R(0.01)	-6.01	first reported 18.9
2637	EPA3052	35		0.42	
2665	In house	32.01		-0.52	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	33.52		-0.05	
2736	In house	34.024		0.11	
2788	In house	32.359		-0.41	
2799	In house	35.575		0.60	
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	34.4		0.23	
2976		-----		-----	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	ASTM F963	33.094		-0.18	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	<10		<-7.26	possibly a false negative test result?
3146	In house	33.23		-0.14	
3160	CPSC-CH-E1003-09	31.8		-0.59	
3172		-----		-----	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	34.62		0.30	
3197	CPSC-CH-E1003-09	33.2		-0.15	
3216	In house	32.8066121732524		-0.27	
3218		-----		-----	
3225		-----		-----	
3246		36.850		1.00	
8005		-----		-----	
	normality	OK			
	n	37			
	outliers	3			
	mean (n)	33.669			
	st.dev. (n)	3.01206	RSD = 9%		
	R(calc.)	8.434			
	st.dev.(Horwitz)	3.1731			
	R(Horwitz)	8.885			

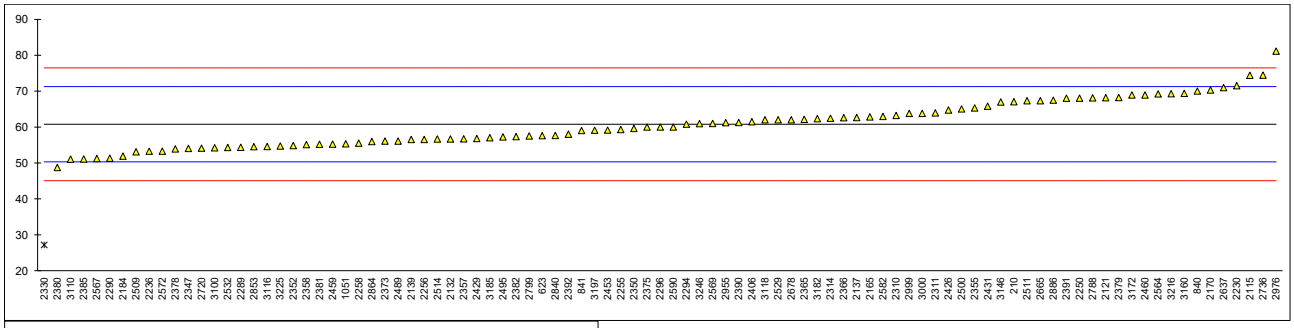


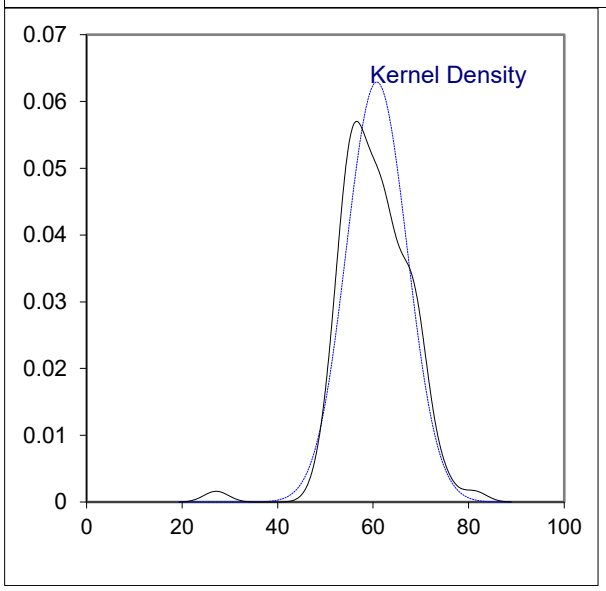


Determination of Total Lead as Pb on sample #22545; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210	CPSC-CH-E1003-09	67.04		1.20	
339		-----		-----	
551		-----		-----	
623	In house	57.62		-0.60	
840	In house	69.99		1.76	
841	ISO8124-5	59		-0.34	
1051	CPSC-CH-E1003-09	55.34		-1.04	
2115	CPSC-CH-E1003-09	74.4		2.60	
2121	CPSC-CH-E1003-09	68.15		1.41	
2132	CPSC-CH-E1003-09	56.70		-0.78	
2137	IEC62321-5	62.65		0.36	
2139	CPSC-CH-E1003-09	56.5		-0.82	
2165	ASTM F963	62.8		0.39	
2170	CPSC-CH-E1003-09	70.29		1.82	
2184	CPSC-CH-E1003-09	51.9		-1.69	
2230	CPSC-CH-E1003-09	71.49	C	2.05	first reported 77.79
2236	In house	53.26		-1.43	
2250	EN16711-1	68.00		1.38	
2255	CPSC-CH-E1003-09	59.3		-0.28	
2256	CPSC-CH-E1003-09	56.50		-0.82	
2258	CPSC-CH-E1003-09	55.49	C	-1.01	first reported 42.49
2289	CPSC-CH-E1003-09	54.37		-1.22	
2290	CPSC-CH-E1003-09	51.3		-1.81	
2294	CPSC-CH-E1003-09	60.8		0.01	
2296	In house	60		-0.15	
2301		-----		-----	
2310	EN16711-1	63.2		0.46	
2311	ASTM F963	63.93		0.60	
2314	CPSC-CH-E1003-09	62.43		0.32	
2330	CPSC-CH-E1003-09.1	27.16	R(0.01)	-6.41	
2347	CPSC-CH-E1003-09	54		-1.29	
2350	CPSC-CH-E1003-09	59.61		-0.22	
2352	CPSC-CH-E1003-09	54.8		-1.14	
2355	CPSC-CH_E1003-09	65.3		0.86	
2357	GB/T30647	56.72		-0.77	
2358	In house	55.12		-1.08	
2365	EPA3052	62.14		0.26	
2366	ASTM F963	62.6		0.35	
2373	CPSC-CH-E1003-09	56.10		-0.89	
2375	EN16711-1	60		-0.15	
2378	GB/T30157	53.9		-1.31	
2379	CPSC-CH-E1003-09.1	68.20		1.42	
2380	CPSC-CH-E1003-09	48.74		-2.30	
2381	CPSC-CH-E1003-09	55.20		-1.06	
2382	CPSC-CH-E1003-09	57.3		-0.66	
2385	EPA3051	51.1		-1.85	
2390	CPSC-CH-E1003-09	61.26		0.09	
2391		68		1.38	
2392	IEC62321-5	58	C	-0.53	first reported 29.07
2406	ASTM F963	61.449		0.13	
2426	CPSC-CH-E1003-09	64.72		0.75	
2429	CPSC-CH-E1003-09	56.8		-0.76	
2431	CPSC-CH-E1002-08	65.77		0.95	
2453	CPSC-CH-E1003-09	59.15		-0.31	
2459	CPSC-CH-E1003-09	55.25		-1.05	
2460	CPSC-CH-E1003-09.1	68.907		1.55	
2480		-----		-----	
2489	In house	56.1		-0.89	
2495	CPSC-CH-E1003-09	57.24		-0.67	
2500	CPSC-CH-E1003-09	65		0.81	
2509	CPSC-CH-E1003-09	53.097		-1.46	
2511	CPSC-CH-E1003-09	67.3		1.25	
2514	CPSC-CH-E1003-09	56.68		-0.78	
2522		-----		-----	
2529	CPSC-CH-E1003-09	62.00		0.23	
2532	CPSC-CH-E1003-09	54.3		-1.23	
2564	CPSC-CH-E1003-09	69.215		1.61	
2567	CPSC-CH-E1003-09	51.2		-1.83	
2569	CPSC-CH-E1003-09	61		0.04	
2572	CPSC-CH-E1003-09	53.3		-1.43	
2582	CPSC-CH-E1003-09	62.95		0.42	
2590	CPSC-CH-E1003-09	60.00		-0.15	
2637	EPA3052	71		1.95	
2665	In house	67.32		1.25	

lab	method	value	mark	z(targ)	remarks
2678	CPSC-CH-E1003-09.1	62.001		0.23	
2720	CPSC-CH-E1003-09	54.11		-1.27	
2736	In house	74.458		2.61	
2788	In house	68.098		1.40	
2799	In house	57.545		-0.62	
2840	NBR16407	57.65350		-0.60	
2853	CPSC-CH-E1003-09	54.5		-1.20	
2864	EPA3052	55.97		-0.92	
2886	DS259	67.48		1.28	
2955	CPSC-CH-E1003-09	61.2		0.08	
2976	ASTM F963	81.15		3.89	
2977		-----		-----	
2999	CPSC-CH-E1003-09	63.8		0.58	
3000	CPSC-CH-E1003-09	63.8		0.58	
3100	ASTM F963	54.213		-1.25	
3110	ASTM F963	51.07		-1.85	
3116	ASTM F963	54.564		-1.18	
3118	CPSC-CH-E1003-09	61.9950		0.23	
3146	In house	66.96		1.18	
3160	CPSC-CH-E1003-09	69.38		1.64	
3172	ISO8124-5	68.900		1.55	
3182	CPSC-CH-E1003-09	62.320		0.30	
3185	In house	57.03		-0.71	
3197	CPSC-CH-E1003-09	59.1		-0.32	
3216	In house	69.2950943808649		1.63	
3218		-----		-----	
3225	CPSC-CH-E1003-09	54.69		-1.16	
3246		60.946		0.03	
8005		-----		-----	
	normality	OK			
	n	94			
	outliers	1			
	mean (n)	60.771			
	st.dev. (n)	6.3400	RSD = 10%		
	R(calc.)	17.752			
	st.dev.(Horwitz)	5.2402			
	R(Horwitz)	14.672			

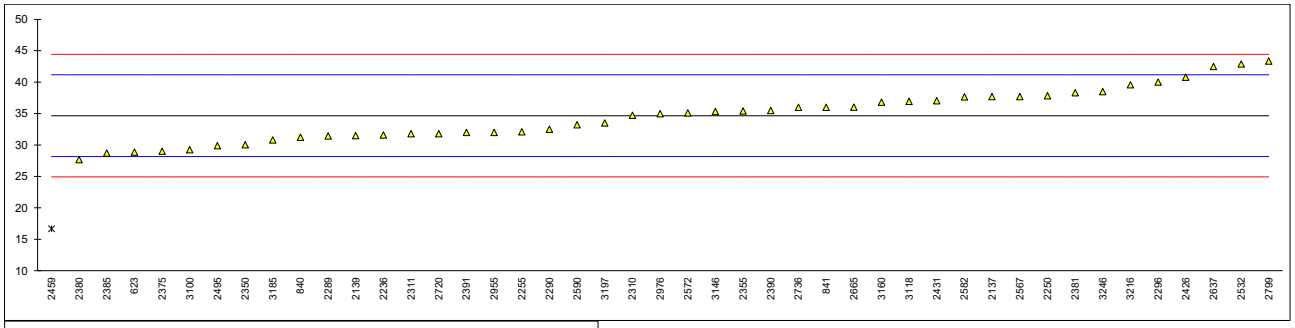


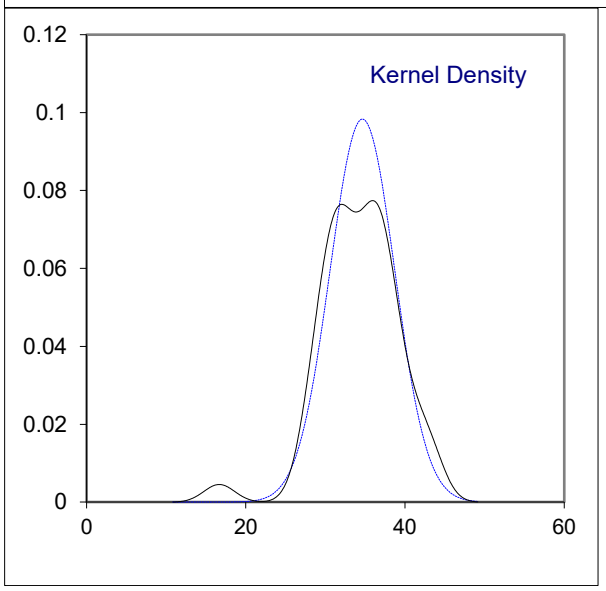


Determination of Total Manganese as Mn on sample #22545; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	28.85		-1.79	
840	In house	31.23		-1.06	
841	ISO8124-5	36		0.41	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137	IEC62321-5	37.70		0.93	
2139	CPSC-CH-E1003-09	31.5		-0.97	
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	31.59		-0.95	
2250	EN16711-1	37.83		0.97	
2255	CPSC-CH-E1003-09	32.1		-0.79	
2256		-----		-----	
2258	CPSC-CH-E1003-09	not analyzed	C	-----	first reported not detected
2289	CPSC-CH-E1003-09	31.45		-0.99	
2290	CPSC-CH-E1003-09	32.5		-0.67	
2294		-----		-----	
2296	In house	40		1.64	
2301		-----		-----	
2310	EN16711-1	34.7		0.01	
2311	ASTM F963	31.77		-0.89	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	30.05		-1.42	
2352		-----		-----	
2355	EPA3052	35.4		0.23	
2357	GB/T30647	not analyzed		-----	
2358		-----		-----	
2365		-----		-----	
2366	ASTM F963	not analyzed		-----	
2373	CPSC-CH-E1003-09	not applicable		-----	
2375	EN16711-1	29		-1.74	
2378	GB/T30157	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	27.67		-2.15	
2381	CPSC-CH-E1003-09	38.31		1.12	
2382		-----		-----	
2385	EPA3051	28.7		-1.83	
2390	CPSC-CH-E1003-09	35.47		0.25	
2391		32		-0.82	
2392	IEC62321-5	Not analyzed		-----	
2406		-----		-----	
2426	CPSC-CH-E1003-09	40.77		1.88	
2429	CPSC-CH-E1003-09	<10		<-7.41	possibly a false negative test result?
2431	CPSC-CH-E1002-08	37.03		0.73	
2453		-----		-----	
2459	CPSC-CH-E1003-09	16.68	R(0.01)	-5.53	
2460		-----		-----	
2480		-----		-----	
2489		-----		-----	
2495	CPSC-CH-E1003-09	29.88		-1.47	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509		-----		-----	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	42.88		2.53	
2564		-----		-----	
2567	CPSC-CH-E1003-09	37.7		0.93	
2569	CPSC-CH-E1003-09	Not determined		-----	
2572	CPSC-CH-E1003-09	35.1		0.13	
2582	CPSC-CH-E1003-09	37.65		0.92	
2590	CPSC-CH-E1003-09	33.20		-0.45	
2637	EPA3052	42.5		2.41	
2665	In house	36.01		0.41	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	31.79		-0.88	
2736	In house	35.996		0.41	
2788	In house	Not Analyzed		-----	
2799	In house	43.34		2.67	
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	32.0		-0.82	
2976	ASTM F963	34.98		0.10	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	ASTM F963	29.237		-1.67	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	36.94	C	0.70	first reported 61.9977
3146	In house	35.34		0.21	
3160	CPSC-CH-E1003-09	36.8		0.66	
3172		-----		-----	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	30.80		-1.19	
3197	CPSC-CH-E1003-09	33.5		-0.36	
3216	In house	39.5647666138848		1.51	
3218		-----		-----	
3225		-----		-----	
3246		38.488		1.17	
8005		-----		-----	
	normality	OK			
	n	44			
	outliers	1			
	mean (n)	34.666			
	st.dev. (n)	4.0577	RSD = 12%		
	R(calc.)	11.362			
	st.dev.(Horwitz)	3.2527			
	R(Horwitz)	9.108			

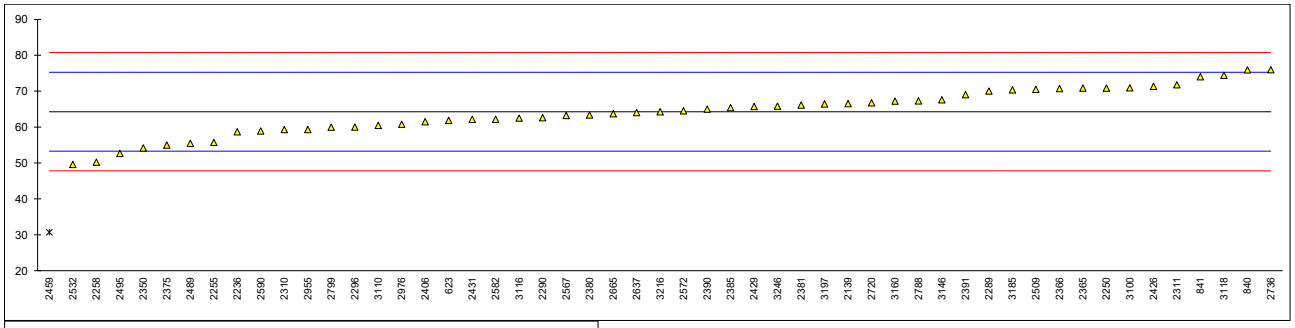


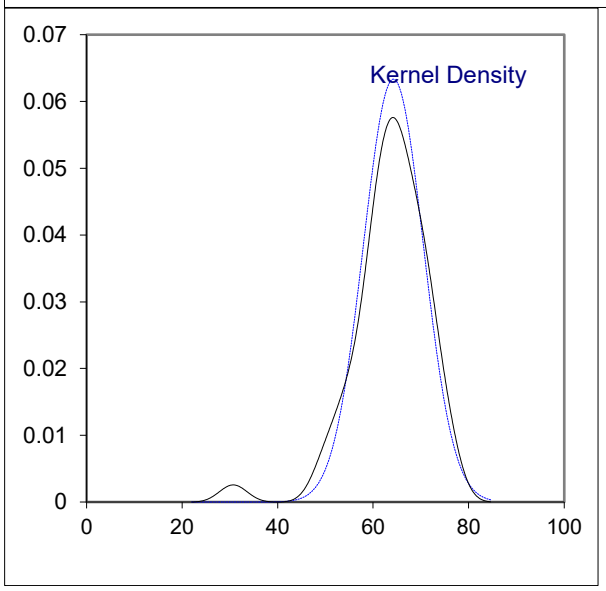


Determination of Total Selenium as Se on sample #22545; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	61.85		-0.44	
840	In house	75.89		2.12	
841	ISO8124-5	74		1.77	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137		-----		-----	
2139	CPSC-CH-E1003-09	66.5		0.41	
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	58.68		-1.02	
2250	EN16711-1	70.83		1.19	
2255	CPSC-CH-E1003-09	55.7		-1.56	
2256		-----		-----	
2258	CPSC-CH-E1003-09	50.21	C	-2.56	first reported not detected
2289	CPSC-CH-E1003-09	70.02		1.05	
2290	CPSC-CH-E1003-09	62.6		-0.30	
2294		-----		-----	
2296	In house	60		-0.78	
2301		-----		-----	
2310	EN16711-1	59.3		-0.90	
2311	ASTM F963	71.74		1.36	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	54.19		-1.83	
2352		-----		-----	
2355		-----		-----	
2357	GB/T30647	not analyzed		-----	
2358		-----		-----	
2365	EPA3052	70.80		1.19	
2366	ASTM F963	70.7		1.17	
2373	CPSC-CH-E1003-09	not applicable		-----	
2375	EN16711-1	55		-1.69	
2378	GB/T30157	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	63.33		-0.17	
2381	CPSC-CH-E1003-09	66.10		0.33	
2382		-----		-----	
2385	EPA3051	65.4		0.21	
2390	CPSC-CH-E1003-09	64.98		0.13	
2391		69		0.86	
2392	IEC62321-5	Not analyzed		-----	
2406	ASTM F963	61.449		-0.51	
2426	CPSC-CH-E1003-09	71.33		1.29	
2429	CPSC-CH-E1003-09	65.7		0.26	
2431	CPSC-CH-E1002-08	62.14		-0.39	
2453		-----		-----	
2459	CPSC-CH-E1003-09	30.72	C,R(0.01)	-6.10	first reported 42.84
2460		-----		-----	
2480		-----		-----	
2489	In house	55.46		-1.60	
2495	CPSC-CH-E1003-09	52.65		-2.11	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509	CPSC-CH-E1003-09	70.455		1.13	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	49.57		-2.67	
2564		-----		-----	
2567	CPSC-CH-E1003-09	63.2		-0.19	
2569	CPSC-CH-E1003-09	Not determined		-----	
2572	CPSC-CH-E1003-09	64.5		0.04	
2582	CPSC-CH-E1003-09	62.15		-0.38	
2590	CPSC-CH-E1003-09	58.90		-0.98	
2637	EPA3052	64		-0.05	
2665	In house	63.70		-0.10	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	66.74		0.45	
2736	In house	75.937		2.12	
2788	In house	67.272		0.55	
2799	In house	59.925		-0.79	
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	59.3		-0.90	
2976	ASTM F963	60.73		-0.64	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	ASTM F963	70.875		1.20	
3110	ASTM F963	60.43		-0.70	
3116	ASTM F963	62.475		-0.33	
3118	CPSC-CH-E1003-09	74.4275		1.85	
3146	In house	67.58		0.60	
3160	CPSC-CH-E1003-09	67.2		0.53	
3172		-----		-----	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	70.36		1.11	
3197	CPSC-CH-E1003-09	66.4		0.39	
3216	In house	64.2529112429392		0.00	
3218		-----		-----	
3225		-----		-----	
3246		65.782		0.28	
8005		-----		-----	
	normality	OK			
	n	52			
	outliers	1			
	mean (n)	64.264			
	st.dev. (n)	6.2970	RSD = 10%		
	R(calc.)	17.632			
	st.dev.(Horwitz)	5.4949			
	R(Horwitz)	15.386			





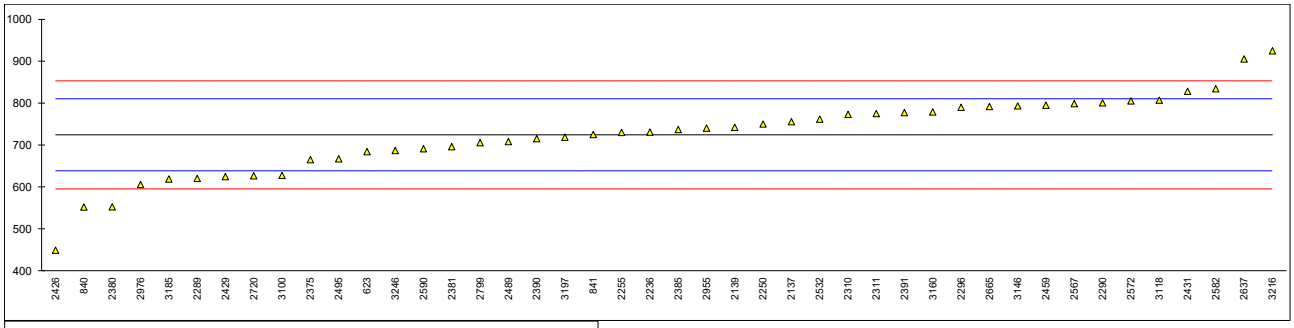
Determination of Total Strontium as Sr on sample #22545; results in mg/kg

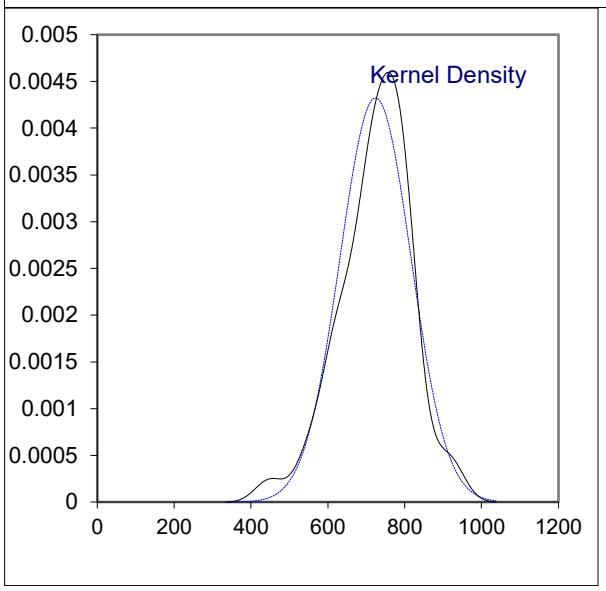
lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	683.77		-0.94	
840	In house	551.94		-4.00	
841	ISO8124-5	725		0.02	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137	IEC62321-5	755.30		0.73	
2139	CPSC-CH-E1003-09	742	C	0.42	first reported 197.7
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	730.7		0.15	
2250	EN16711-1	750.1		0.61	
2255	CPSC-CH-E1003-09	730.0		0.14	
2256		-----		-----	
2258	CPSC-CH-E1003-09	not analyzed	C	-----	first reported not detected
2289	CPSC-CH-E1003-09	620.2		-2.42	
2290	CPSC-CH-E1003-09	800.4		1.77	
2294		-----		-----	
2296	In house	790		1.53	
2301		-----		-----	
2310	EN16711-1	773		1.14	
2311	ASTM F963	775.04		1.19	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350		-----		-----	
2352		-----		-----	
2355		-----		-----	
2357	GB/T30647	not analyzed		-----	
2358		-----		-----	
2365		-----		-----	
2366	ASTM F963	not analyzed		-----	
2373	CPSC-CH-E1003-09	not applicable		-----	
2375	EN16711-1	665		-1.37	
2378	GB/T30157	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	552.1		-4.00	
2381	CPSC-CH-E1003-09	695.90		-0.66	
2382		-----		-----	
2385	EPA3051	737		0.30	
2390	CPSC-CH-E1003-09	715.28		-0.20	
2391		777		1.23	
2392	IEC62321-5	Not analyzed		-----	
2406		-----		-----	
2426	CPSC-CH-E1003-09	448.82		-6.40	
2429	CPSC-CH-E1003-09	624.6		-2.31	
2431	CPSC-CH-E1002-08	827.86		2.41	
2453		-----		-----	
2459	CPSC-CH-E1003-09	795		1.65	
2460		-----		-----	
2480		-----		-----	
2489	In house	708.3		-0.37	
2495	CPSC-CH-E1003-09	666.93		-1.33	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509		-----		-----	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	761.4		0.87	
2564		-----		-----	
2567	CPSC-CH-E1003-09	798.7		1.74	
2569	CPSC-CH-E1003-09	Not Determined		-----	
2572	CPSC-CH-E1003-09	805.2		1.89	
2582	CPSC-CH-E1003-09	834.04		2.56	
2590	CPSC-CH-E1003-09	690.80		-0.77	
2637	EPA3052	905		4.21	
2665	In house	791.5		1.57	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	626.26		-2.27	
2736		-----		-----	
2788	In house	Not Analyzed		-----	
2799	In house	705.25		-0.44	
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	740.3		0.38	
2976	ASTM F963	605.53		-2.76	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	ASTM F963	627.330		-2.25	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	806.6932		1.92	
3146	In house	793.2		1.61	
3160	CPSC-CH-E1003-09	779.1		1.28	
3172		-----		-----	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	618.54		-2.45	
3197	CPSC-CH-E1003-09	718.2		-0.14	
3216	In house	924.595203966737		4.66	
3218		-----		-----	
3225		-----		-----	
3246		686.835		-0.87	
8005		-----		-----	

normality	suspect
n	44
outliers	0
mean (n)	724.084351
st.dev. (n)	92.278923
R(calc.)	258.381
st.dev.(Horwitz)	43.0
R(Horwitz)	120.399869

RSD = 13%

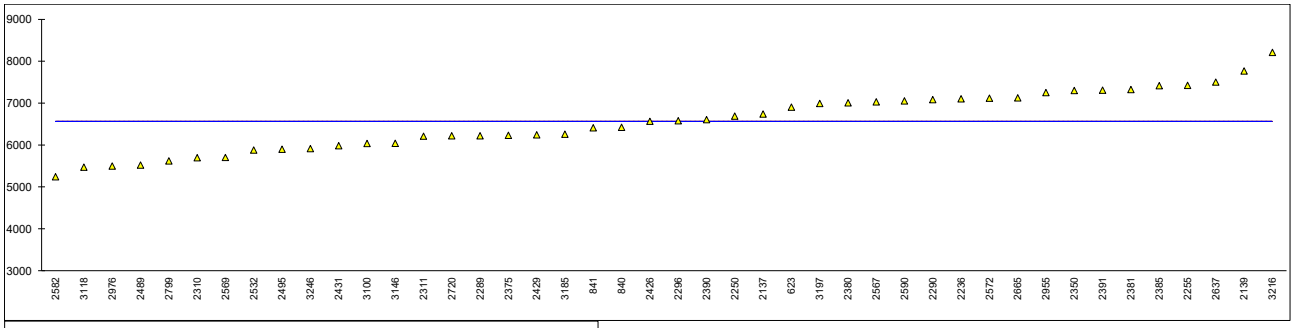


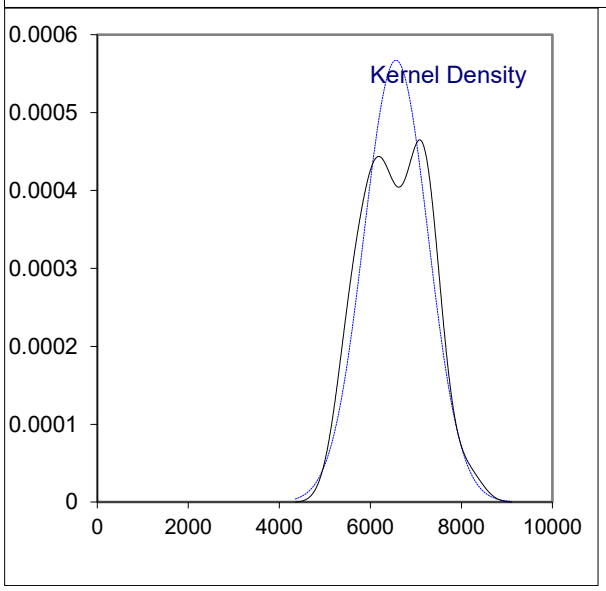


Determination of Total Aluminum as Al on sample #22546; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	6903.23		-----	
840	In house	6421.31		-----	
841	ISO8124-5	6410		-----	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137	IEC62321-5	6740.00		-----	
2139	CPSC-CH-E1003-09	7766		-----	
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	7102		-----	
2250	EN16711-1	6688		-----	
2255	CPSC-CH-E1003-09	7420		-----	
2256		-----		-----	
2258	CPSC-CH-E1003-09	not analyzed	C	-----	first reported not detected
2289	CPSC-CH-E1003-09	6220.4		-----	
2290	CPSC-CH-E1003-09	7082.9		-----	
2294		-----		-----	
2296	In house	6580		-----	
2301		-----		-----	
2310	EN16711-1	5695		-----	
2311	ASTM F963	6210.61		-----	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	7301		-----	
2352		-----		-----	
2355		-----		-----	
2357	CPSC-CH-E1003-09	not analyzed		-----	
2358		-----		-----	
2365		-----		-----	
2366	ASTM F963	not analyzed		-----	
2373	CPSC-CH-E1003-09	not applicable		-----	
2375	EN16711-1	6230		-----	
2378	CPSC-CH-E1003-09.1	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	7006.75		-----	
2381	CPSC-CH-E1003-09	7320.90		-----	
2382		-----		-----	
2385		7412		-----	
2390	CPSC-CH-E1003-09	6604.13		-----	
2391		7308		-----	
2392	IEC62321-5	Not analyzed		-----	
2406		-----		-----	
2426	CPSC-CH-E1003-09	6564.0		-----	
2429	CPSC-CH-E1003-09	6241.7		-----	
2431	CPSC-CH-E1002-08	5980.23		-----	
2453		-----		-----	
2459		-----		-----	
2460		-----		-----	
2480		-----		-----	
2489	In house	5521.79		-----	
2495	CPSC-CH-E1003-09	5898.04		-----	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509		-----		-----	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	5879.5		-----	
2564		-----		-----	
2567	CPSC-CH-E1003-09	7029.1		-----	
2569	CPSC-CH-E1003-09	5700		-----	
2572	CPSC-CH-E1003-09	7114.2		-----	
2582	CPSC-CH-E1003-09	5241.91	C	-----	first reported 348.06
2590	CPSC-CH-E1003-09	7048.9	C	-----	first reported 4210.6
2637	EPA3052	7500		-----	
2665	In house	7124		-----	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	6220		-----	
2736		-----		-----	
2788	In house	Not Analyzed		-----	
2799	In house	5619.25		-----	
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	7250.4		-----	
2976	ASTM F963	5498.22		-----	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	CPSC-CH-E1003-09	6036.900		-----	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	5470.23	C	-----	first reported 555.797
3146	In house	6037		-----	
3160	CPSC-CH-E1003-09	not determined		-----	
3172		-----		-----	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	6258.08		-----	
3197	CPSC-CH-E1003-09	6987.6		-----	
3216	In house	8206.5626237519		-----	
3218		-----		-----	
3225		-----		-----	
3246		5913.48		-----	
8005		-----		-----	
	normality	OK			
	n	44			
	outliers	0			
	mean (n)	6562.803			
	st.dev. (n)	703.5320	RSD = 11%		
	R(calc.)	1969.890			
	st.dev.(Horwitz)	(279.6921)			
	R(Horwitz)	(783.138)			

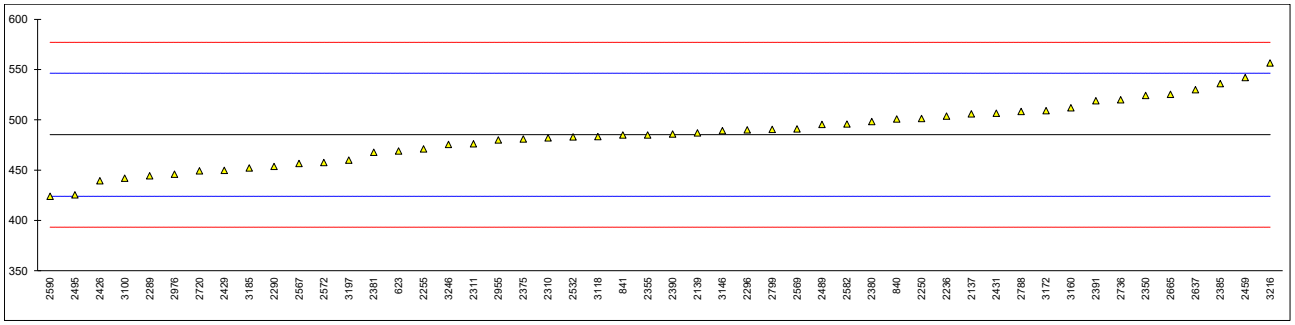


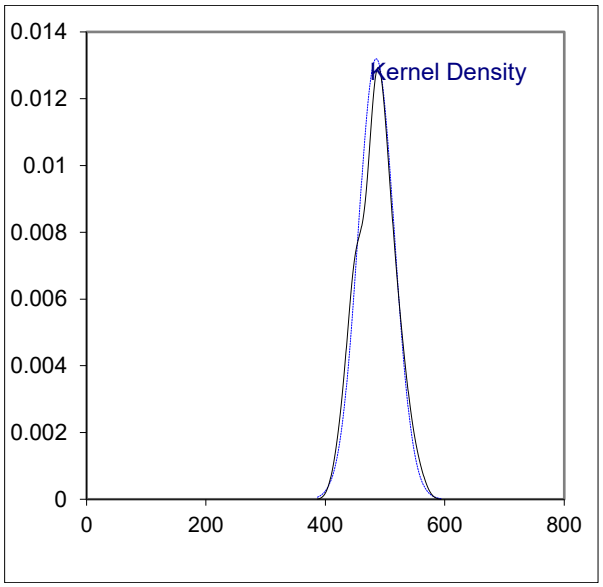


Determination of Total Cobalt as Co on sample #22546; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210		-----		-----	
339		-----		-----	
551		-----		-----	
623	In house	469.13		-0.53	
840	In house	500.72		0.51	
841	ISO8124-5	485		-0.01	
1051		-----		-----	
2115		-----		-----	
2121		-----		-----	
2132		-----		-----	
2137	IEC62321-5	506.00		0.68	
2139	CPSC-CH-E1003-09	487		0.06	
2165		-----		-----	
2170		-----		-----	
2184		-----		-----	
2230		-----		-----	
2236	In house	503.6		0.60	
2250	EN16711-1	501.2		0.52	
2255	CPSC-CH-E1003-09	471.0		-0.47	
2256		-----		-----	
2258	CPSC-CH-E1003-09	not detected		-----	possibly a false negative test result?
2289	CPSC-CH-E1003-09	444.3		-1.34	
2290	CPSC-CH-E1003-09	453.7		-1.03	
2294		-----		-----	
2296	In house	490		0.16	
2301		-----		-----	
2310	EN16711-1	482		-0.11	
2311	ASTM F963	476.22		-0.29	
2314		-----		-----	
2330	CPSC-CH-E1003-09.1	Not applicable		-----	
2347		-----		-----	
2350	CPSC-CH-E1003-09	524.2		1.27	
2352		-----		-----	
2355	EPA3052	485		-0.01	
2357	CPSC-CH-E1003-09	not analyzed		-----	
2358		-----		-----	
2365		-----		-----	
2366	ASTM F963	not analyzed		-----	
2373	CPSC-CH-E1003-09	not analyzed		-----	
2375	EN16711-1	481		-0.14	
2378	CPSC-CH-E1003-09.1	NA		-----	
2379	CPSC-CH-E1003-09.1	Not analyzed		-----	
2380	CPSC-CH-E1003-09	498.17		0.42	
2381	CPSC-CH-E1003-09	467.70		-0.57	
2382		-----		-----	
2385		536		1.66	
2390	CPSC-CH-E1003-09	485.84		0.02	
2391		519		1.10	
2392	IEC62321-5	Not analyzed		-----	
2406		-----		-----	
2426	CPSC-CH-E1003-09	439.48		-1.49	
2429	CPSC-CH-E1003-09	449.7		-1.16	
2431	CPSC-CH-E1002-08	506.58		0.70	
2453		-----		-----	
2459	CPSC-CH-E1003-09	542		1.85	
2460		-----		-----	
2480		-----		-----	
2489	In house	495.28		0.33	
2495	CPSC-CH-E1003-09	425.33		-1.96	
2500	CPSC-CH-E1003-09	not analyzed		-----	
2509		-----		-----	
2511		-----		-----	
2514		-----		-----	
2522		-----		-----	
2529		-----		-----	
2532	CPSC-CH-E1003-09	482.96		-0.07	
2564		-----		-----	
2567	CPSC-CH-E1003-09	456.5		-0.94	
2569	CPSC-CH-E1003-09	491		0.19	
2572	CPSC-CH-E1003-09	457.5		-0.91	
2582	CPSC-CH-E1003-09	495.87		0.35	
2590	CPSC-CH-E1003-09	424.00		-2.00	
2637	EPA3052	530		1.46	
2665	In house	525.3		1.31	

lab	method	value	mark	z(targ)	remarks
2678		-----		-----	
2720	CPSC-CH-E1003-09	449.20		-1.18	
2736	In house	519.940		1.13	
2788	In house	508.32		0.75	
2799	In house	490.45		0.17	
2840		-----		-----	
2853		-----		-----	
2864		-----		-----	
2886		-----		-----	
2955	CPSC-CH-E1003-09	480.0		-0.17	
2976	ASTM F963	445.99		-1.28	
2977		-----		-----	
2999		-----		-----	
3000		-----		-----	
3100	CPSC-CH-E1003-09	442.000		-1.41	
3110		-----		-----	
3116		-----		-----	
3118	CPSC-CH-E1003-09	483.1991		-0.07	
3146	In house	489.1		0.13	
3160	CPSC-CH-E1003-09	511.9		0.87	
3172	ISO8124-5	509.07		0.78	
3182	CPSC-CH-E1003-09	Not Analyzed		-----	
3185	In house	452.16		-1.08	
3197	CPSC-CH-E1003-09	460.0		-0.82	
3216	In house	556.549030935083		2.33	
3218		-----		-----	
3225		-----		-----	
3246		475.52		-0.32	
8005		-----		-----	
	normality	OK			
	n	50			
	outliers	0			
	mean (n)	485.234			
	st.dev. (n)	30.2301	RSD = 6%		
	R(calc.)	84.645			
	st.dev.(Horwitz)	30.6052			
	R(Horwitz)	85.695			

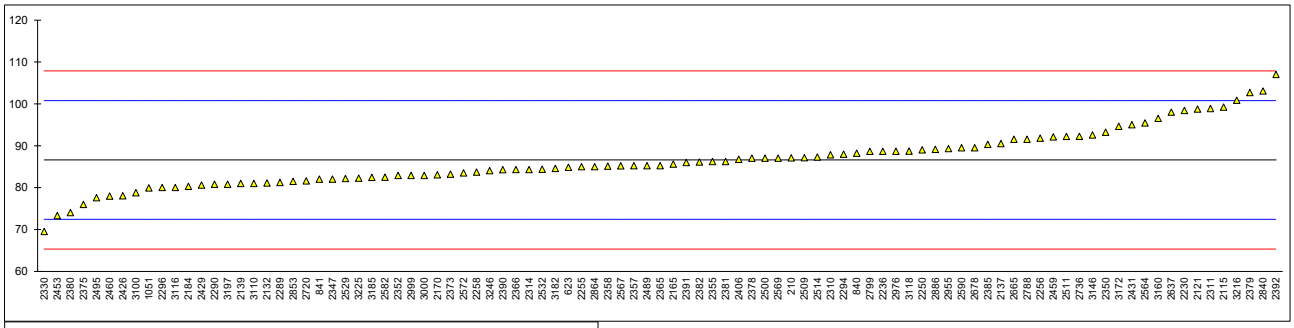


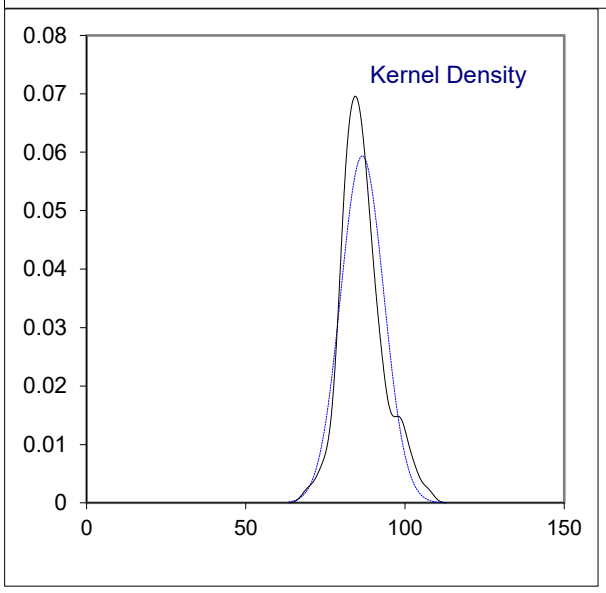


Determination of Total Lead as Pb on sample #22546; results in mg/kg

lab	method	value	mark	z(targ)	remarks
210	CPSC-CH-E1003-09	87.07		0.06	
339		-----		-----	
551		-----		-----	
623	In house	84.85		-0.25	
840	In house	88.22		0.23	
841	ISO8124-5	82		-0.65	
1051	CPSC-CH-E1003-09	79.92		-0.95	
2115	CPSC-CH-E1003-09	99.2		1.78	
2121	CPSC-CH-E1003-09	98.74		1.71	
2132	CPSC-CH-E1003-09	81.09		-0.78	
2137	IEC62321-5	90.50		0.55	
2139	CPSC-CH-E1003-09	81.0		-0.79	
2165	ASTM F963	85.6		-0.14	
2170	CPSC-CH-E1003-09	83.07		-0.50	
2184	CPSC-CH-E1003-09	80.3		-0.89	
2230	CPSC-CH-E1003-09	98.41		1.67	
2236	In house	88.66		0.29	
2250	EN16711-1	89.02		0.34	
2255	CPSC-CH-E1003-09	85.0		-0.23	
2256	CPSC-CH-E1003-09	91.80		0.73	
2258	CPSC-CH-E1003-09	83.714		-0.41	
2289	CPSC-CH-E1003-09	81.2		-0.76	
2290	CPSC-CH-E1003-09	80.8		-0.82	
2294	CPSC-CH-E1003-09	88		0.20	
2296	In house	80		-0.93	
2301		-----		-----	
2310	EN16711-1	87.8		0.17	
2311	ASTM F963	98.87		1.73	
2314	CPSC-CH-E1003-09	84.31		-0.33	
2330	CPSC-CH-E1003-09.1	69.53		-2.41	
2347	CPSC-CH-E1003-09	82		-0.65	
2350	CPSC-CH-E1003-09	93.22		0.93	
2352	IEC62321-5	82.9		-0.52	
2355	CPSC-CH_E1003-09	86.2		-0.06	
2357	CPSC-CH-E1003-09	85.23		-0.20	
2358	In house	85.13		-0.21	
2365	EPA3052	85.25		-0.19	
2366	ASTM F963	84.3		-0.33	
2373	CPSC-CH-E1003-09	83.22		-0.48	
2375	EN16711-1	76		-1.50	
2378	CPSC-CH-E1003-09.1	87		0.05	
2379	CPSC-CH-E1003-09.1	102.68		2.27	
2380	CPSC-CH-E1003-09	74.04		-1.78	
2381	CPSC-CH-E1003-09	86.20		-0.06	
2382	CPSC-CH-E1003-09	86.1		-0.07	
2385		90.3		0.52	
2390	CPSC-CH-E1003-09	84.25		-0.33	
2391		86		-0.09	
2392	IEC62321-5	107	C	2.88	first reported 53.04
2406	ASTM F963	86.750		0.02	
2426	CPSC-CH-E1003-09	78.04		-1.21	
2429	CPSC-CH-E1003-09	80.6		-0.85	
2431	CPSC-CH-E1002-08	94.98		1.18	
2453	CPSC-CH-E1003-09	73.30		-1.88	
2459	CPSC-CH-E1003-09	92.1		0.77	
2460	CPSC-CH-E1003-09.1	77.984		-1.22	
2480		-----		-----	
2489	In house	85.23		-0.20	
2495	CPSC-CH-E1003-09	77.58		-1.28	
2500	CPSC-CH-E1003-09	87		0.05	
2509	CPSC-CH-E1003-09	87.124		0.07	
2511	CPSC-CH-E1003-09	92.2		0.79	
2514	CPSC-CH-E1003-09	87.31		0.10	
2522		-----		-----	
2529	CPSC-CH-E1003-09	82.19		-0.62	
2532	CPSC-CH-E1003-09	84.4		-0.31	
2564	CPSC-CH-E1003-09	95.430		1.25	
2567	CPSC-CH-E1003-09	85.2		-0.20	
2569	CPSC-CH-E1003-09	87		0.05	
2572	CPSC-CH-E1003-09	83.5		-0.44	
2582	CPSC-CH-E1003-09	82.48		-0.58	
2590	CPSC-CH-E1003-09	89.50		0.41	
2637	EPA3052	98		1.61	
2665	In house	91.54		0.70	

lab	method	value	mark	z(targ)	remarks
2678	CPSC-CH-E1003-09.1	89.503		0.41	
2720	CPSC-CH-E1003-09	81.60		-0.71	
2736	In house	92.223		0.79	
2788	In house	91.542		0.70	
2799	In house	88.63		0.28	
2840	NBR16407	103.03312		2.32	
2853	CPSC-CH-E1003-09	81.5		-0.72	
2864	EPA3052	85.00		-0.23	
2886	DS259	89.125		0.35	
2955	CPSC-CH-E1003-09	89.3		0.38	
2976	ASTM F963	88.69		0.29	
2977		-----		-----	
2999	CPSC-CH-E1003-09	82.9		-0.52	
3000	CPSC-CH-E1003-09	82.9		-0.52	
3100	CPSC-CH-E1003-09	78.799		-1.10	
3110	ASTM F963	81		-0.79	
3116	CPSC-CH-E1003-09	80.000		-0.93	
3118	CPSC-CH-E1003-09	88.7131		0.30	
3146	In house	92.56		0.84	
3160	CPSC-CH-E1003-09	96.53		1.40	
3172	ISO8124-5	94.613		1.13	
3182	CPSC-CH-E1003-09	84.569		-0.29	
3185	In house	82.46		-0.59	
3197	CPSC-CH-E1003-09	80.8		-0.82	
3216	In house	100.843317404395		2.01	
3218		-----		-----	
3225	CPSC-CH-E1003-09	82.27		-0.61	
3246		84.03		-0.36	
8005		-----		-----	
	normality	OK			
	n	95			
	outliers	0			
	mean (n)	86.613			
	st.dev. (n)	6.7226	RSD = 8%		
	R(calc.)	18.823			
	st.dev.(Horwitz)	7.0806			
	R(Horwitz)	19.826			





APPENDIX 2 Other reported metals

sample #22545; results in mg/kg

lab	Sb	As	Cd	Cr
210	-----	-----	-----	-----
339	-----	-----	-----	-----
551	-----	-----	-----	-----
623	not detected	not detected	not detected	not detected
840	<2	<2	<2	<2
841	<10	<10	<10	<10
1051	-----	-----	-----	-----
2115	-----	-----	-----	-----
2121	-----	-----	-----	-----
2132	<10	<10	<10	<10
2137	-----	-----	-----	-----
2139	< 10	< 10	< 10	< 10
2165	-----	-----	Not detected	Not detected
2170	-----	-----	-----	-----
2184	-----	-----	not detected	not detected
2230	-----	-----	-----	-----
2236	<10.0	<10.0	<10.0	<10.0
2250	not detected	not detected	not detected	not detected
2255	Not detected	Not detected	Not detected	Not detected
2256	-----	-----	-----	-----
2258	not detected	not detected	not detected	not detected
2289	<10	<10	<10	<10
2290	<20	<20	<20	<20
2294	-----	-----	-----	-----
2296	20	<10	<10	<10
2301	-----	-----	-----	-----
2310	not detected	not detected	not detected	not detected
2311	Not Detected	<2	Not Detected	Not Detected
2314	-----	-----	NOT DETECTED	-----
2330	Not applicable	Not applicable	Not applicable	Not applicable
2347	<10	-----	<5	<2
2350	<10	<10	<0.5	<5
2352	-----	-----	-----	-----
2355	<10	<10	<2	<8
2357	not analyzed	<10	<5	<10
2358	-----	not detected	not detected	not detected
2365	<10	<10	<10	<10
2366	<20	<20	<5	<5
2373	not analyzed	not analyzed	not analyzed	not analyzed
2375	<10	<10	<10	<10
2378	NA	NA	<5	NA
2379	Not analyzed	Not analyzed	Not detected	Not detected
2380	-----	-----	-----	-----
2381	not detected	not detected	not detected	not detected
2382	-----	-----	＜5	-----
2385	<1	<1	<0.25	1.50
2390	Not detected	Not detected	Not detected	Not detected
2391	3.1	Not detected	Not detected	1.4
2392	Not analyzed	Not analyzed	Not detected	Not detected
2406	<10	<10	<10	<10
2426	-----	ND	ND	ND
2429	<10	<10	<10	<10
2431	-----	-----	-----	-----
2453	-----	-----	-----	-----
2459	ND	ND	ND	ND
2460	-----	-----	-----	-----
2480	-----	-----	-----	-----
2489	ND	ND	ND	ND
2495	<5	<5	<5	<5
2500	not analyzed	not analyzed	not analyzed	not analyzed
2509	-----	-----	-----	-----
2511	-----	-----	-----	-----
2514	-----	-----	-----	-----
2522	-----	-----	-----	-----
2529	-----	-----	-----	-----
2532	Not Detected	Not Detected	Not Detected	Not Detected
2564	-----	-----	not detected	-----
2567	<20	<20	<20	<20
2569	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT
2572	<20	<20	<20	<20
2582	<5	<5	<5	<5
2590	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q
2637	<0,02	0.48	0.03	1.75
2665	not determined	0.478	not determined	1.42

lab	Sb	As	Cd	Cr
2678	-----	ND	ND	-----
2720	<10	<10	<10	<10
2736	<4.931	<4.931	<4.931	<4.931
2788	Not Detected	Not Detected	Not Detected	Not Detected
2799	-----	Not Detected	Not Detected	Not Detected
2840	-----	-----	-----	-----
2853	-----	-----	-----	-----
2864	not detected	-----	not detected	-----
2886	-----	-----	-----	-----
2955	nd	nd	nd	nd
2976	not detected	not detected	not detected	not detected
2977	-----	-----	-----	-----
2999	-----	-----	-----	-----
3000	-----	-----	-----	-----
3100	<10	<10	<10	<10
3110	-----	-----	-----	-----
3116	<10	<7	<10	<7
3118	<10	<10	<10	<10
3146	< 10	< 10	< 5	< 10
3160	<5	<5	<5	<5
3172	< 10	< 10	< 5	< 10
3182	Not Analyzed	Not Analyzed	<5	Not Analyzed
3185	<10	<10	<10	<10
3197	<5	<5	<5	<5
3216	Not Detected	1.29777249972721	0.214118680522686	Not Detected
3218	-----	-----	-----	-----
3225	-----	-----	-----	-----
3246	not detected	not detected	not detected	not detected
8005	-----	-----	-----	-----

sample #22545; results in mg/kg - continued

lab	Hg	Ni	Zn	
210	-----	-----	-----	
339	-----	-----	-----	
551	-----	-----	-----	
623	not detected	not detected	12.17	
840	<2	<2	<10	
841	<10	<10	<10	
1051	-----	-----	-----	
2115	-----	-----	-----	
2121	-----	-----	-----	
2132	<10	-----	-----	
2137	-----	-----	-----	
2139	< 10	< 10	18.1	
2165	Not detected	-----	-----	
2170	-----	-----	-----	
2184	not detected	-----	-----	
2230	-----	-----	-----	
2236	<10.0	<10.0	<500	
2250	not detected	not detected	not detected	
2255	Not detected	Not detected	Not detected	
2256	-----	-----	-----	
2258	not detected	not detected	not detected	
2289	<10	<10	16.76	
2290	<20	<20	<20	
2294	-----	-----	-----	
2296	<10	20	46	C
2301	-----	-----	-----	
2310	not detected	not detected	not detected	
2311	Not Detected	<2	<10	
2314	-----	-----	-----	
2330	Not applicable	Not applicable	Not applicable	
2347	<2	<5	-----	
2350	<2	<5	18.79	
2352	-----	-----	-----	
2355	<2	<5	-----	
2357	<5	not analyzed	not analyzed	
2358	not detected	-----	-----	
2365	<10	-----	-----	
2366	<5	not analyzed	not analyzed	
2373	not analyzed	not analyzed	not applicable	
2375	<10	<10	<10	
2378	NA	NA	NA	
2379	Not detected	Not analyzed	Not analyzed	
2380	-----	-----	-----	
2381	not detected	not detected	not detected	
2382	-----	-----	-----	
2385	<0.1	<5	9.29	
2390	Not detected	Not detected	Not detected	
2391	Not detected	1.1	14.5	
2392	Not detected	Not analyzed	Not analyzed	
2406	<10	-----	-----	
2426	ND	ND	ND	
2429	<10	<10	17.4	
2431	-----	-----	-----	
2453	-----	-----	-----	
2459	ND	ND	85.64	C
2460	-----	-----	-----	
2480	-----	-----	-----	
2489	ND	ND	ND	
2495	<5	<5	7.06	
2500	not analyzed	not analyzed	not analyzed	
2509	-----	-----	-----	
2511	-----	-----	-----	
2514	-----	-----	-----	
2522	-----	-----	-----	
2529	-----	-----	-----	
2532	Not Detected	Not Detected	Not Detected	
2564	-----	-----	-----	
2567	<20	<20	<20	
2569	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT	Not determined	
2572	<20	<20	<20	
2582	<5	<5	<5	
2590	< L.O.Q	< L.O.Q	-----	
2637	<0,02	1.3	10	
2665	not determined	0.906	9.19	

lab	Hg	Ni	Zn
2678	ND	-----	-----
2720	<10	<10	-----
2736	<4.931	<4.931	12.821
2788	Not Detected	Not Detected	Not Analyzed
2799	-----	Not Detected	18.454
2840	-----	-----	-----
2853	-----	-----	-----
2864	not detected	not detected	-----
2886	-----	-----	-----
2955	nd	nd	nd
2976	not detected	not detected	not detected
2977	-----	-----	-----
2999	-----	-----	-----
3000	-----	-----	-----
3100	<10	<10	17.233
3110	-----	-----	-----
3116	<5	-----	-----
3118	<10	<10	<10
3146	< 1	< 10	< 15
3160	not determined	<5	8.6
3172	< 10	-----	-----
3182	<13	Not Analyzed	Not Analyzed
3185	<10	<10	14.67
3197	<5	<5	9.4
3216	1.14504930598717	7.97551178521664	19.2551587234935
3218	-----	-----	-----
3225	-----	-----	-----
3246	not detected	not detected	not detected
8005	<10	-----	-----

lab 2296 first reported 30
lab 2459 first reported 75.49

sample #22546; results in mg/kg

lab	Sb	As	Cd	Cr
210	-----	-----	-----	-----
339	-----	-----	-----	-----
551	-----	-----	-----	-----
623	not detected	not detected	not detected	not detected
840	<2	<2	<2	<2
841	<10	<10	<10	<10
1051	-----	-----	-----	-----
2115	-----	-----	-----	-----
2121	-----	-----	-----	-----
2132	<10	<10	<10	<10
2137	-----	-----	-----	-----
2139	< 10	< 10	< 10	< 10
2165	-----	-----	Not detected	Not detected
2170	-----	-----	-----	-----
2184	-----	-----	not detected	not detected
2230	-----	-----	-----	-----
2236	<10.0	<10.0	<10.0	<10.0
2250	not detected	not detected	not detected	not detected
2255	Not detected	Not detected	Not detected	Not detected
2256	-----	-----	-----	-----
2258	not detected	not detected	not detected	not detected
2289	<10	<10	<10	<10
2290	<20	<20	<20	<20
2294	-----	-----	-----	-----
2296	<10	<10	<10	<10
2301	-----	-----	-----	-----
2310	not detected	not detected	not detected	not detected
2311	Not Detected	<2	Not Detected	Not Detected
2314	-----	-----	NOT DETECTED	-----
2330	Not applicable	Not applicable	Not applicable	Not applicable
2347	<10	-----	<5	<2
2350	<10	<10	<0.5	<5
2352	-----	-----	-----	-----
2355	<10	<10	<2	<8
2357	not analyzed	not analyzed	not analyzed	not analyzed
2358	-----	not detected	not detected	not detected
2365	<10	<10	<10	<10
2366	<20	<20	<5	<5
2373	not analyzed	not analyzed	not analyzed	not analyzed
2375	<10	<10	<10	<10
2378	NA	NA	NA	NA
2379	Not analyzed	Not analyzed	Not detected	Not detected
2380	-----	-----	-----	-----
2381	not detected	not detected	not detected	not detected
2382	-----	-----	＜5	-----
2385	<1	<1	<0.25	1.54
2390	Not detected	Not detected	Not detected	Not detected
2391	Not detected	13.5	Not detected	1.8
2392	Not analyzed	Not analyzed	Not detected	Not detected
2406	<10	<10	<10	<10
2426	-----	ND	ND	ND
2429	<10	<10	<10	<10
2431	-----	-----	-----	-----
2453	-----	-----	-----	-----
2459	ND	ND	ND	ND
2460	-----	-----	-----	-----
2480	-----	-----	-----	-----
2489	ND	ND	ND	ND
2495	<5	<5	<5	<5
2500	not analyzed	not analyzed	not analyzed	not analyzed
2509	-----	-----	-----	-----
2511	-----	-----	-----	-----
2514	-----	-----	-----	-----
2522	-----	-----	-----	-----
2529	-----	-----	-----	-----
2532	Not Detected	Not Detected	Not Detected	Not Detected
2564	-----	-----	not detected	-----
2567	<20	<20	<20	<20
2569	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT
2572	<20	<20	<20	<20
2582	<5	Not detected	<5	<5
2590	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q
2637	<0,02	0.3	<0,02	1.4
2665	not determined	0.340	not detected	1.56

lab	Sb	As	Cd	Cr
2678	-----	ND	ND	-----
2720	<10	<10	<10	<10
2736	<4.985	<4.985	<4.985	<4.985
2788	Not Detected	Not Detected	Not Detected	Not Detected
2799	-----	Not Detected	Not Detected	Not Detected
2840	-----	-----	-----	-----
2853	-----	-----	-----	-----
2864	not detected	-----	not detected	-----
2886	-----	-----	-----	-----
2955	nd	nd	nd	nd
2976	not detected	not detected	not detected	not detected
2977	-----	-----	-----	-----
2999	-----	-----	-----	-----
3000	-----	-----	-----	-----
3100	<10	<10	<10	<10
3110	-----	-----	-----	-----
3116	-----	-----	-----	-----
3118	<10	<10	<10	<10
3146	< 10	< 10	< 5	< 10
3160	<5	<5	<5	<5
3172	< 10	< 10	< 5	< 10
3182	Not Analyzed	Not Analyzed	<5	Not Analyzed
3185	<10	<10	<10	<10
3197	<5	<5	<5	<5
3216	Not Detected	9.39315540480234	5.81166888067365	4.15491316741865
3218	-----	-----	-----	-----
3225	-----	-----	-----	-----
3246	not detected	not detected	not detected	not detected
8005	-----	-----	<10	-----

sample #22546; results in mg/kg - continued

lab	Cu	Mn	Hg	Ni
210	-----	-----	-----	-----
339	-----	-----	-----	-----
551	-----	-----	-----	-----
623	not detected	not detected	not detected	not detected
840	30.66	<10	<2	<2
841	21	<10	<10	<10
1051	-----	-----	-----	-----
2115	-----	-----	-----	-----
2121	-----	-----	-----	-----
2132	-----	-----	<10	-----
2137	-----	-----	-----	-----
2139	< 10	< 10	< 10	< 10
2165	-----	-----	Not detected	-----
2170	-----	-----	-----	-----
2184	-----	-----	not detected	-----
2230	-----	-----	-----	-----
2236	<500	<10.0	<10.0	<10.0
2250	not detected	not detected	0.1780	2.724
2255	Not detected	Not detected	Not detected	Not detected
2256	-----	-----	-----	-----
2258	not detected	not detected	not detected	not detected
2289	<10	<10	<10	<10
2290	<20	<20	<20	<20
2294	-----	-----	-----	-----
2296	50	<10	<10	<10
2301	-----	-----	-----	-----
2310	not detected	not detected	not detected	not detected
2311	<2	Not Detected	Not Detected	2.63
2314	-----	-----	-----	-----
2330	Not applicable	Not applicable	Not applicable	Not applicable
2347	-----	-----	<2	<5
2350	<5	<5	<2	<5
2352	-----	-----	-----	-----
2355	-----	<5	<2	<5
2357	not analyzed	not analyzed	not analyzed	not analyzed
2358	-----	-----	not detected	-----
2365	-----	-----	<10	-----
2366	not analyzed	not analyzed	<5	not analyzed
2373	not analyzed	not applicable	not analyzed	not analyzed
2375	<10	<10	<10	<10
2378	NA	NA	NA	NA
2379	Not analyzed	Not analyzed	Not detected	Not analyzed
2380	-----	-----	-----	-----
2381	not detected	not detected	not detected	not detected
2382	-----	-----	-----	-----
2385	<1	<5	0.19	<5
2390	Not detected	Not detected	Not detected	Not detected
2391	Not detected	3.2	14.3	2.8
2392	Not analyzed	Not analyzed	Not detected	Not analyzed
2406	-----	-----	<10	-----
2426	ND	ND	ND	ND
2429	<10	<10	<10	<10
2431	-----	-----	-----	-----
2453	-----	-----	-----	-----
2459	28.72	ND	ND	ND
2460	-----	-----	-----	-----
2480	-----	-----	-----	-----
2489	ND	ND	ND	ND
2495	<5	<5	<5	<5
2500	not analyzed	not analyzed	not analyzed	not analyzed
2509	-----	-----	-----	-----
2511	-----	-----	-----	-----
2514	-----	-----	-----	-----
2522	-----	-----	-----	-----
2529	-----	-----	-----	-----
2532	Not Detected	Not Detected	Not Detected	Not Detected
2564	-----	-----	-----	-----
2567	<20	<20	<20	<20
2569	NOT DETERMINED	NOT DETERMINED	BELOW DETEC. LIMIT	BELOW DETEC. LIMIT
2572	<20	<20	<20	<20
2582	<5	<5	<5	<5
2590	1.00	13.80	< L.O.Q	2.00
2637	0.4	0.6	0.17	2.8
2665	0.284	0.641	0.193	2.65

lab	Cu	Mn	Hg	Ni
2678	-----	-----	ND	-----
2720	<10	<10	<10	<10
2736	<4.985	<4.985	<4.985	<4.985
2788	Not Detected	Not Analyzed	Not Detected	Not Detected
2799	Not Detected	2.98	-----	Not Detected
2840	-----	-----	-----	-----
2853	-----	-----	-----	-----
2864	-----	-----	not detected	2.53
2886	-----	-----	0.214	-----
2955	nd	nd	nd	nd
2976	-----	not detected	not detected	not detected
2977	-----	-----	-----	-----
2999	-----	-----	-----	-----
3000	-----	-----	-----	-----
3100	<10	<10	<10	<10
3110	-----	-----	-----	-----
3116	-----	-----	-----	-----
3118	<10	<10	<10	<10
3146	< 10	< 10	< 1	< 10
3160	<5	<5	not determined	<5
3172	-----	-----	< 10	-----
3182	Not Analyzed	Not Analyzed	<13	Not Analyzed
3185	<10	<10	<10	<10
3197	<5	<5	<5	<5
3216	0,136940906135765	0.849845129734012	3.14502607675752	2.95524824378257
3218	-----	-----	-----	-----
3225	-----	-----	-----	-----
3246	20.98	not detected	not detected	not detected
8005	-----	-----	-----	-----

sample #22546; results in mg/kg - continued

lab	Se	Sr	Zn
210	-----	-----	-----
339	-----	-----	-----
551	-----	-----	-----
623	not detected	not detected	32.14 C
840	<2	<10	22.93
841	<10	<10	27
1051	-----	-----	-----
2115	-----	-----	-----
2121	-----	-----	-----
2132	-----	-----	-----
2137	-----	-----	-----
2139	< 10	< 10	21.0
2165	-----	-----	-----
2170	-----	-----	-----
2184	-----	-----	-----
2230	-----	-----	-----
2236	<10.0	<10.0	<500
2250	not detected	not detected	not detected
2255	Not detected	Not detected	Not detected
2256	-----	-----	-----
2258	not detected	not detected	not detected
2289	<10	<10	27.21
2290	<20	<20	<20
2294	-----	-----	-----
2296	<10	63 C	106 C
2301	-----	-----	-----
2310	not detected	not detected	12.9
2311	Not Detected	<2	<10
2314	-----	-----	-----
2330	Not applicable	Not applicable	Not applicable
2347	-----	-----	-----
2350	<10	-----	42.10
2352	-----	-----	-----
2355	-----	-----	-----
2357	not analyzed	not analyzed	not analyzed
2358	-----	-----	-----
2365	<10	-----	-----
2366	<20	not analyzed	not analyzed
2373	not applicable	not applicable	not applicable
2375	<10	<10	16
2378	NA	NA	NA
2379	Not analyzed	Not analyzed	Not analyzed
2380	-----	-----	-----
2381	not detected	not detected	not detected
2382	-----	-----	-----
2385	<1	<5	20.9
2390	Not detected	Not detected	Not Detected C
2391	3.5	10.4	26
2392	Not analyzed	Not analyzed	Not analyzed
2406	<10	-----	-----
2426	ND	ND	ND
2429	<10	<10	27.8
2431	-----	-----	28.25
2453	-----	-----	-----
2459	ND	ND	75.65 C
2460	-----	-----	-----
2480	-----	-----	-----
2489	ND	ND	-----
2495	<5	<5	17.08
2500	not analyzed	not analyzed	not analyzed
2509	-----	-----	-----
2511	-----	-----	-----
2514	-----	-----	-----
2522	-----	-----	-----
2529	-----	-----	-----
2532	Not Detected	Not Detected	17.7
2564	-----	-----	-----
2567	<20	<20	<20
2569	NOT DETERMINED	NOT DETERMINED	NOT DETERMINED
2572	<20	<20	<20
2582	<5	<5	<5
2590	< L.O.Q	12.10	23.30
2637	<0,05	1.5	20.5
2665	not detected	1.19	19.80

lab	Se	Sr		Zn
2678	-----	-----		-----
2720	<10	<10		-----
2736	<4.985	-----		29.910
2788	Not Detected	Not Analyzed		Not Analyzed
2799	Not Detected	Not Detected		Not Detected
2840	-----	-----		-----
2853	-----	-----		-----
2864	-----	-----		-----
2886	-----	-----		-----
2955	nd	nd		nd
2976	not detected	not detected		not detected
2977	-----	-----		-----
2999	-----	-----		-----
3000	-----	-----		-----
3100	<10	<10		26.963
3110	-----	-----		-----
3116	-----	-----		-----
3118	<10	<10		<10
3146	< 10	< 10		21.91
3160	<5	<5		18.5
3172	-----	-----		-----
3182	Not Analyzed	Not Analyzed		Not Analyzed
3185	<10	<10		25.72
3197	<5	<5		19.7
3216	0.24656416860919	0.866492982854283		60.5298825602288
3218	-----	-----		-----
3225	-----	-----		-----
3246	not detected	<50	C	30.83
8005	-----	-----		-----

lab 623 first reported 60.66
lab 2296 first reported 70 (Sr), 80 (Zn)
lab 2390 first reported 336.98
lab 2459 first reported 65.79
lab 3246 first reported 32.38

APPENDIX 3 Analytical details

lab	ISO17025 accr.	Sample intake	Acid used for the digestion	Concentration of the acid (%)
210	Yes			
339	---			
551	---			
623	Yes	0.2	HNO3 + H2O2	HNO3 24%
840	Yes	0.1g	HNO3, HCl, H2O2	7.5mL HNO3, 2.5mL HCl, 2mL H2O2
841	Yes	0.1 grams	Nitric acid, Hydrochloric acid, Hydrogen peroxide	Nitric acid 68%, Hydrochloric acid 37%, Hydrogen peroxide 30%
1051	Yes	0.1g	HNO3	67%
2115	Yes	0.1 g	HNO3	> 69%
2121	Yes	0.05 g	Nitric Acid	69.5%
2132	Yes	0.06 gram	HNO3 + H2O2	65% HNO3
2137	Yes	0.05	HNO3	65
2139	Yes	about 0.1 grams	HNO3 3 ml + HCl 1 mL + HF 1 mL	about 20%
2165	Yes	0.1009 nearest to 0.1 mg	HNO3	10% (V/V) HNO3
2170	Yes	0.1g	Nitric Acid	65%
2184	Yes	0.1g	nitric acid	65%
2230	Yes	0.0242g	HNO3	40%
2236	Yes	#22545 = 0.0524g #22546 = 0.0513g	A mixture of hydrochloric and nitric acid	0.18% Nitric acid 0.06% Hydrochloric acid
2250	Yes	0,100	nitric acid and mixture of nitric acid and hydrochloric acid	nitric acid: 67 hydrochloric acid: 37
2255	Yes	0.1	HNO3+H2O2	20%) approx)
2256	Yes	22545 - 0.1093 22546 - 0.2530	HNO3	69
2258	Yes	22545 0.0436 g 22546 0.410 g	Nitric acid	40 %
2289	Yes	0.1g	HNO3	65%
2290	Yes			
2294	Yes	#22545. - 0.0604 g #22546. - 0.0427 g	HNO3	67%
2296	Yes	65mg	10ml 43% (m/m) Nitric acid and 5ml 37% (m/m) Hydrochloric acid	10ml 43% (m/m) Nitric acid and 5ml 37% (m/m) Hydrochloric acid
2301	---			
2310	Yes	0.2gram	Conc.nitric acid	69-70%
2311	Yes	0.1	Nitric Acid	69%
2314	Yes	100 Mg	HNo3	69
2330	Yes	0.10 g	Nitric Acid	65%
2347	Yes	0.1g	HNO3+H2O2	30%
2350	Yes	approximately 0.1g	Nitric acid and hydrochloric acid	Nitric acid 70% , hydrochloric acid 36%
2352	Yes	0.1g	HNO3, HCL, HF	65%
2355	Yes	0.25g	9 mLHNO3+3 mLHCl	22% HNO3
2357	---			
2358	Yes	0.25g	HNO3	65%
2365	Yes	0.05g	nitric acid,hydrochloric acid	20%
2366	Yes	0.1	HNO3/HCl/HF	30%
2373	Yes	0.1g	HNO3	65%-68%
2375	Yes			
2378	Yes	0.1	HNO3+HF	5%
2379	Yes	0.1g	HNO3+H2O2	40%
2380	Yes	0.05 g	Nitric acid & Hydrogen per oxide	69% Nitric acid & 30% Hydrogen per oxide
2381	Yes	0.05	Nitric acid	65% Nitric acid
2382	Yes	(0.1000±0.0100) g	HNO3	69.0%~71.0% HNO3
2385	Yes	0.1 g	nitric acid/ hydrochloric acid	
2390	Yes	0.1 g	HNO3	65%
2391	Yes	0.10g	Nitric Acid conc. (HNO3)	65%
2392	Yes	0.5 g	HNO3 : H2O2 10 ml : 1 ml	HNO3 69%, H2O2 30%
2406	Yes	0.04 gram	Nitric acid	3%
2426	Yes	0.1020	Nitric Acid	69%
2429	No	0.1010g	3.0mlHNO3+1.0mlHCl	5%HNO3
2431	Yes	0.1g	HNO3	67%
2453	Yes	±50 mg	HNO3	conc.
2459	Yes	0.5 gm	HNO3	65%
2460	Yes	0.2gram	Nitric acid	4.66%
2480	---			
2489	Yes	0.049g/0.05g	HNO3/HF	
2495	---	0.1	HNO3/HCl	HNO3: 65% HCl: 37%
2500	Yes	0.1g	Nitric acid	40%
2509	Yes	0.0625	HNO3 + HCL	26%
2511	Yes			
2514	Yes	22545=0.0594 22546=0.0479	Nitric Acid & Hydrogen per oxide	63%
2522	---			

lab	ISO17025 accr.	Sample intake	Acid used for the digestion	Concentration of the acid (%)
2529	No	0.0300 grams	nitric acid	60 - 70%
2532	Yes	0.1g	9ml HNO3 + 1ml H2O2	67-69 % HNO3
2564	Yes	0.125g	Nitric acid	
2567	Yes		Nitric acid	65
2569	Yes	0.1 g	Nitric acid	
2572	Yes			
2582	Yes	0.1000g	Conc. HNO3 acid	69%
2590	Yes	0.1 g	HNO3	2.5 %
2637	Yes	0,1 g	HNO3 / HF	5 %
2665	Yes	0.2 g	nitric acid, hydrofluoric acid	55% nitric acid, 0,3% hydrofluoric acid
2678	Yes	100 mg	HNO3	69%
2720	Yes	100mg	HNO3,HCL	65%-68%,36%-38%
2736	Yes	0.1014g for 22545 and 0.1003g for 22546.	Nitric Acid and Hydrochloric Acid	5% Nitric acid 2% Hydrochloric acid
2788	Yes	0.05	Nitric and and Hydrochloric	3% Nitric, 0.5% Hydrochloric
2799	Yes	150 mg	Concentrated HNO3	65%
2840	Yes	Sample #22545: 0,4651g Sample #22546: 0,5076g	Ammonium acetate	50%
2853	Yes	0.1	HNO3	3%
2864	Yes	0.1g	HNO3,HCL,HF	50%
2886	No	0,2	HNO3 + HCl	33 + 3,5
2955	Yes	0.04	HNO3+HCl+H2O2	HNO3-65%,HCl-35%,H2O2-30%
2976	No	0.1 gram	HNO3	10%
2977	---			
2999	Yes	0.1g	HNO3	25%
3000	Yes	0.1g	HNO3	25%
3100	Yes	0.1g	5mL HNO3+2mL H2O2	HNO3£¨68%£© H2O2£¨30%£©
3110	---			
3116	Yes	0.05g	Nitric acid	~68%
3118	Yes	0.05 gram	HNO3:H2O2 = 3:1	HNO3=65% H2O2=30%
3146	Yes	0.25 gram	HNO3 + HCl	HNO3: 65% HCl: 30%
3160	Yes	0.09	HNO3, HCl, H2O2.	6,5%
3172	Yes			
3182	Yes	0.1 g	Nitric acid	65%
3185	Yes	0.1g	Nitric acid and Hydrochloric acid	Nitric acid:69.0% Hydrochloric acid:37%
3197	Yes	0,1	HNO3	65%
3216	No	0,1	HNO3	70%
3218	---			
3225	Yes	0.1	HNO3	67%
3246	Yes	0.1g	Nitric acid	65%
8005	Yes	0.1g	Nitric acid	68%

APPENDIX 4

Number of participants per country

5 labs in BANGLADESH
2 labs in BRAZIL
2 labs in CAMBODIA
1 lab in DENMARK
3 labs in FRANCE
5 labs in GERMANY
1 lab in GUATEMALA
12 labs in HONG KONG
6 labs in INDIA
3 labs in INDONESIA
5 labs in ITALY
3 labs in KOREA, Republic of
1 lab in MALAYSIA
2 labs in MEXICO
1 lab in MOROCCO
21 labs in P.R. of CHINA
3 labs in PAKISTAN
1 lab in PORTUGAL
1 lab in SINGAPORE
2 labs in SPAIN
1 lab in SRI LANKA
3 labs in TAIWAN
3 labs in THAILAND
2 labs in TUNISIA
2 labs in TURKEY
4 labs in U.S.A.
1 lab in UNITED ARAB EMIRATES
1 lab in UNITED KINGDOM
6 labs in VIETNAM

APPENDIX 5

Abbreviations

C	= final test result after checking of first reported suspect test result
D(0.01)	= outlier in Dixon's outlier test
D(0.05)	= straggler in Dixon's outlier test
G(0.01)	= outlier in Grubbs' outlier test
G(0.05)	= straggler in Grubbs' outlier test
DG(0.01)	= outlier in Double Grubbs' outlier test
DG(0.05)	= straggler in Double Grubbs' outlier test
R(0.01)	= outlier in Rosner's outlier test
R(0.05)	= straggler in Rosner's outlier test
E	= calculation difference between reported test result and result calculated by iis
W	= test result withdrawn on request of participant
ex	= test result excluded from statistical evaluation
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected

Literature

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