



Institute for  
Interlaboratory Studies

**Results of Proficiency Test  
Migration of elements EN71-3  
Category III  
April 2023**

**Organized by:** Institute for Interlaboratory Studies  
Spijkenisse, The Netherlands

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## 1 INTRODUCTION

Toy safety is the practice of ensuring that toys, especially those made for children, are safe usually through the application of set safety standards. In many countries, toys must be able to pass safety tests in order to be sold. Many regions model their safety standards on the EU's EN71 standard, either directly, or through adoption of the ISO8124-3 standard which in itself is modelled on EN71. In Europe, toys must meet the criteria set by the EC Toy Safety Directive 2009/48/EC which applies to toy imports into the EU since 20<sup>th</sup> of July 2011. There is an exception for the chemical requirements under part III of Annex II of this directive. These chemical requirements came into force on 20<sup>th</sup> of July 2013. The test methods EN71-3:19+A1:21 and ISO8124-3:20 both describe the determination of Migration of elements (metals that are considered hazardous) when a toy gets into contact with an acid solution (0.07 n HCl, simulating a gastric acid solution).

Since 2010 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the determination of Migration of elements EN71-3 every year. During the annual proficiency testing program 2022/2023 it was decided to continue the proficiency test for the determination of Migration of elements. This proficiency test describes the Migration of elements EN71-3 for category III samples.

In this interlaboratory study 91 laboratories in 24 countries registered for participation, see appendix 4 for the number of participants per country. In this report the results of this Migration of elements EN71-3 for category III proficiency test are presented and discussed. This report is also electronically available through the iis website [www.iisnl.com](http://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 samples: approximately 0.5 grams of dried paint labelled #23565 and two 5x5 cm sheets of paper with pink ink labelled #23566. 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 accredited 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](http://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 blue colored dried paint artificially fortified with some elements was selected. After homogenization 105 plastic bags were filled with 0.5 grams each and labelled #23565.

The homogeneity of the subsamples was checked by determination of **total** content of Cobalt as Co, Lead as Pb and Nickel as Ni in accordance with an in-house method on 8 stratified randomly selected subsamples.

	Cobalt as Co in mg/kg	Lead as Pb in mg/kg	Nickel as Ni in mg/kg
sample #23565-1	165	133	407
sample #23565-2	170	135	420
sample #23565-3	171	137	421
sample #23565-4	187	149	456
sample #23565-5	176	140	430
sample #23565-6	168	134	412
sample #23565-7	178	141	431
sample #23565-8	172	138	424

Table 1: homogeneity test results of subsamples #23565

From the above test results the repeatabilities were calculated and compared with 0.3 times the corresponding reproducibility of the reference test method in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Cobalt as Co in mg/kg	Lead as Pb in mg/kg	Nickel as Ni in mg/kg
r (observed)	19	14	42
reference test method	EN71-3:19+A1:21	EN71-3:19+A1:21	EN71-3:19+A1:21
0.3 x R (ref. test meth.)	22	35	71

Table 2: evaluation of the repeatabilities of subsamples #23565

The calculated repeatabilities are in agreement with 0.3 times the corresponding reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

For the second sample a batch of paper which was printed with pink ink artificially fortified with some elements was selected. After cutting into 5x5 cm paper sheets the batch was divided over 105 small plastic bags with 2 sheets of paper each and labelled #23566. The homogeneity of the subsamples was checked by determination of Aluminum as Al, Cadmium as Cd and Copper as Cu in accordance with EN71-3 on 8 stratified randomly selected subsamples.

	Aluminum as Al in mg/kg	Cadmium as Cd in mg/kg	Copper as Cu in mg/kg
sample #23566-1	440	350	460
sample #23566-2	430	350	460
sample #23566-3	430	360	460
sample #23566-4	420	360	460
sample #23566-5	450	370	480
sample #23566-6	440	350	460
sample #23566-7	430	360	460
sample #23566-8	430	350	450

Table 3: homogeneity test results of subsamples #23566

From the above test results the repeatabilities were calculated and compared with 0.3 times the corresponding reproducibility of the reference test method in agreement with the procedure of ISO13528, Annex B2 in the next table.

	Aluminum as Al in mg/kg	Cadmium as Cd in mg/kg	Copper as Cu in mg/kg
r (observed)	26	21	23
reference test method	EN71-3:19+A1:21	EN71-3:19+A1:21	EN71-3:19+A1:21
0.3 x R (ref. test meth.)	55	45	58

Table 4: evaluation of the repeatability of subsamples #23566

The calculated repeatabilities are in agreement with 0.3 times the corresponding reproducibility of the reference test method. Therefore, homogeneity of the subsamples was assumed.

To each of the participating laboratories one sample dried paint labelled #23565 and one paper sample labelled #23566 were sent on March 22, 2023.

## 2.5 ANALYZES

The participants were requested to determine the migration of nineteen elements (Aluminum, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium (III), Chromium (VI), Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Strontium, Tin, Organic Tin and Zinc). It was requested to report if the laboratory was accredited for the requested elements that were determined 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/](http://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](http://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/](http://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 in 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 result is fit-for-use.

The z-scores were calculated according to:

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

The  $z_{(\text{target})}$  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 no problems were encountered with the dispatch of the samples. Nine participants reported test results after the final reporting date and five other participants did not report any test results. Not all participants were able to report all tests requested. In total 86 participants reported 714 numerical test results. Observed were 42 outlying test results, which is 5.9%. 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.

Test method EN71-3:19+A1:21 is considered to be the official test method for the determination of migration of elements analyzed in different matrices. The precision data in EN71-3:19+A1:21 are given in Table 4 and in appendix Table C.1. Table 4 contains precision data from an interlaboratory study. The committee was not able to obtain precision data for all elements for each category via an interlaboratory study. In order to compensate for missing data for certain element and category combinations estimations for the reproducibility have been considered by the committee based on table 4 and input from experts. These precision data are given in table C.1 and are used to evaluate the performance of the group of participants in this PT.

In EN71-3:19+A1:21 is mentioned that maintaining the pH between 1.1 and 1.3 is very important for the determination of the migration of elements. Therefore, based on the answers given by the participants, some of test results are excluded from the statistical evaluation when the mentioned pH values are outside the range of 1.1 and 1.3.

##### **sample #23565**

Aluminum as Al: This determination was not problematic. Six statistical outliers were observed and four other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.

No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

Cobalt as Co: This determination was not problematic. Five statistical outliers were observed and five other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.

No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

Copper as Cu: This determination was not problematic. Six statistical outliers were observed and five other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.

No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

Lead as Pb: This determination was not problematic. Three statistical outliers were observed and seven other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.  
No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

Nickel as Ni: This determination was not problematic. Three statistical outliers were observed and six other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.  
No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

Strontium as Sr: This determination was not problematic. Seven statistical outliers were observed and four other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.  
No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

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 test results can be found in appendix 2.

#### **sample #23566**

Aluminum as Al: This determination was not problematic. Four statistical outliers were observed and five other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.  
No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

Cadmium as Cd: This determination was not problematic. Four statistical outliers were observed and eight other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.  
No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

Copper as Cu: This determination was not problematic. Four statistical outliers were observed and six other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the requirements of EN71-3:19+A1:21.  
No effect is observed when evaluated over test results based on a pH between 1.1-1.3 only.

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 reproducibilities as declared by the reference test method and the reproducibilities as found for the group of participating laboratories. The number of significant test results, the average, the calculated reproducibility ( $2.8 \times$  standard deviation) and the target reproducibility derived from the reference method are presented in the next tables.

Element	unit	n	average	$2.8 \times sd$	R(lit)
Aluminum as Al	mg/kg	65	1202	461	505
Cobalt as Co	mg/kg	70	177	69	75
Copper as Cu	mg/kg	68	305	114	128
Lead as Pb	mg/kg	72	162	76	136
Nickel as Ni	mg/kg	71	399	156	224
Strontium as Sr	mg/kg	67	346	84	145

Table 5: reproducibilities of tests on dried paint sample #23565

Element	unit	n	average	$2.8 \times sd$	R(lit)
Aluminum as Al	mg/kg	66	474	123	199
Cadmium as Cd	mg/kg	72	341	101	143
Copper as Cu	mg/kg	71	422	132	177

Table 6: reproducibilities of tests on paper sample #23566

Without further statistical calculations it can be concluded that for all tests there is a good compliance of the group of participants with the reference test methods.

#### 4.3 COMPARISON OF THE PROFICIENCY TEST OF APRIL 2023 WITH PREVIOUS PTS

	April 2023	April 2022	April 2021	April 2020	April 2019
Number of reporting laboratories	86	94	89	87	93
Number of test results	714	846	723	838	810
Number of statistical outliers	42	32	52	33	13
Percentage of statistical outliers	5.9%	3.8%	7.2%	3.9%	1.6%

Table 7: 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 test was compared to uncertainties observed in PTs over the years, expressed as relative standard deviation (RSD) of the PTs, see next table.

Element	April 2023	April 2022	April 2021	April 2020	2019-2010	Target
Aluminum	9-14%	12%	11-35%	12-13%	13-63%	15%
Antimony	---	16%	---	---	22-28%	30%
Arsenic	---	---	---	---	13-20%	20%
Barium	---	---	15%	---	13-76%	30%
Boron	---	---	---	---	12%	15%
Cadmium	11%	8%	---	9-15%	11-20%	15%
Chromium (III)	---	13%	13-27%	---	6-23%	15%
Chromium (VI)	---	---	35%	---	---	50%
Cobalt	14%	---	---	---	10-20%	15%
Copper	11-13%	---	---	11%	11-18%	15%
Lead	17%	11-12%	19%	23%	12-22%	30%
Manganese	---	12%	16%	32%	13-29%	15%
Mercury	---	---	31%	---	25-55%	20%
Nickel	14%	---	---	---	14-21%	20%
Selenium	---	---	16%	---	14-26%	15%
Strontium	9%	7-10%	12%	16-23%	13-25%	15%
Tin	---	---	---	---	32-42%	30%
Organic Tin	---	---	---	---	---	50%
Zinc	---	---	---	---	11-39%	15%

Table 8: development of uncertainties over the years

The uncertainties observed in this PT are comparable to the uncertainties observed in previous PTs. The performance is in general also in line with the precision requirements of EN71-3:19 table C.1.

#### 4.4 EVALUATION OF ANALYTICAL DETAILS

Almost all of the reporting participants mentioned that they are ISO/IEC17025 accredited for the category III determination of Migration of elements EN71-3.

Furthermore, the participants were asked to provide some analytical details which are listed in appendix 3. Based on the answers given by the participants the following can be summarized:

- About 48% of the participants have used a sample intake around 100 mg, about 40% have used a sample intake between 200 - 300 mg and about 9% a sample intake between 400 – 500 mg. Please note that test method EN71-3 mentions to take not less than 100 mg whenever possible.
- About 87% of the participants mentioned to have used a volume ratio of 5 mL of HCl solution per 100 mg sample intake for the migration.
- Not all participants have used a solution with a pH between 1.1 and 1.3 (with or without adjustment) for the determination of the elements, see for more detail paragraph 4.1.

As the majority of the group follow almost the same analytical procedures no separate statistical analysis has been performed except the effect of the pH (which is mentioned in paragraph 4.1 and appendix 1).

## 5 DISCUSSION

It appeared that EN71-3:19+A1:21 has been followed by most of the participants, except for a small group that did not follow the adjustment of the pH and the use of the volume ratio correctly. The effect of the pH on the determination seems neglectable, in general lower test values are reported. The group of participants had no problems determining the elements that were present in the samples.

When the results of this interlaboratory study are compared to the Migration limits from toy materials for category III as mentioned in EN71-3:19+A1:21 (see table below), it was noticed that not all participants would have made identical decisions about the acceptability of the material for the determined elements. A vast majority of the reporting laboratories would have rejected sample #23565 (dried paint) for too high levels of Cobalt (nine participants would have accepted the sample) and Lead (five laboratories would have accepted the sample). Almost all reporting participants would have rejected sample #23566 (paper) for too high level of Cadmium (one laboratory would have accepted the sample).

Element	Category III mg/kg
Aluminum	28130
Antimony	560
Arsenic	47
Barium	18750
Boron	15000
Cadmium	17
Chromium (III)	460
Chromium (VI)	0.053
Cobalt	130
Copper	7700
Lead	23
Manganese	15000
Mercury	94
Nickel	930
Selenium	460
Strontium	56000
Tin	180000
Organic Tin	12
Zinc	46000

Table 9: Migration limits from toy materials for Category III as mentioned in EN71-3:19+A1:21

## 6 CONCLUSION

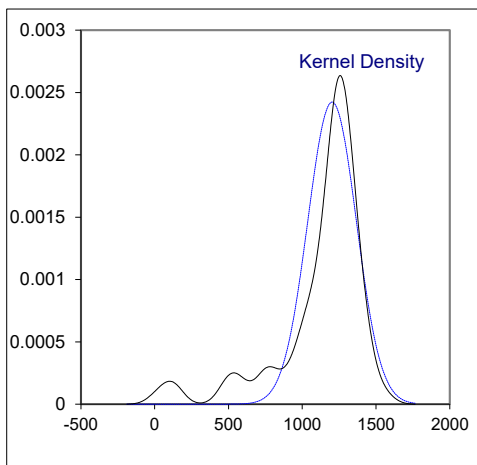
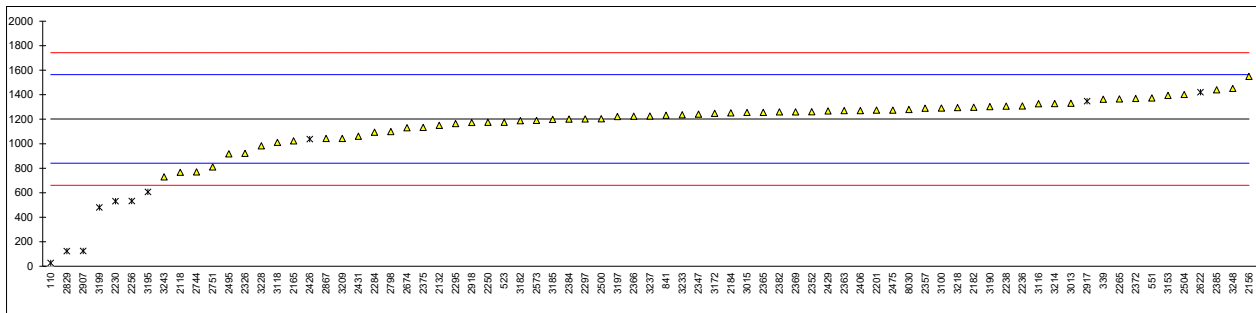
In this PT it appeared that version of EN71-3:19+A1:21 has been followed well by most of the participants. Most of the participants had detected the elements correctly in the samples. Each participant should evaluate its performance in this study and decide about any corrective actions if necessary. 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 migration of Aluminum as Al on dried paint sample #23565; results in mg/kg**

lab	method	value	mark	z(targ)	remarks
110	EN71-3	26.123	ex	-6.52	test result excluded, see §4.1
210		----		----	
339	EN71-3	1361.854		0.89	
523	EN71-3	1175.44		-0.15	
551	EN71-3	1373.323		0.95	
841	EN71-3	1232		0.17	
2118	EN71-3	766.0		-2.42	
2129		----		----	
2132	EN71-3	1149.9		-0.29	
2137		----	W	----	test result withdrawn, reported 66.7
2139		----		----	
2156	EN71-3	1550.00		1.93	
2165	EN71-3	1022.0		-1.00	
2182	EN71-3	1296.5		0.53	
2184	EN71-3	1251		0.27	
2190		----		----	
2201	EN71-3	1273.99		0.40	
2230	EN71-3	531	R(0.05)	-3.72	
2236	In house	1308		0.59	
2238	EN71-3	1306.5		0.58	
2250	EN71-3	1175		-0.15	
2256	EN71-3	531.63	R(0.05)	-3.72	
2265		1365.0		0.91	
2284	EN71-3	1093.55		-0.60	
2293		----		----	
2295	EN71-3	1164.2		-0.21	
2297	EN71-3	1202.02		0.00	
2301		----		----	
2326	EN71-3	921.04		-1.56	
2347	EN71-3	1242		0.22	
2350	EN71-3	< 50		<-6.39	possibly a false negative test result?
2352	EN71-3	1261		0.33	
2357	EN71-3	1289.2		0.48	
2363	EN71-3	1269		0.37	
2365	EN71-3	1255.5		0.30	
2366	EN71-3	1225		0.13	
2369	EN71-3	1259.10		0.32	
2372	EN71-3	1370		0.93	
2375	EN71-3	1132		-0.39	
2382	EN71-3	1259.1		0.32	
2384	EN71-3	1200.55		-0.01	
2385	EN71-3	1440		1.32	
2406	EN71-3	1269.79		0.38	
2426	EN71-3	1036.50	ex	-0.92	test result excluded, see §4.1
2429	EN71-3	1266.7		0.36	
2431	EN71-3	1060.76		-0.78	
2475	EN71-3	1274		0.40	
2495	EN71-3	917.159		-1.58	
2500	EN71-3	1202.83		0.01	
2504	EN71-3	1401.171		1.11	
2546		----		----	
2573	EN71-3	1190		-0.07	
2582		----		----	
2590		----		----	
2622	EN71-3	1420	ex	1.21	test result excluded, see §4.1
2649	EN71-3	Not Detected		----	possibly a false negative test result?
2674	EN71-3	1130.2		-0.40	
2744	EN71-3	770		-2.40	
2751	EN71-3	810.28		-2.17	
2798	EN71-3	1099		-0.57	
2817		----		----	
2829	EN71-3	123.65	C,R(0.01)	-5.98	first reported 104.49
2867	EN71-3	1042.0		-0.89	
2907	EN71-3	124.92	R(0.01)	-5.97	
2917	EN71-3	1346.64	ex	0.80	test result excluded, see §4.1
2918	EN71-3	1173		-0.16	
2984		----		----	
3013	EN71-3	1330		0.71	
3015	EN71-3	1255		0.29	
3100	EN71-3	1290.41		0.49	
3116		1326.32		0.69	
3118	EN71-3	1010.0256		-1.06	
3124		----		----	
3153	EN71-3	1393.30		1.06	
3172	EN71-3	1247		0.25	

lab	method	value	mark	z(targ)	remarks
3182	EN71-3	1187.0		-0.08	
3185	EN71-3	1197.51		-0.02	
3190	EN71-3	1302		0.56	
3195	EN71-3	607	R(0.05)	-3.30	
3197	EN71-3	1220.71		0.10	
3199	EN71-3	479.97	R(0.05)	-4.00	
3209	EN71-3	1042.11		-0.89	
3214	EN71-3	1327.10		0.69	
3218	EN71-3	1294.0		0.51	
3228	EN71-3	982.54		-1.22	
3233	EN71-3	1235.05		0.18	
3237	EN71-3	1225.5		0.13	
3243	EN71-3	728.213		-2.63	
3248	EN71-3	1450		1.38	
8005		-----		-----	
8030	EN71-3	1278.79		0.43	

		Only test results that maintain pH between 1.1 - 1.3:	
normality	suspect	OK	
n	65	56	
outliers	6 +4ex	5	
mean (n)	1201.834	1202.668	
st.dev. (n)	164.6401	163.1608	RSD=14%
R(calc.)	460.992	456.850	
st.dev.(EN71-3:19+A1:21)	180.2751	180.4002	
R(EN71-3:19+A1:21)	504.770	505.121	





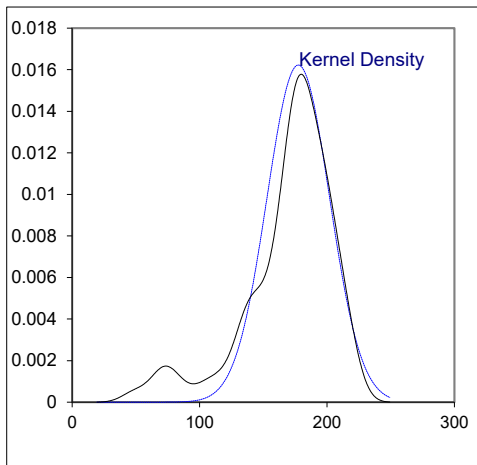
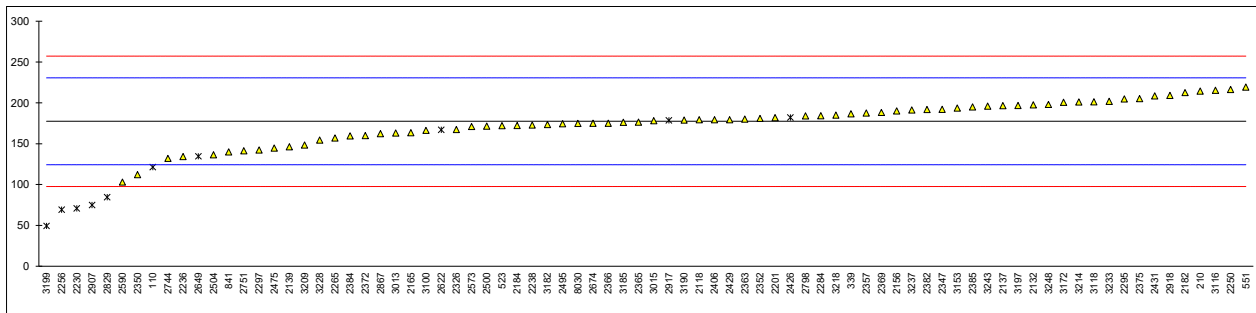
## Determination of migration of Cobalt as Co on dried paint sample #23565; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN71-3	121.347	ex	-2.11	test result excluded, see §4.1
210	In house	214.36		1.39	
339	EN71-3	186.648		0.35	
523	EN71-3	172.09		-0.20	
551	EN71-3	219.283		1.57	
841	EN71-3	140		-1.41	
2118	EN71-3	179.24		0.07	
2129		----		----	
2132	EN71-3	197.52		0.75	
2137	EN71-3	196.5		0.72	
2139	EN71-3	146.2		-1.17	
2156	EN71-3	189.95		0.47	
2165	EN71-3	163.4		-0.53	
2182	EN71-3	212.43		1.31	
2184	EN71-3	172.3		-0.19	
2190		----		----	
2201	EN71-3	181.92		0.17	
2230	EN71-3	70.7	C,R(0.05)	-4.01	first reported 93.6
2236	In house	134.1		-1.63	
2238	EN71-3	172.8		-0.17	
2250	EN71-3	216.3		1.46	
2256	EN71-3	69.30	R(0.05)	-4.06	
2265		157.0		-0.77	
2284	EN71-3	184.24		0.26	
2293		----		----	
2295	EN71-3	204.7		1.02	
2297	EN71-3	142.30		-1.32	
2301		----		----	
2326	EN71-3	167.32		-0.38	
2347	EN71-3	192		0.55	
2350	EN71-3	112.06		-2.46	
2352	EN71-3	181		0.13	
2357	EN71-3	187.4		0.37	
2363	EN71-3	180		0.10	
2365	EN71-3	176.5		-0.04	
2366	EN71-3	175		-0.09	
2369	EN71-3	188.12		0.40	
2372	EN71-3	160		-0.65	
2375	EN71-3	205		1.04	
2382	EN71-3	191.9		0.54	
2384	EN71-3	159.47		-0.67	
2385	EN71-3	195		0.66	
2406	EN71-3	179.27		0.07	
2426	EN71-3	181.99	ex	0.17	test result excluded, see §4.1
2429	EN71-3	179.4		0.07	
2431	EN71-3	208.59		1.17	
2475	EN71-3	144.7		-1.23	
2495	EN71-3	174.429		-0.11	
2500	EN71-3	171.58		-0.22	
2504	EN71-3	136.302		-1.55	
2546		----		----	
2573	EN71-3	171		-0.24	
2582		----		----	
2590	EN71-3	103.02		-2.80	
2622	EN71-3	167	ex	-0.39	test result excluded, see §4.1
2649	EN71-3	134.5	ex	-1.61	test result excluded, see §4.1
2674	EN71-3	174.9		-0.10	
2744	EN71-3	132		-1.71	
2751	EN71-3	141.15		-1.36	
2798	EN71-3	184		0.25	
2817		----		----	
2829	EN71-3	84.43	C,R(0.05)	-3.49	first reported 66.30
2867	EN71-3	162.3		-0.57	
2907	EN71-3	74.84	R(0.05)	-3.85	
2917	EN71-3	178.58	ex	0.04	test result excluded, see §4.1
2918	EN71-3	209		1.19	
2984		----		----	
3013	EN71-3	163		-0.54	
3015	EN71-3	178		0.02	
3100	EN71-3	166.32		-0.42	
3116		215.45		1.43	
3118	EN71-3	201.3201		0.90	
3124		----		----	
3153	EN71-3	193.73		0.61	
3172	EN71-3	200.8		0.88	

lab	method	value	mark	z(targ)	remarks
3182	EN71-3	173.3		-0.16	
3185	EN71-3	176.26		-0.04	
3190	EN71-3	179		0.06	
3195	EN71-3	<0,50		<-6.65	possibly a false negative test result?
3197	EN71-3	196.72		0.72	
3199	EN71-3	49.34	R(0.05)	-4.81	
3209	EN71-3	148.37		-1.09	
3214	EN71-3	201.16		0.89	
3218	EN71-3	184.9		0.28	
3228	EN71-3	154.52		-0.86	
3233	EN71-3	201.72		0.91	
3237	EN71-3	191.21		0.52	
3243	EN71-3	196.036		0.70	
3248	EN71-3	198		0.77	
8005		-----		-----	
8030	EN71-3	174.78		-0.10	

Only test results that maintain pH between 1.1 - 1.3:

normality	OK		OK
n	70		61
outliers	5 +5ex		4
mean (n)	177.433		175.528
st.dev. (n)	24.5834	RSD=14%	24.8867
R(calc.)	68.833		69.683
st.dev.(EN71-3:19+A1:21)	26.6149		26.3291
R(EN71-3:19+A1:21)	74.522		73.722



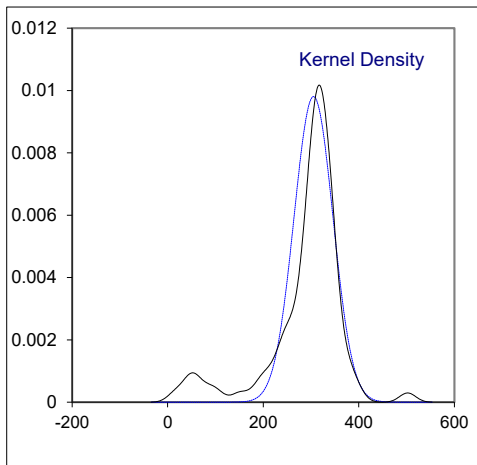
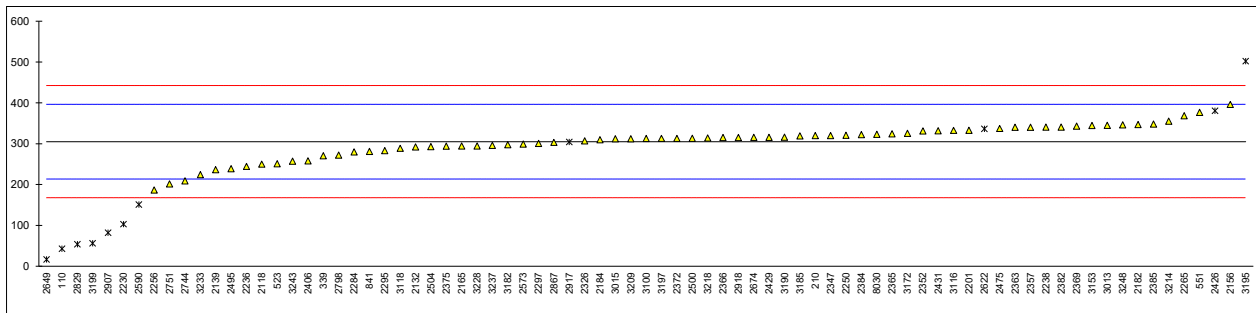
## Determination of migration of Copper as Cu on dried paint sample #23565; results in mg/kg

lab	method	value	mark	z(target)	remarks
110	EN71-3	42.839	ex	-5.73	test result excluded, see §4.1
210	In house	319.781		0.32	
339	EN71-3	270.641		-0.75	
523	EN71-3	251.08		-1.18	
551	EN71-3	376.668		1.56	
841	EN71-3	281		-0.53	
2118	EN71-3	249.91		-1.21	
2129		----		----	
2132	EN71-3	292.02		-0.29	
2137		----	W	----	test result withdrawn, reported 89.8
2139	EN71-3	236.4		-1.50	
2156	EN71-3	395.95		1.98	
2165	EN71-3	294.3		-0.24	
2182	EN71-3	346.6		0.91	
2184	EN71-3	309.7		0.10	
2190		----		----	
2201	EN71-3	332.92		0.61	
2230	EN71-3	103	C,R(0.01)	-4.42	first reported 9.13
2236	In house	244.4	C	-1.33	first reported 152.5
2238	EN71-3	340.4		0.77	
2250	EN71-3	320.7		0.34	
2256	EN71-3	186.65		-2.59	
2265		368.5		1.38	
2284	EN71-3	279.91		-0.55	
2293		----		----	
2295	EN71-3	283		-0.48	
2297	EN71-3	300.74		-0.10	
2301		----		----	
2326	EN71-3	306.84		0.04	
2347	EN71-3	320		0.32	
2350	EN71-3	< 50		<-5.57	possibly a false negative test result?
2352	EN71-3	331		0.57	
2357	EN71-3	340.2		0.77	
2363	EN71-3	340		0.76	
2365	EN71-3	324.2		0.42	
2366	EN71-3	315		0.22	
2369	EN71-3	342.93		0.83	
2372	EN71-3	313		0.17	
2375	EN71-3	294		-0.24	
2382	EN71-3	340.5		0.77	
2384	EN71-3	322.15		0.37	
2385	EN71-3	348		0.94	
2406	EN71-3	257.80		-1.03	
2426	EN71-3	380.52	ex	1.65	test result excluded, see §4.1
2429	EN71-3	315.6		0.23	
2431	EN71-3	331.59		0.58	
2475	EN71-3	337.3		0.70	
2495	EN71-3	238.771		-1.45	
2500	EN71-3	313.20		0.18	
2504	EN71-3	292.601		-0.27	
2546		----		----	
2573	EN71-3	299		-0.13	
2582		----		----	
2590	EN71-3	150.68	C,R(0.05)	-3.37	first reported 140.99
2622	EN71-3	336	ex	0.67	test result excluded, see §4.1
2649	EN71-3	16.6	ex	-6.30	test result excluded, see §4.1
2674	EN71-3	315.3		0.22	
2744	EN71-3	209		-2.10	
2751	EN71-3	201.55		-2.26	
2798	EN71-3	272		-0.72	
2817		----		----	
2829	EN71-3	53.51	C,R(0.01)	-5.50	first reported 30.92
2867	EN71-3	303.1		-0.04	
2907	EN71-3	81.74	R(0.01)	-4.88	
2917	EN71-3	304.18	ex	-0.02	test result excluded, see §4.1
2918	EN71-3	315		0.22	
2984		----		----	
3013	EN71-3	345		0.87	
3015	EN71-3	312		0.15	
3100	EN71-3	312.74		0.17	
3116		332.52		0.60	
3118	EN71-3	288.4802		-0.36	
3124		----		----	
3153	EN71-3	344.59		0.86	
3172	EN71-3	325.3		0.44	

lab	method	value	mark	z(targ)	remarks
3182	EN71-3	297.2		-0.17	
3185	EN71-3	318.95		0.30	
3190	EN71-3	316		0.24	
3195	EN71-3	502	R(0.01)	4.30	
3197	EN71-3	312.96		0.17	
3199	EN71-3	56.03	R(0.01)	-5.44	
3209	EN71-3	312.01		0.15	
3214	EN71-3	355.18		1.09	
3218	EN71-3	314.1		0.20	
3228	EN71-3	294.34		-0.24	
3233	EN71-3	224.13		-1.77	
3237	EN71-3	295.88		-0.20	
3243	EN71-3	257.251		-1.05	
3248	EN71-3	346		0.89	
8005		-----		-----	
8030	EN71-3	323.08		0.39	

Only test results that maintain pH between 1.1 - 1.3:

normality	OK		OK
n	68		59
outliers	6 +5ex		5
mean (n)	305.127		302.893
st.dev. (n)	40.6726	RSD=13%	42.0315
R(calc.)	113.883		117.688
st.dev.(EN71-3:19+A1:21)	45.7690		45.4340
R(EN71-3:19+A1:21)	128.153		127.215

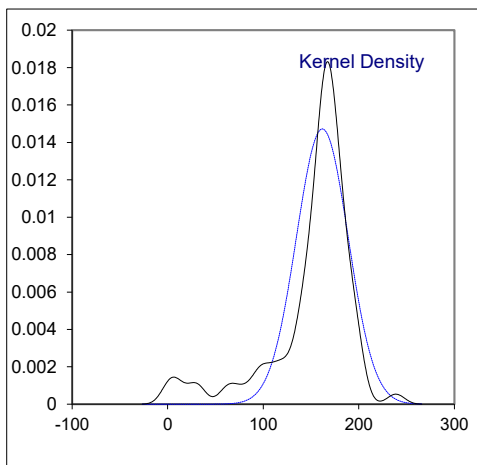
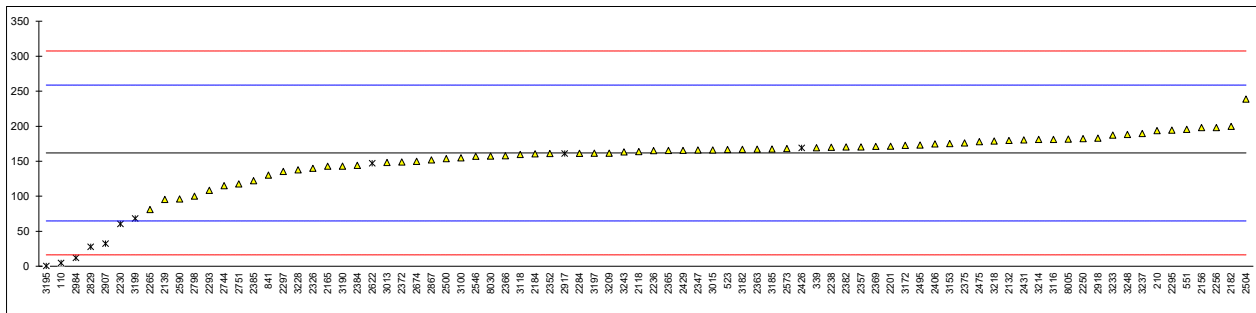


## Determination of migration of Lead as Pb on dried paint sample #23565; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN71-3	4.717	ex	-3.24	test result excluded, see §4.1
210	In house	193.452		0.65	
339	EN71-3	169.146		0.15	
523	EN71-3	166.72		0.10	
551	EN71-3	195.545		0.70	
841	EN71-3	130		-0.65	
2118	EN71-3	163.72		0.04	
2129		----		----	
2132	EN71-3	179.56		0.37	
2137		----		----	
2139	EN71-3	95.3		-1.37	
2156	EN71-3	197.90		0.75	
2165	EN71-3	142.7		-0.39	
2182	EN71-3	199.6		0.78	
2184	EN71-3	160.6		-0.02	
2190		----		----	
2201	EN71-3	171.29		0.20	
2230	EN71-3	60.5	ex	-2.09	test result excluded as statistical outliers related elements
2236	In house	164.9		0.07	
2238	EN71-3	169.8		0.17	
2250	EN71-3	182.1		0.42	
2256	EN71-3	197.95		0.75	
2265		81.05		-1.66	
2284	EN71-3	161.24		-0.01	
2293	EN71-3	108.3		-1.10	
2295	EN71-3	194.5		0.68	
2297	EN71-3	135.45		-0.54	
2301		----		----	
2326	EN71-3	139.87		-0.45	
2347	EN71-3	166		0.09	
2350	EN71-3	< 10		<-3.13	possibly a false negative test result?
2352	EN71-3	161		-0.02	
2357	EN71-3	170.3		0.18	
2363	EN71-3	167		0.11	
2365	EN71-3	165.3		0.07	
2366	EN71-3	157.9		-0.08	
2369	EN71-3	171.20		0.20	
2372	EN71-3	149		-0.26	
2375	EN71-3	176		0.29	
2382	EN71-3	170.2		0.17	
2384	EN71-3	144.08		-0.36	
2385	EN71-3	122		-0.82	
2406	EN71-3	174.64		0.27	
2426	EN71-3	169.04	ex	0.15	test result excluded, see §4.1
2429	EN71-3	165.4		0.08	
2431	EN71-3	180.47		0.39	
2475	EN71-3	177.92		0.33	
2495	EN71-3	173.017		0.23	
2500	EN71-3	153.59		-0.17	
2504	EN71-3	238.686		1.59	
2546	EN71-3	157.02		-0.10	
2573	EN71-3	168		0.13	
2582		----		----	
2590	EN71-3	96.07		-1.35	
2622	EN71-3	147	ex	-0.30	test result excluded, see §4.1
2649	EN71-3	Not Detected		----	possibly a false negative test result?
2674	EN71-3	149.8		-0.25	
2744	EN71-3	115		-0.96	
2751	EN71-3	117.69		-0.91	
2798	EN71-3	100		-1.27	
2817		----		----	
2829	EN71-3	27.68	C,R(0.01)	-2.76	first reported 22.69
2867	EN71-3	151.9		-0.20	
2907	EN71-3	32.38	R(0.01)	-2.67	
2917	EN71-3	161.00	ex	-0.02	test result excluded, see §4.1
2918	EN71-3	183		0.44	
2984	ISO8124-3	12.0040	ex,C	-3.09	test result excluded, see §4.1 / first reported 9.5264
3013	EN71-3	148		-0.28	
3015	EN71-3	166		0.09	
3100	EN71-3	154.84		-0.14	
3116		181.16		0.40	
3118	EN71-3	159.4393		-0.05	
3124		----		----	
3153	EN71-3	175.10		0.28	
3172	EN71-3	172.6		0.22	

lab	method	value	mark	z(target)	remarks
3182	EN71-3	166.9		0.11	
3185	EN71-3	167.41		0.12	
3190	EN71-3	143		-0.39	
3195	EN71-3	0.454	R(0.01)	-3.32	
3197	EN71-3	161.32		-0.01	
3199	EN71-3	68.19	ex	-1.93	test result excluded as statistical outliers related elements
3209	EN71-3	161.32		-0.01	
3214	EN71-3	180.99		0.40	
3218	EN71-3	178.8		0.35	
3228	EN71-3	137.63		-0.50	
3233	EN71-3	187.15		0.52	
3237	EN71-3	189.62		0.57	
3243	EN71-3	163.395		0.03	
3248	EN71-3	188		0.54	
8005		181.44		0.41	
8030	EN71-3	157.44		-0.09	

normality	suspect	only test results that maintain pH between 1.1 - 1.3:	suspect
n	72		62
outliers	3 +7ex		2 +2ex
mean (n)	161.728	RSD=17%	160.457
st.dev. (n)	27.1043		28.7305
R(calc.)	75.892		80.445
st.dev.(EN71-3:19+A1:21)	48.5185		48.1371
R(EN71-3:19+A1:21)	135.852		134.784



## Determination of migration of Nickel as Ni on dried paint sample #23565; results in mg/kg

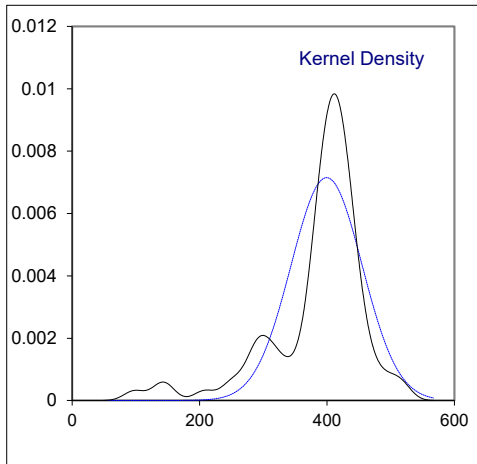
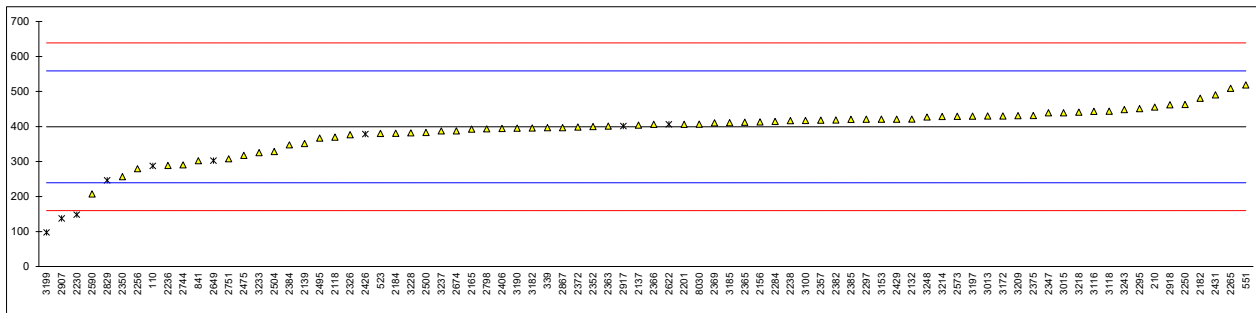
lab	method	value	mark	z(targ)	remarks
110	EN71-3	287.059	ex	-1.41	test result excluded, see §4.1
210	In house	455.298		0.70	
339	EN71-3	396.456		-0.04	
523	EN71-3	379.82		-0.24	
551	EN71-3	518.621		1.49	
841	EN71-3	302		-1.22	
2118	EN71-3	369.51		-0.37	
2129		----		----	
2132	EN71-3	420.95		0.27	
2137	EN71-3	403.5		0.05	
2139	EN71-3	351.0		-0.60	
2156	EN71-3	412.70		0.17	
2165	EN71-3	392.2		-0.09	
2182	EN71-3	480.5		1.02	
2184	EN71-3	380.4		-0.24	
2190		----		----	
2201	EN71-3	406.06		0.09	
2230	EN71-3	148	C,R(0.01)	-3.15	first reported 208
2236	In house	288.4		-1.39	
2238	EN71-3	416.7		0.22	
2250	EN71-3	462.9		0.80	
2256	EN71-3	279.25		-1.50	
2265		509.0		1.37	
2284	EN71-3	414.00		0.18	
2293		----		----	
2295	EN71-3	451		0.65	
2297	EN71-3	420.55		0.27	
2301		----		----	
2326	EN71-3	376.33		-0.29	
2347	EN71-3	439		0.50	
2350	EN71-3	256.89		-1.78	
2352	EN71-3	400		0.01	
2357	EN71-3	418.0		0.23	
2363	EN71-3	401		0.02	
2365	EN71-3	412.2		0.16	
2366	EN71-3	406		0.08	
2369	EN71-3	410.16		0.14	
2372	EN71-3	398		-0.02	
2375	EN71-3	431		0.40	
2382	EN71-3	418.2		0.24	
2384	EN71-3	347.18		-0.65	
2385	EN71-3	420		0.26	
2406	EN71-3	394.21		-0.06	
2426	EN71-3	378.28	ex	-0.26	test result excluded, see §4.1
2429	EN71-3	420.6		0.27	
2431	EN71-3	490.44		1.14	
2475	EN71-3	317.4		-1.03	
2495	EN71-3	366.578		-0.41	
2500	EN71-3	382.68		-0.21	
2504	EN71-3	328.120		-0.89	
2546		----		----	
2573	EN71-3	429		0.37	
2582		----		----	
2590	EN71-3	207.30	C	-2.40	first reported 215.85
2622	EN71-3	406	ex	0.08	test result excluded, see §4.1
2649	EN71-3	302.5	ex	-1.21	test result excluded, see §4.1
2674	EN71-3	387.6		-0.15	
2744	EN71-3	290		-1.37	
2751	EN71-3	307.60		-1.15	
2798	EN71-3	393		-0.08	
2817		----		----	
2829	EN71-3	246.07	ex,C	-1.92	first reported 198.03
2867	EN71-3	396.5		-0.03	
2907	EN71-3	137.58	R(0.01)	-3.28	
2917	EN71-3	401.22	ex	0.02	test result excluded, see §4.1
2918	EN71-3	462		0.79	
2984		----		----	
3013	EN71-3	430		0.38	
3015	EN71-3	439		0.50	
3100	EN71-3	417.28		0.23	
3116		442.92		0.55	
3118	EN71-3	443.4634		0.55	
3124		----		----	
3153	EN71-3	420.59		0.27	
3172	EN71-3	430		0.38	

lab	method	value	mark	z(targ)	remarks
3182	EN71-3	395.4		-0.05	
3185	EN71-3	410.96		0.15	
3190	EN71-3	395		-0.05	
3195	EN71-3	<2,0		<-4.97	possibly a false negative test result?
3197	EN71-3	429.58		0.38	
3199	EN71-3	97.37	R(0.01)	-3.78	
3209	EN71-3	430.86		0.40	
3214	EN71-3	428.70		0.37	
3218	EN71-3	440.7		0.52	
3228	EN71-3	381.53		-0.22	
3233	EN71-3	325.19		-0.93	
3237	EN71-3	387.11		-0.15	
3243	EN71-3	447.867		0.61	
3248	EN71-3	427		0.35	
8005		-----		-----	
8030	EN71-3	406.68		0.09	

Only test results that maintain pH between 1.1 - 1.3:

normality	suspect		suspect
n	71		62
outliers	3 +6ex		2 +1ex
mean (n)	399.262		394.690
st.dev. (n)	55.8292	RSD=14%	58.0107
R(calc.)	156.322		162.430
st.dev.(EN71-3:19+A1:21)	79.8525		78.9380
R(EN71-3:19+A1:21)	223.587		221.026

Lab 2829 test result excluded as statistical outliers in related elements





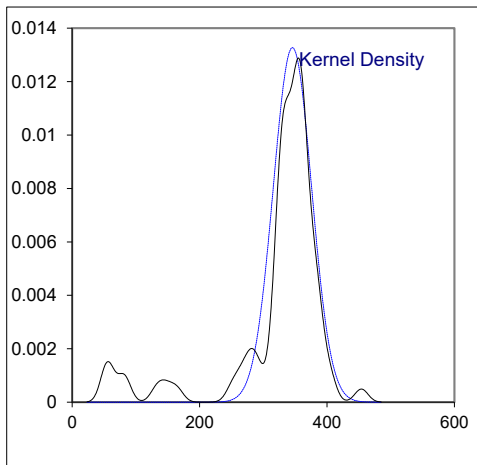
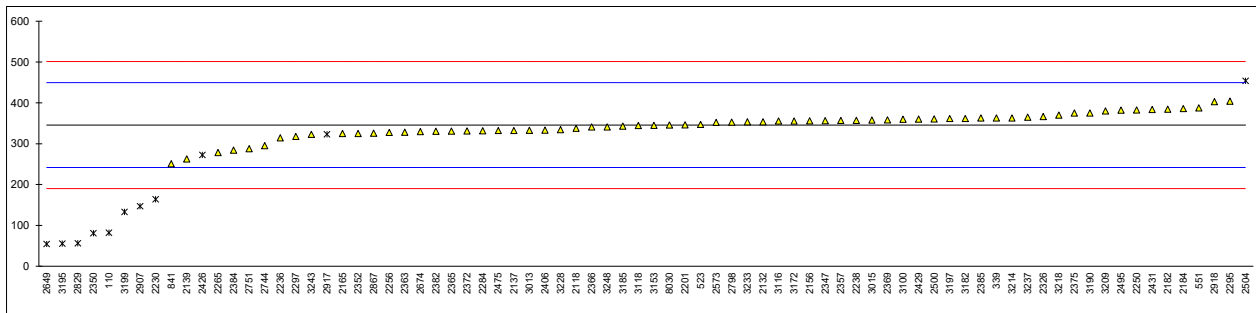
## Determination of migration of Strontium as Sr on dried paint sample #23565; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN71-3	81.781	ex	-5.09	test result excluded, see §4.1
210		-----		-----	
339	EN71-3	363.008		0.34	
523	EN71-3	347.08		0.03	
551	EN71-3	387.48		0.81	
841	EN71-3	251		-1.82	
2118	EN71-3	337.50		-0.16	
2129		-----		-----	
2132	EN71-3	353.64		0.16	
2137	EN71-3	332.3		-0.26	
2139	EN71-3	262.5		-1.60	
2156	EN71-3	355.65		0.19	
2165	EN71-3	324.9		-0.40	
2182	EN71-3	384.4		0.75	
2184	EN71-3	385.7		0.77	
2190		-----		-----	
2201	EN71-3	345.78		0.00	
2230	EN71-3	164	C,R(0.01)	-3.50	first reported 61.1
2236	In house	314.5		-0.60	
2238	EN71-3	357.1		0.22	
2250	EN71-3	382.7		0.72	
2256	EN71-3	327.42		-0.35	
2265		278.0		-1.30	
2284	EN71-3	331.37		-0.27	
2293		-----		-----	
2295	EN71-3	404.1		1.13	
2297	EN71-3	317.50		-0.54	
2301		-----		-----	
2326	EN71-3	366.37		0.40	
2347	EN71-3	356		0.20	
2350	EN71-3	80.69	C,R(0.01)	-5.11	first reported 86.4
2352	EN71-3	325		-0.40	
2357	EN71-3	356.8		0.22	
2363	EN71-3	328		-0.34	
2365	EN71-3	330.6		-0.29	
2366	EN71-3	341		-0.09	
2369	EN71-3	358.45		0.25	
2372	EN71-3	331		-0.28	
2375	EN71-3	375		0.57	
2382	EN71-3	330.3		-0.29	
2384	EN71-3	284.17		-1.18	
2385	EN71-3	363		0.34	
2406	EN71-3	333.24		-0.24	
2426	EN71-3	272.50	ex	-1.41	test result excluded, see §4.1
2429	EN71-3	360.2		0.28	
2431	EN71-3	383.71		0.74	
2475	EN71-3	332.2		-0.26	
2495	EN71-3	382.168		0.71	
2500	EN71-3	360.54		0.29	
2504	EN71-3	453.760	R(0.05)	2.09	
2546		-----		-----	
2573	EN71-3	352		0.12	
2582		-----		-----	
2590		-----		-----	
2622		-----		-----	
2649	EN71-3	54.5	ex	-5.62	test result excluded, see §4.1
2674	EN71-3	329.7		-0.31	
2744	EN71-3	295		-0.98	
2751	EN71-3	287.49		-1.12	
2798	EN71-3	353		0.14	
2817		-----		-----	
2829	EN71-3	56.23	R(0.01)	-5.58	
2867	EN71-3	325.7		-0.38	
2907	EN71-3	146.79	R(0.01)	-3.83	
2917	EN71-3	323.07	ex	-0.43	test result excluded, see §4.1
2918	EN71-3	403		1.11	
2984		-----		-----	
3013	EN71-3	333		-0.24	
3015	EN71-3	358		0.24	
3100	EN71-3	359.74		0.27	
3116		355.21		0.19	
3118	EN71-3	344.6019		-0.02	
3124		-----		-----	
3153	EN71-3	344.72		-0.02	
3172	EN71-3	355.5		0.19	

lab	method	value	mark	z(targ)	remarks
3182	EN71-3	361.6		0.31	
3185	EN71-3	343.10		-0.05	
3190	EN71-3	375		0.57	
3195	EN71-3	55.3	R(0.01)	-5.60	
3197	EN71-3	361.52		0.31	
3199	EN71-3	133.02	R(0.01)	-4.10	
3209	EN71-3	379.86		0.66	
3214	EN71-3	363.02		0.34	
3218	EN71-3	369.7		0.47	
3228	EN71-3	334.38		-0.22	
3233	EN71-3	353.38		0.15	
3237	EN71-3	364.68		0.37	
3243	EN71-3	322.567		-0.44	
3248	EN71-3	341		-0.09	
8005		-----		-----	
8030	EN71-3	345.43		0.00	

Only test results that maintain pH between 1.1 - 1.3:

normality	suspect		suspect
n	67		58
outliers	7 +4ex		6
mean (n)	345.571		344.759
st.dev. (n)	30.0586	RSD=9%	31.6180
R(calc.)	84.164		88.530
st.dev.(EN71-3:19+A1:21)	51.8357		51.7139
R(EN71-3:19+A1:21)	145.140		144.799

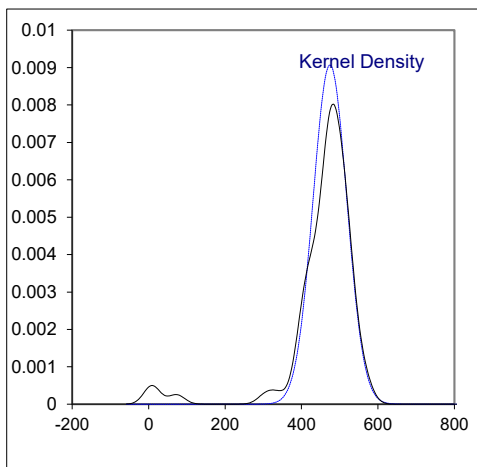
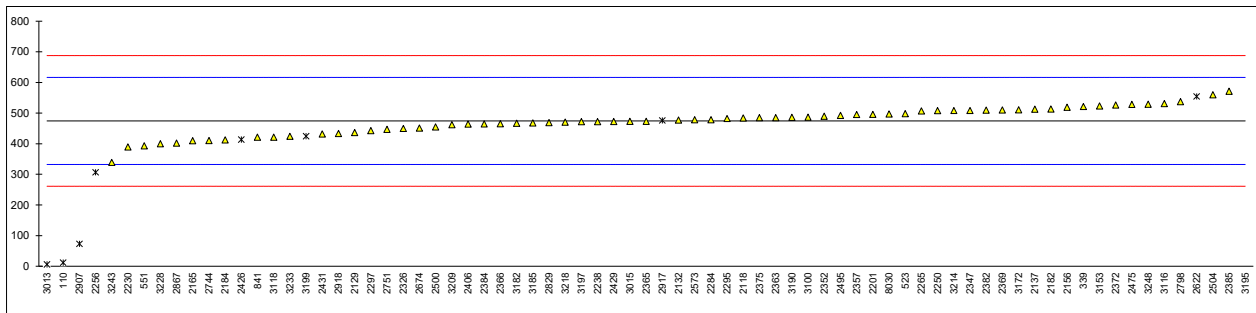


## Determination of migration of Aluminum as Al on paper sample #23566; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN71-3	11.470	ex	-6.51	test result excluded, see §4.1
210		----		----	
339	EN71-3	521.113		0.66	
523	EN71-3	498.23		0.34	
551	EN71-3	393.137		-1.14	
841	EN71-3	421		-0.75	
2118	EN71-3	484.22		0.14	
2129	EN71-3	436.021		-0.54	
2132	EN71-3	477.18		0.04	
2137	EN71-3	512.5		0.54	
2139		----		----	
2156	EN71-3	519.00		0.63	
2165	EN71-3	409.7		-0.91	
2182	EN71-3	513.2		0.55	
2184	EN71-3	412.2		-0.87	
2190		----		----	
2201	EN71-3	495.40		0.30	
2230	EN71-3	389	C	-1.20	first reported 3.40
2236		----		----	
2238	EN71-3	472.0		-0.03	
2250	EN71-3	507.6		0.47	
2256	EN71-3	306.40	R(0.05)	-2.36	
2265		506.5		0.45	
2284	EN71-3	478.35		0.06	
2293		----		----	
2295	EN71-3	482		0.11	
2297	EN71-3	442.57		-0.45	
2301		----		----	
2326	EN71-3	449.82		-0.34	
2347	EN71-3	508		0.47	
2350	EN71-3	< 50		<-5.96	possibly a false negative test result?
2352	EN71-3	490		0.22	
2357	EN71-3	495.3		0.30	
2363	EN71-3	485		0.15	
2365	EN71-3	473.1		-0.02	
2366	EN71-3	465		-0.13	
2369	EN71-3	510.14		0.50	
2372	EN71-3	526		0.73	
2375	EN71-3	485		0.15	
2382	EN71-3	509.8		0.50	
2384	EN71-3	464.45		-0.14	
2385	EN71-3	571		1.36	
2406	EN71-3	464.10		-0.14	
2426	EN71-3	413.40	ex	-0.86	test result excluded, see §4.1
2429	EN71-3	472.4		-0.03	
2431	EN71-3	431.71		-0.60	
2475	EN71-3	528.7		0.77	
2495	EN71-3	492.049		0.25	
2500	EN71-3	454.70		-0.27	
2504	EN71-3	559.386		1.20	
2546		----		----	
2573	EN71-3	478		0.05	
2582		----		----	
2590		----		----	
2622	EN71-3	554	ex	1.12	test result excluded, see §4.1
2649	EN71-3	Not Detected		----	possibly a false negative test result?
2674	EN71-3	451.3		-0.32	
2744	EN71-3	410		-0.90	
2751	EN71-3	446.73		-0.39	
2798	EN71-3	537		0.88	
2817		----		----	
2829		468.40		-0.08	
2867	EN71-3	401.8		-1.02	
2907	EN71-3	72.81	R(0.01)	-5.64	
2917	EN71-3	475.91	ex,C	0.02	test result excluded, see §4.1 / first reported 120.53
2918	EN71-3	433		-0.58	
2984		----		----	
3013	EN71-3	5.5	R(0.01)	-6.59	
3015	EN71-3	473		-0.02	
3100	EN71-3	486.57		0.17	
3116		531.01		0.80	
3118	EN71-3	421.2815		-0.74	
3124		----		----	
3153	EN71-3	523.39		0.69	
3172	EN71-3	510.5		0.51	

lab	method	value	mark	z(targ)	remarks
3182	EN71-3	466.5		-0.11	
3185	EN71-3	467.45		-0.10	
3190	EN71-3	486		0.17	
3195	EN71-3	1320	R(0.01)	11.89	
3197	EN71-3	471.71		-0.04	
3199	EN71-3	424.48	ex	-0.70	test result excluded as statistical outliers related elements
3209	EN71-3	461.84		-0.17	
3214	EN71-3	507.99		0.47	
3218	EN71-3	470.5		-0.05	
3228	EN71-3	399.96		-1.04	
3233	EN71-3	423.82		-0.71	
3237	EN71-3	not detected		-----	possibly a false negative test result?
3243	EN71-3	338.839		-1.90	
3248	EN71-3	529		0.77	
8005		-----		-----	
8030	EN71-3	496.93		0.32	

normality	OK			<u>Only test results that maintain pH between 1.1 - 1.3:</u>	
n	66			OK	
outliers	4 +5ex			2 +1ex	
mean (n)	474.229			473.495	
st.dev. (n)	43.9743	RSD=9%		41.8529	RSD=9%
R(calc.)	123.128			117.188	
st.dev.(EN71-3:19+A1:21)	71.1343			71.0242	
R(EN71-3:19+A1:21)	199.176			198.868	



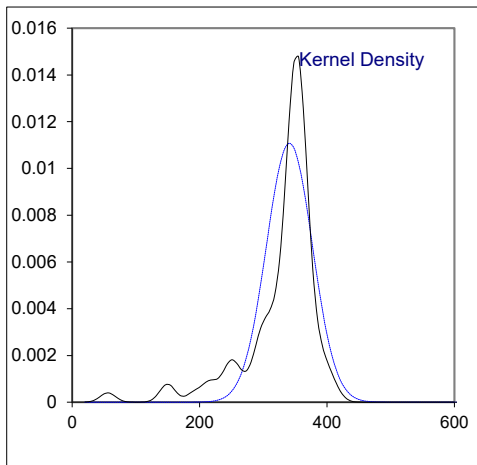
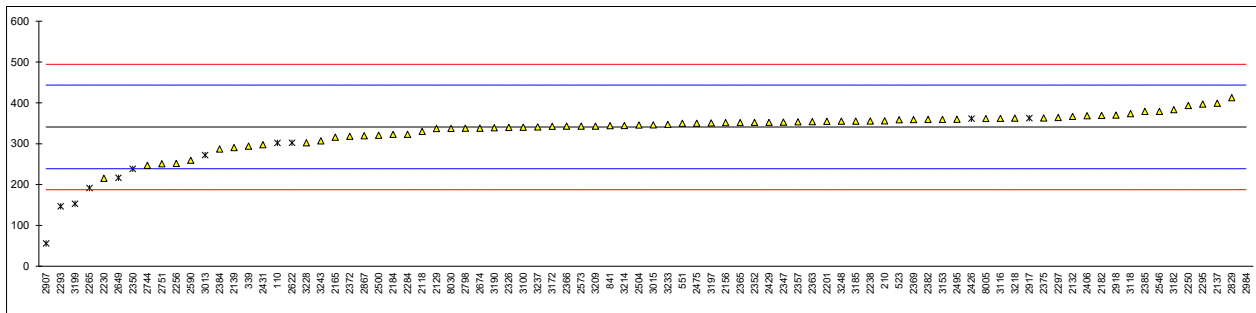
## Determination of migration of Cadmium as Cd on paper sample #23566; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN71-3	301.842	ex	-0.77	test result excluded, see §4.1
210	In house	355.825		0.29	
339	EN71-3	293.982		-0.92	
523	EN71-3	358.76		0.35	
551	EN71-3	349.929		0.17	
841	EN71-3	344		0.06	
2118	EN71-3	329.90		-0.22	
2129	EN71-3	336.775		-0.08	
2132	EN71-3	366.47		0.50	
2137	EN71-3	399.0		1.13	
2139	EN71-3	290.6		-0.99	
2156	EN71-3	351.35		0.20	
2165	EN71-3	315.9		-0.49	
2182	EN71-3	369.2		0.55	
2184	EN71-3	322.8		-0.36	
2190		----		----	
2201	EN71-3	354.78		0.27	
2230	EN71-3	215		-2.46	
2236		----		----	
2238	EN71-3	355.4		0.28	
2250	EN71-3	393.5		1.03	
2256	EN71-3	251.60		-1.75	
2265		191.5	R(0.05)	-2.92	
2284	EN71-3	323.16		-0.35	
2293	EN71-3	146.4	R(0.01)	-3.80	
2295	EN71-3	397		1.09	
2297	EN71-3	364.24		0.45	
2301		----		----	
2326	EN71-3	339.84		-0.02	
2347	EN71-3	353		0.23	
2350	EN71-3	238.11	ex	-2.01	test result excluded as statistical outliers related elements
2352	EN71-3	352		0.21	
2357	EN71-3	353.6		0.25	
2363	EN71-3	354		0.25	
2365	EN71-3	351.9		0.21	
2366	EN71-3	343		0.04	
2369	EN71-3	358.88		0.35	
2372	EN71-3	318		-0.45	
2375	EN71-3	363		0.43	
2382	EN71-3	359.2		0.36	
2384	EN71-3	286.90		-1.06	
2385	EN71-3	379		0.74	
2406	EN71-3	368.34		0.53	
2426	EN71-3	361.00	ex	0.39	test result excluded, see §4.1
2429	EN71-3	352.0		0.21	
2431	EN71-3	297.45		-0.85	
2475	EN71-3	350.07		0.18	
2495	EN71-3	359.560		0.36	
2500	EN71-3	320.51		-0.40	
2504	EN71-3	345.596		0.09	
2546		379.03		0.74	
2573	EN71-3	343		0.04	
2582		----		----	
2590	EN71-3	259.14		-1.60	
2622	EN71-3	302	ex	-0.76	test result excluded, see §4.1
2649	EN71-3	216.6	ex	-2.43	test result excluded, see §4.1
2674	EN71-3	338.1		-0.06	
2744	EN71-3	247		-1.84	
2751	EN71-3	250.77		-1.76	
2798	EN71-3	338		-0.06	
2817		----		----	
2829		412.72		1.40	
2867	EN71-3	319.4		-0.42	
2907	EN71-3	55.84	R(0.01)	-5.58	
2917	EN71-3	362.65	ex,C	0.42	test result excluded, see §4.1 / first reported <0.5
2918	EN71-3	370		0.57	
2984	ISO8124-3	1884.2789	ex,C	30.17	test result excluded, see §4.1 / first reported 1585.1037
3013	EN71-3	272	ex	-1.35	test result excluded as statistical outliers related elements
3015	EN71-3	346		0.10	
3100	EN71-3	339.99		-0.02	
3116		361.75		0.40	
3118	EN71-3	373.3610		0.63	
3124		----		----	
3153	EN71-3	359.23		0.36	
3172	EN71-3	342.6		0.03	

lab	method	value	mark	z(targ)	remarks
3182	EN71-3	383.4		0.83	
3185	EN71-3	355.04		0.27	
3190	EN71-3	339		-0.04	
3195	EN71-3	<0,05		<-6.67	possibly a false negative test result?
3197	EN71-3	350.82		0.19	
3199	EN71-3	152.93	R(0.01)	-3.68	
3209	EN71-3	343.09		0.04	
3214	EN71-3	344.65		0.07	
3218	EN71-3	362.6		0.42	
3228	EN71-3	302.18		-0.76	
3233	EN71-3	347.20		0.12	
3237	EN71-3	340.76		-0.01	
3243	EN71-3	306.597		-0.67	
3248	EN71-3	355		0.27	
8005		361.66		0.40	
8030	EN71-3	337.29		-0.07	

Only test results that maintain pH between 1.1 - 1.3:

normality	not OK		not OK
n	72		63
outliers	4 +8ex		3 +1ex
mean (n)	341.033		339.521
st.dev. (n)	36.0309	RSD=11%	37.4058
R(calc.)	100.887		104.736
st.dev.(EN71-3:19+A1:21)	51.1550		50.9281
R(EN71-3:19+A1:21)	143.234		142.599



## Determination of migration of Copper as Cu on paper sample #23566; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN71-3	215.102	ex	-3.27	test result excluded, see §4.1
210	In house	447.907		0.40	
339	EN71-3	359.845		-0.99	
523	EN71-3	396.47		-0.41	
551	EN71-3	379.877		-0.67	
841	EN71-3	421		-0.02	
2118	EN71-3	399.65		-0.36	
2129	EN71-3	392.171		-0.48	
2132	EN71-3	450.73		0.45	
2137	EN71-3	515.0		1.46	
2139	EN71-3	399	C	-0.37	first reported 123.5
2156	EN71-3	497.20		1.18	
2165	EN71-3	398.3		-0.38	
2182	EN71-3	425.1		0.04	
2184	EN71-3	388.6		-0.53	
2190		----		----	
2201	EN71-3	444.23		0.35	
2230	EN71-3	280	C	-2.25	first reported 95.1
2236		----		----	
2238	EN71-3	442.9		0.32	
2250	EN71-3	509.6		1.38	
2256	EN71-3	327.86		-1.49	
2265		503.5		1.28	
2284	EN71-3	406.54		-0.25	
2293		----		----	
2295	EN71-3	418.9		-0.05	
2297	EN71-3	421.87		-0.01	
2301		----		----	
2326	EN71-3	431.30		0.14	
2347	EN71-3	460		0.59	
2350	EN71-3	77.49	C,R(0.01)	-5.44	first reported 93.89
2352	EN71-3	456		0.53	
2357	EN71-3	460.1		0.60	
2363	EN71-3	456		0.53	
2365	EN71-3	453.5		0.49	
2366	EN71-3	441		0.29	
2369	EN71-3	474.17		0.82	
2372	EN71-3	416		-0.10	
2375	EN71-3	432		0.15	
2382	EN71-3	480.1		0.91	
2384	EN71-3	439.63		0.27	
2385	EN71-3	496		1.16	
2406	EN71-3	429.47		0.11	
2426	EN71-3	454.00	ex	0.50	test result excluded, see §4.1
2429	EN71-3	440.7		0.29	
2431	EN71-3	407.70		-0.23	
2475	EN71-3	391.9		-0.48	
2495	EN71-3	406.806		-0.25	
2500	EN71-3	420.03		-0.04	
2504	EN71-3	381.674		-0.64	
2546		----		----	
2573	EN71-3	411		-0.18	
2582		----		----	
2590	EN71-3	277.968	C	-2.28	first reported 235.21
2622	EN71-3	441	ex	0.29	test result excluded, see §4.1
2649	EN71-3	185.3	ex	-3.74	test result excluded, see §4.1
2674	EN71-3	418.5		-0.06	
2744	EN71-3	349		-1.16	
2751	EN71-3	358.68		-1.01	
2798	EN71-3	451		0.45	
2817		----		----	
2829		452.81		0.48	
2867	EN71-3	390.7		-0.50	
2907	EN71-3	140.7	R(0.01)	-4.45	
2917	EN71-3	465.43	ex,C	0.68	test result excluded, see §4.1 / first reported 29.32
2918	EN71-3	414		-0.13	
2984		----		----	
3013	EN71-3	167	R(0.01)	-4.03	
3015	EN71-3	445		0.36	
3100	EN71-3	439.28		0.27	
3116		474.25		0.82	
3118	EN71-3	410.1728		-0.19	
3124		----		----	
3153	EN71-3	465.63		0.68	
3172	EN71-3	411.6		-0.17	





**APPENDIX 2****Determination of migration of other elements on sample #23565; results in mg/kg**

lab	Sb	As	Ba	B	Cd	Cr (III)	Cr (VI)
110	not detected	not detected	not detected	not detected	not detected	not detected	not detected
210	----	----	----	----	----	----	----
339	not detected	0.529	9.126	not detected	not detected	0.343	----
523	Not detected	0.216	5.19	Not detected	Not detected	----	----
551	0.02378	2.802	3.133	0.434	2.0034	0.9173	----
841	<5	<2.5	<10	<50	<5	0.25	<0.02
2118	0.05	0.28	3.91	0.82	0.02	0.20	0
2129	----	----	----	----	----	----	----
2132	<10	<2.5	<25	<25	<1	<10	<0.025
2137	----	----	----	----	----	----	----
2139	----	----	----	----	----	----	----
2156	<10	<3	5.51	<10	<0.5	----	----
2165	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2182	----	----	----	----	----	0.4038	----
2184	not detected	not detected	5.02	not detected	not detected	0.35	not detected
2190	----	----	----	----	----	----	----
2201	<10	<10	<10	<50	<5	<10	<0.025
2230	----	----	----	----	----	----	----
2236	<2.0	<2.0	3.69	<2.0	<1.0	<2.0	----
2238	<10	<10	<10	<50	<5	<10	<0.025
2250	not detected	not detected	5.650	not detected	not detected	0.3994	<0.05
2256	<2.00000	12.79	5.55	<2.00000	<2	<2	ND
2265	----	----	----	----	----	----	----
2284	<5	<2.5	<5	<5	<5	0.31	<0.053
2293	----	----	3.231	----	----	----	----
2295	<10	<10	<10	<10	<10	<1	<0.05
2297	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2301	----	----	----	----	----	----	----
2326	ND	ND	ND	ND	ND	ND	ND
2347	<10	<10	<50	<50	<5	<5	<0.02
2350	< 10	< 10	< 50	< 50	< 5	< 5	< 0.01
2352	----	----	----	----	----	----	----
2357	<10	<10	<50	<50	<5	<5	<0.025
2363	<10	<10	<50	<50	<5	<5	<0.025
2365	<10	<10	<50	<50	<5	<5	<0.020
2366	<10	<10	<50	<50	<5	<1	<0.010
2369	<10	<10	<50	<50	<5	not applicable	not applicable
2372	<10	<10	<50	<50	<5	<5	0.0301
2375	<10	<10	<50	<50	<5	<5	<0.053
2382	<10.0	<10.0	<50.0	<50.0	<5.0	<5.0	<0.025
2384	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Applicable	Not Applicable
2385	<5	<1	4.3	<1	<0.5	<1	<0.053
2406	<5	<5	<5	<5	<5	----	----
2426	<50	<10	<50	<50	<5	<0.05	<0.01
2429	<10	<10	<10	<50	<5	<10	<0.025
2431	----	----	6.46	----	----	----	----
2475	----	----	----	----	----	----	----
2495	<1	<0.5	5.159	<5	<0.1	<1	----
2500	<10	<10	<10	<10	<5	<10	<0.025
2504	<1	<2	5.753	<1	<0.2	not applicable	not applicable
2546	< 5	< 5	6.78	----	< 5	----	----
2573	----	----	----	----	----	----	----
2582	----	----	----	----	----	----	----
2590	< L.O.Q.	< L.O.Q.	2.75	----	< L.O.Q.	< L.O.Q.	----
2622	<0.6	<0.6	6.12	----	<0.6	<0.6	<0.6
2649	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2674	<1	<0.5	<2.5	<10	<1	<1	<1
2744	not detected	0.2	not detected	not detected	not detected	not detected	not detected
2751	Not Detected	0.23	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2798	----	----	----	----	----	----	----
2817	----	----	----	----	----	----	----
2829	----	----	----	----	----	----	----
2867	----	----	----	----	----	< 1.0	----
2907	ND	ND	ND	ND	ND	ND	----
2917	<0.5	<0.5	4.59	<1.0	<0.1	<0.5	----
2918	not detected	1.35	5.53	1.03	0.024	0.45	----
2984	not detected	not detected	not detected	not detected	not detected	----	----
3013	not detected	0.64	5.0	1.2	not detected	0.66	0.342
3015	<10	<10	<10	<50	<5	<10	<0.025
3100	<10	<10	<10	<50	<5	<10	<0.025
3116	<2	0.790	5.65	<5	<0.15	<1	<0.02
3118	<5	<2,5	<5	<5	<5	----	----
3124	----	----	----	----	----	----	----
3153	< 10	< 10	< 10	< 50	< 5	< 10	< 0.025

lab	Sb	As	Ba	B	Cd	Cr (III)	Cr (VI)
3172	< 2	< 5	< 10	< 50	< 2	0.43	< 0.025
3182	<5	<0.1	<5	<5	<0.1	0.31	<0.025
3185	<10	<10	<10	<50	<5	<10	<0.025
3190	<10	<10	<10	<50	<5	<10	<0.025
3195	<0,50	<0,20	5.28	<5,0	395	-----	-----
3197	<1	<0.5	<10	<10	<0.25	<1	<0.025
3199	None detected	None detected	None detected	None detected	None detected	0.121	-----
3209	<5.0	<2.5	<10.0	<5.0	<5.0	<10.0	<0.025
3214	<10	<10	<10	<50	<5	<10	<0.025
3218	<10	<10	<10	<50	<5.0	<10	<0.025
3228	-----	-----	-----	-----	-----	-----	-----
3233	< 5	< 0.5	< 5	< 5	< 0.5	0.33	< 0.025
3237	not detected	0.35	not detected	not detected	not detected	not detected	not detected
3243	-0.326	0.293	22.912	3.112	0.018	0.248	0
3248	<10	<10	<10	<100	<5	<10	<0.0265
8005	<2	<2	5.66	-----	<2	-----	-----
8030	Not detected	0.66	5.87	Not detected	Not detected	0.36	Not detected

## Determination of migration of other elements on sample #23565; results in mg/kg

-- continued --

lab	Mn	Hg	Se	Sn	Organic Sn	Zn
110	6.408	not detected	not detected	not detected	----	1.743
210	----	----	----	----	----	----
339	30.607	0.082	not detected	0.925	----	1.612
523	24.76	0.105	0.122	0.667	----	Not detected
551	19.083	0.0449	0.0898	0.2542	----	2.382
841	23	<5	<10	<2.5	<0.2	<10
2118	28.63	0.05	0.04	0.83	----	1.29
2129	not tested	----	----	----	----	----
2132	29.06	<10	<10	<10	Not applicable	<50
2137	----	----	----	----	----	----
2139	----	----	----	----	----	----
2156	30.33	<1	<5	<2.5	----	<5
2165	26.0	not detected	not detected	not detected	not detected	not detected
2182	32.8	----	----	----	----	----
2184	24.85	not detected	not detected	not detected	not detected	not detected
2190	----	----	----	----	----	----
2201	27.50	<10	<10	<2.5	<3.0	<100
2230	13	C	----	----	----	----
2236	30.05	<2.0	<2.0	<2.0	----	<50.0
2238	26.3	<10	<10	<2.5	<3	<100
2250	36.25	0.1010	not detected	not detected	----	not detected
2256	12.97	<2	<2.00000	<2	ND	15.42
2265	48.05	0.6	----	----	< 1,0	----
2284	24.93	<5	<5	<5	<5	<5
2293	----	----	----	----	----	----
2295	29	<1	<10	<10	ND	<10
2297	23.13	C	not detected	not detected	not detected	not detected
2301	----	----	----	----	----	----
2326	26.46	ND	ND	ND	ND	ND
2347	<50	<10	<10	<4.9	<4.9	<50
2350	< 50	< 10	< 10	< 4.9	< 0.5	< 50
2352	----	----	----	----	----	----
2357	<50	<10	<10	<3	----	<50
2363	<50	<10	<10	<3	not detected	<50
2365	<50	<10	<10	<4.9	<12	<50
2366	<50	<10	<10	<3.0	<0.30	<50
2369	<50	<10	<10	<3	----	<50
2372	<50	<10	<10	<4.9	----	<50
2375	<50	<10	<10	<4.9	----	<50
2382	<50.0	<10.0	<10.0	<3.0	<0.2	<50.0
2384	24.801	C	Not Detected	Not Detected	Not Applicable	Not Detected
2385	21.5	<1	<1	<5	<0.246	<5
2406	35.32	<5	<5	<5	----	<5
2426	<50	<10	<10	<4.9	----	<50
2429	28.3	<10	<10	<2.5	<5.0	<100
2431	31.44	----	----	----	----	24.26
2475	----	----	----	----	----	----
2495	29.826	<1	<1	<5	----	<10
2500	<100	<10	<10	<10	<2	<100
2504	28.408	<2	<1	14.008	not applicable	<5
2546	----	< 5	< 5	----	----	----
2573	----	----	----	----	----	----
2582	----	----	----	----	----	----
2590	16.46	< L.O.Q.	< L.O.Q.	< L.O.Q.	----	1.75
2622	25.6	----	<0.6	<6	----	4.56
2649	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2674	24.46	<0.5	<2.5	<10	----	<10
2744	21	0.05	not detected	not detected	not detected	not detected
2751	24.35	0.049	Not Detected	Not Detected	Not Detected	Not Detected
2798	22	----	----	----	----	----
2817	----	----	----	----	----	----
2829	5.30	----	----	----	----	----
2867	25.13	----	----	----	----	----
2907	9.53	ND	ND	ND	----	ND
2917	26.63	----	<0.5	1.49	----	<0.5
2918	33.0	0.108	not detected	1.03	----	----
2984	----	not detected	not detected	----	----	----
3013	25	0.17	0.65	0.97	----	5.1
3015	28	<10	<10	<2.5	<5	<100
3100	25.99	<10	<10	<10	<5	<100
3116	32.04	<0.15	<2	<2	<0.55	<5
3118	21.7905	<5	----	<5	<5	<5
3124	----	----	----	----	----	----
3153	29.04	< 10	< 10	< 10	< 2	< 100

lab	Mn	Hg	Se	Sn	Organic Sn	Zn
3172	< 50	< 1	< 3	< 2	----	< 50
3182	28.7	<1	<5	<1	----	<5
3185	28.90	<10	<10	<2.5	<5	<100
3190	28	<10	<10	<2.5	<5	<100
3195	10.7	0.842	<0,50	<0,10	----	6.90
3197	27.15	<0.5	<1	<10	<0.02	<10
3199	9.98	None detected	None detected	None detected	----	None detected
3209	25.82	<5.0	<5.0	<4.0	<0.2	<50.0
3214	24.90	<10	<10	<10	<12	<100
3218	30.1	<10	<10	<10	<3.0	<100
3228	25.37	----	----	----	----	----
3233	25.50	< 0.5	< 5	1.08	----	< 5
3237	not detected	0.23	not detected	not detected	not detected	not detected
3243	23.052	0.046	-0.192	0.947	----	2.373
3248	25	<10	<10	<0.8	<3	<10
8005	----	<2	<2	----	----	----
8030	24.92	Not detected	Not detected	1.14	Not detected	Not detected

Lab 2230 first reported 4.32

Lab 2297 first reported as not detected, reporting limit is 50 mg/kg

Lab 2384 first reported as not detected

## Determination of migration of other elements on sample #23566; results in mg/kg

lab	Sb	As	Ba	B	Cr (III)	Cr (VI)	Co	Pb
110	not detected	not detected	2.519	not detected	not detected	not detected	not detected	not detected
210	----	----	----	----	----	----	----	----
339	not detected	0.066	not detected	not detected	0.353	----	0.080	not detected
523	Not detected	0.053	5.22	Not detected	----	----	0.045	0.346
551	0.0229	1.022	2.076	0.2675	0.7689	----	0.0829	0.2234
841	<5	<2.5	<10	<10	0.45	<0.02	<10	<5
2118	0.11	0.29	2.50	0.82	0.42	0	0.02	0.25
2129	<1,0	<0,10	<10	<10	0.395	0.074	<0,10	<1,0
2132	<10	<2.5	<25	<25	<10	<0.025	<10	<10
2137	----	----	----	----	----	----	----	----
2139	----	----	----	----	----	----	----	----
2156	<10	<3	<5	<10	----	----	<5	<2
2165	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2182	----	----	----	----	0.4428	----	----	----
2184	not detected	not detected	not detected	not detected	0.39	not detected	not detected	not detected
2190	----	----	----	----	----	----	----	----
2201	<10	<10	<10	<50	<10	<0.025	<10	<10
2230	----	----	----	----	----	----	----	----
2236	----	----	----	----	----	----	----	----
2238	<10	<10	<10	<50	<10	<0.025	<10	<10
2250	not detected	not detected	3.105	not detected	0.5082	----	not detected	not detected
2256	<2.00000	2.63	3.50	<2.00000	<2	ND	<2	<2
2265	----	----	----	----	----	----	----	----
2284	<5	<2.5	<5	<5	0.43	<0.053	<5	<5
2293	----	----	----	----	----	----	----	----
2295	<10	<10	<10	<10	<1	<0.05	<10	<10
2297	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2301	----	----	----	----	----	----	----	----
2326	ND	ND	ND	ND	ND	ND	ND	ND
2347	<10	<10	<50	<50	<5	<0.02	<10	<10
2350	< 10	< 10	< 50	< 50	< 5	< 0.01	< 10	< 10
2352	----	----	----	----	----	----	----	----
2357	<10	<10	<50	<50	<5	<0.025	<10	<5
2363	<10	<10	<50	<50	<5	<0.025	<10	<5
2365	<10	<10	<50	<50	<5	<0.02	<10	<10
2366	<10	<10	<50	<50	<1	<0.010	<10	<2.3
2369	<10	<10	<50	<50	<5	not applicable	<10	<5
2372	<10	<10	<50	<50	<5	<0.02	<10	<10
2375	<10	<10	<50	<50	<5	<0.053	<10	<10
2382	<10.0	<10.0	<50.0	<50.0	<5.0	<0.025	<10.0	<5.0
2384	Not Detected	Not Detected	Not Detected	Not Detected	not applicable	not applicable	Not Detected	Not Detected
2385	<5	<1	2.58	<1	<1	<0.053	<1	0.69
2406	<5	<5	<5	<5	----	----	<5	<5
2426	<50	<10	<50	<50	<0.05	<0.01	<10	<10
2429	<10	<10	<10	<50	<10	<0.025	<10	<10
2431	----	----	----	----	----	----	----	----
2475	----	----	----	----	----	----	----	----
2495	<1	<0.5	<5	<5	<1	----	<0.5	<1
2500	<10	<10	<10	<10	<10	<0.025	<10	<10
2504	<1	<2	4.015	<1	not applicable	not applicable	<0.2	<2
2546	<5	<5	<5	----	----	----	----	<5
2573	----	----	----	----	----	----	----	----
2582	----	----	----	----	----	----	----	----
2590	< L.O.Q.	< L.O.Q.	1.93	----	< L.O.Q.	----	< L.O.Q.	< L.O.Q.
2622	<0.7	<0.7	3.61	----	<0.7	<0.7	<0.7	<2
2649	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2674	<5	<5	<2.5	<10	<1	<1	<2.5	<2.5
2744	0.8	not detected	not detected	not detected	not detected	not detected	not detected	0.25
2751	0.74	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	0.25
2798	----	----	----	----	----	----	----	----
2817	----	----	----	----	----	----	----	----
2829	----	----	3.12	----	----	----	----	----
2867	----	----	----	----	<1.0	----	----	----
2907	ND	ND	1.08	1.61	1.11	----	----	ND
2917	5.20	<0.5	<0.5	2.84	<0.5	----	18.86	16.56
2918	not detected	0.26	2.52	----	0.45	----	0.095	0.295
2984	not detected	not detected	not detected	----	----	----	----	not detected
3013	not detected	0.25	2.4	0.68	----	----	not detected	not detected
3015	<10	<10	<10	<50	<10	<0.025	<10	<10
3100	<10	<10	<10	<50	<10	<0.025	<10	<10
3116	<2	<0.15	2.77	<5	<1	<0.02	<2	0.22
3118	<5	<2,5	<5	<5	----	----	<5	<5
3124	----	----	----	----	----	----	----	----
3153	< 10	< 10	< 10	< 50	< 10	< 0.025	< 10	< 10

lab	Sb	As	Ba	B	Cr (III)	Cr (VI)	Co	Pb
3172	< 2	< 5	< 10	< 50	0.42	< 0.025	< 10	< 10
3182	<5	<0.1	<5	<5	0.52	<0.025	<1	<1
3185	<10	<10	<10	<50	<10	<0.025	<10	<10
3190	<10	<10	<10	<50	<10	<0.025	<10	<10
3195	<0,50	0.334	<5,0	<5,0	-----	-----	208	145
3197	<1	<0.5	<10	<10	<1	<0.025	<1	<1
3199	not detected	not detected	not detected	not detected	0.254	-----	not detected	not detected
3209	<5.0	<2.5	<10.0	<5.0	<10.0	<0.025	<5.0	<5.0
3214	<10	<10	<10	<50	<10	<0.025	<10	<10
3218	<10	<10	<10	<50	<10	<0.025	<10	<10
3228	-----	-----	-----	-----	-----	-----	-----	-----
3233	< 5	< 0.5	< 5	< 5	0.38	< 0.025	< 0.5	< 0.5
3237	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3243	-0.128	0.040	10.611	2.306	0.329	0	0.020	0.449
3248	<10	<10	<10	<100	<10	<0.0265	<10	<10
8005	<2	<2	2.76	-----	-----	-----	-----	<2
8030	Not detected	Not detected	3.27	Not detected	0.43	Not detected	Not detected	1.79

## Determination of migration of other elements on sample #23566; results in mg/kg

--continued--

lab	Mn	Hg	Ni	Se	Sr	Sn	Organic Sn	Zn
110	5.693	not detected	not detected	not detected	40.263	not detected	----	4.192
210	----	----	----	----	----	----	----	----
339	5.273	0.126	not detected	not detected	41.967	0.072	----	7.025
523	6.46	0.235	2.11	0.04	41.71	0.052	----	5.14
551	4.947	0.1815	0.8403	0.165	38.839	0.0399	----	3.375
841	<10	<5	<10	<10	33	<2.5	<0.2	<10
2118	6.86	0.14	0.34	0.02	41.67	0.05	----	2.99
2129	<10	0.205	<1,0	<1,0	<100	<3,0	----	<10
2132	<25	<10	<10	<10	<50	<10	not detected	<50
2137	----	----	----	----	----	----	----	----
2139	----	----	----	----	----	----	----	----
2156	6.81	<1	<5	<5	40.58	<2.5	----	5.66
2165	not detected	not detected	not detected	not detected	32.9	not detected	not detected	not detected
2182	----	----	----	----	----	----	----	----
2184	5.35	not detected	not detected	not detected	33.50	not detected	not detected	not detected
2190	----	----	----	----	----	----	----	----
2201	<10	<10	<10	<10	<100	<2.5	<3.0	<100
2230	4.17	----	----	----	29.4	----	----	4.09
2236	----	----	----	----	Not Analyzed	----	----	----
2238	<10	<10	<10	<10	<100	<2.5	<3	<100
2250	7.820	0.2137	not detected	not detected	45.86	not detected	----	not detected
2256	5.03	<2	<2	<2.00000	49.62	<2	ND	12.92
2265	----	1.63	----	----	36.1	----	< 1,0	----
2284	6.88	<5	<5	<5	40.23	<5	<5	6.53
2293	----	----	----	----	----	----	----	----
2295	<10	<1	<10	<10	44	<10	ND	<10
2297	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2301	----	----	----	----	----	----	----	----
2326	ND	ND	ND	ND	39.92	ND	ND	ND
2347	<50	<10	<10	<10	<50	<4.9	<4.9	<50
2350	< 50	< 10	< 10	< 10	< 50	< 4.9	< 0.5	< 50
2352	----	----	----	----	----	----	----	----
2357	<50	<10	<10	<10	<50	<3	----	<50
2363	<50	<10	<10	<10	<50	<3	not detected	<50
2365	<50	<10	<10	<10	<50	<4.9	< 12	< 50
2366	<50	<10	<10	<10	<50	<3.0	<0.30	<50
2369	<50	<10	<10	<10	<50	<3	----	<50
2372	<50	<10	<10	<10	<50	<4.9	----	<50
2375	<50	<10	<10	<10	<50	<4.9	----	<50
2382	<50.0	<10.0	<10.0	<10.0	<50.0	<3.0	<0.20	<50.0
2384	not detected	not detected	not detected	not detected	not detected	not detected	not applicable	not detected
2385	5.86	<1	<1	<1	38	<5	<0.246	<5
2406	<5	<5	<5	<5	24.82	<5	----	<5
2426	<50	<10	<10	<10	<50	<4.9	----	<50
2429	<10	<10	<10	<10	<100	<2.5	<5	<100
2431	7.94	----	----	----	43.57	----	----	23.15
2475	----	----	----	----	----	----	----	----
2495	7.208	<1	<1	<1	42.225	<5	----	<10
2500	<100	<10	<10	<10	<100	<10	<2	<100
2504	6.283	<2	<2	<1	55.929	<5	not applicable	<5
2546	----	<5	----	<5	----	----	----	----
2573	----	----	----	----	----	----	----	----
2582	----	----	----	----	----	----	----	----
2590	4.23	< L.O.Q.	< L.O.Q.	< L.O.Q.	27.47	< L.O.Q.	----	5.16
2622	6.36	----	<0.7	<0.7	----	<7	----	5.32
2649	not detected	not detected	not detected	not detected	31.5	not detected	not detected	not detected
2674	<10	<2.5	<2.5	<10	33.2	<1	----	<10
2744	not detected	0.2	1.2	not detected	35	not detected	not detected	not detected
2751	not detected	0.21	1.26	not detected	33.42	not detected	not detected	not detected
2798	----	----	----	----	38	----	----	----
2817	----	----	----	----	----	----	----	----
2829	8.56	----	----	----	42.85	----	----	----
2867	<10	----	----	----	32.64	----	----	----
2907	2.18	ND	3.1	ND	15.98	ND	----	ND
2917	2.68	----	40.38	<0.5	31.67	<1.0	----	<0.5
2918	7.01	0.157	----	not detected	43.4	----	----	6.79
2984	----	not detected	----	not detected	----	----	----	----
3013	5.3	not detected	0.71	0.48	33	0.16	----	3.1
3015	<10	<10	<10	<10	<100	<2.5	<5	<100
3100	<10	<10	<10	<10	<100	<10	<5	<100
3116	7.60	0.219	<2	<2	40.78	<2	<0.55	6.00
3118	<5	<5	<5	----	40.2636	<5	<5	<5
3124	----	----	----	----	----	----	----	----
3153	< 10	< 10	< 10	< 10	< 100	< 10	< 2	< 100

lab	Mn	Hg	Ni	Se	Sr	Sn	Organic Sn	Zn
3172	< 50	< 1	< 10	< 3	< 50	< 2	-----	< 50
3182	6.0	<1	<5	<5	38.8	<1	-----	<5
3185	<10	<10	<10	<10	<100	<2.5	<5	<100
3190	<10	<10	<10	<10	<10	<2.5	<5	<100
3195	32.1	0.159	456	<0,50	399	1.36	-----	<5,0
3197	<10	<0.5	<1	<1	37.96	<10	<0.02	<10
3199	4.89	not detected	not detected	not detected	32.48	not detected	-----	2.51
3209	<10.0	<5.0	<5.0	<5.0	<100.0	<4.0	<0.2	<50.0
3214	<10	<10	<10	<10	<100	<10	<12	<100
3218	<10	<10	<10	<10	<100	<10	<3.0	<100
3228	-----	-----	-----	-----	34.03	-----	-----	-----
3233	6.61	< 0.5	< 5	< 5	42.88	< 0.5	-----	5.66
3237	not detected	0.28	not detected	not detected	not detected	not detected	not detected	not detected
3243	5.971	0.101	0.406	-0.083	37.365	0.177	-----	3.724
3248	<10	<10	<10	<10	43	<0.8	<3	<10
8005	-----	<2	-----	<2	-----	-----	-----	-----
8030	not detected	not detected	not detected	not detected	36.50	not detected	-----	not detected



## APPENDIX 3 Analytical details

lab	ISO/IEC17025 accredited	Sample intake (g)	Amount of 0.07 mol/L HCl solution (mL)	pH after shaking	Was the pH adjusted after shaking	pH after adjustment
110	Yes	0.25 g	12.5 ml	6.0	No	---
210	Yes	0.2g	10 ml	1.17	No	NA
339	Yes	0.210	10.485	5.65	Yes	1.10
523	Yes	0.1	5 mL	6.1 for paint and 3.0 for paper	Yes	1.16 for paint and 1.19 for paper
551	Yes	0.25	12.5	#23565 pH 4.9 - #23566 pH 1.9	Yes	#23565 pH 1.13 - #23566 pH 1.12
841	---	0.2g	10ml	1.14	No	---
2118	Yes	0.257g #23565 0.207g #23566	12.86 ml #23565 10.33 ml #23566	5.5 #23565 2.2 #23566	Yes	1.10 #23565 1.10 #23566
2129	Yes	0,1g	10ml	1,3	Yes	1,18
2132	Yes	23565: 0.1006g; 23566: 0.1000g	23565: 5ml; 23566: 2.5ml H <sub>2</sub> O, 2.5ml 0.14 mol/L HCL	23565: 1.11; 23566: 1.10	No	---
2137	Yes	0.05	10	1.1	No	---
2139	Yes	about 0.15 mg	about 7.5 mL	about 1.1	No	---
2156	Yes	0.1 g	5 mL	#23565: pH 5.46 #23566: pH 2.14	Yes	#23565: pH 1.14 #23566: pH 1.14
2165	Yes	0.2g nearest 1 mg.	#23565 10mL #23566 5mL D.I Water and 5 mL 0.14 mol/L HCL.	1.1~1.3	No	---
2182	Yes	0.2g	10mL	#23565:2.08 #23566:4.16	Yes	#23565:1.16/ #23566:1.14
2184	Yes	0.2g	10ml	#23565: 5.97 #23566: 1.83	Yes	#23565: 1.14 #23566: 1.14
2190	---	---	---	---	---	---
2201	Yes	#23565 0.2010 g #23566 0.1994 g	10 mL	#23565 pH=1.17 #23566 pH=1.17	No	#23565 1.19 #23566 1.18
2230	Yes	0.1008	5	1.3	No	---
2236	Yes	0.3028 (23565)	15	5.86 (23565)	Yes	1.18 (23565)
2238	Yes	0.1036g, 0.1006g	5mL, 5mL	1.15, 1.14	No	---
2250	Yes	0,1	5	not noted	Yes	not noted
2256	Yes	23565: 0.1147 23566 : 0.1265	23565: 5.7 23566 : 6.3	23565: 1.239 23566 : 1.164	No	---
2265	Yes	0.20 g for 23566 0.25 g for 23565	10 ml for 23566 12,5 ml for 23565	1,12 for 23566 1,19 for 23565	No	---
2284	Yes	23565: 0.1040 g 23566: 0.1044 g	23565: 5.20 ml 23566: 5.22 ml	23565: 5.21 23566: 1.55	Yes	23565: 1.25 23566: 1.27
2293	Yes	0.2	10	1.2	No	---
2295	Yes	0.2 gram	10 ml	#23565:pH=5.5 #23566:pH=1.6	Yes	#23565:pH=1.2 #23566:pH=1.2
2297	Yes	0.2	50	1.19	Yes	1.20
2301	---	---	---	---	---	---
2326	Yes	#23565 = 0.4015 #23566 = 0.2084	20 ML 10.4 ML	1.1 - 1.2	No	---
2347	Yes	0.1g	5ml	1.26	No	---
2350	Yes	#23565:0.4002 g #23566:0.4007 g	20 mL	pH 1.2	No	---
2352	Yes	#23565:0.2g #23566:0.2g	#23565:10.2ml #23566:10.1ml	#23565:pH=1.18 #23566:pH=1.14	Yes	#23565:pH=1.12 #23566:pH=1.10
2357	---	---	---	---	---	---
2363	Yes	0.1g	5mL	5.85	Yes	1.16
2365	Yes	0.1g	5ml	5.95	Yes	1.16
2366	Yes	---	---	---	---	---
2369	---	---	---	---	---	---
2372	Yes	#23565 0.2092g #23566 0.2081g	10mL	#23565: pH: 1.150 #23566 pH :1.167	Yes	#23565 pH: 1.185 #23566 pH :1.247
2375	Yes	0.1 gram	5 mL	1,19	No	---
2382	Yes	0.1g	5ml	#22566:1.45 #22565:5.89	Yes	#22566:1.19 #22565:1.22
2384	Yes	0.1 gram	5ml #23565; 2.5mL of 0.14mol/L HCL+	1.11	No	1.11

lab	ISO/IEC17025 accredited	Sample intake (g)	Amount of 0.07 mol/L HCl solution (mL)	pH after shaking	Was the pH adjusted after shaking	pH after adjustment
			2.5mL of water for #23566			
2385	Yes	~ 0.5 g	Factor 50 to sample intake in mL	6.64 // 2.31	Yes	1.10 // 1.13
2406	Yes	#23565: 0.1047g #23566: 0.1037g	#23565: 5.24mL #23566: 5.18mL	#23565: 5.72 #23566: 1.75	Yes	#23565: 1.10 #23566: 1.04
2426	Yes	#23565: 0.1551g / #23566: 0.1615g	#23565: 7.76ml / #23566: 8.08ml	1-2	---	1-2
2429	Yes	0.1000g	5ml	1.22	Yes	1.20
2431	Yes	0.1	5	1.2	No	1.2
2475	Yes	0.136	6.8	5.2 #23565 1.69 #23566	Yes	1.15 #23565 and 1.18 #23566
2495	Yes	0.10	5	#23565: 5.5 #23566: 1.4	Yes	#23565: 1.15 #23566: 1.16
2500	Yes	#23565 0.1001 #23566 0.3001	#23565 5 #23566 15	# 23565 1.15 # 23566 1.19	No	---
2504	Yes	0.15-0.2 g	50x sample ( 7.5-10 mL)	#23565 : pH 5.9 #23566 : pH 2.7	Yes	#23565 : pH 1.15 #23566 : pH 1.16
2546	Yes	0.2 gr	10	NA	Yes	1.2
2573	---	---	---	---	---	---
2582	---	---	---	---	---	---
2590	Yes	0.1	10	1.71	Yes	1.17
2622	Yes	#23565: 0.4823 #23566: 0.4075	25	<1	No	---
2649	Yes	0.1 gram	5 ml	1.0 to 2.0	No	Not Applicable
2674	No	about 0.1g	about 5mL	>1.3	Yes	1.2
2744	Yes	0,1	5	1,68	Yes	1,11
2751	Yes	0,1066	50	1,38	Yes	1,25
2798	Yes	~0.1	5	4.96 for 23565 1.55 for 23566	Yes	1.22 for 23565 1.17 for 23566
2817	---	---	---	---	---	---
2829	No	0.1	50 mL	1.20	No	---
2867	Yes	0.2g	10mL	#23565:4.8 #23566: 3.2	Yes	1.2
2907	---	---	---	---	---	---
2917	Yes	0.25	12	5.7	Yes	1.0
2918	Yes	paint: 0,2084/0,2021/0,0 914 paper: 0,2011/0,2014	paint: 10,420/10,105/5,0 paper: 10,055/10,070	paint: 1,110/1,167/0,947 paper: 1,111/1,158	No	---
2984	Yes	#23565 : 0.2006 g #23566 : 0.4001 g	#23565 : 10 ml #23566 : 20 ml	1.4	No	---
3013	Yes	0,4032	25		---	---
3015	Yes	0.1	5	1.2	No	---
3100	Yes	0.1g	10mL	#23565:pH=5.57; #23566:pH=5.38	Yes	#23565:pH=1.11; #23566:pH=1.15
3116	Yes	0.2	10	---	---	---
3118	Yes	0,1 gram	5 mL	1,21	No	---
3124	---	---	---	---	---	---
3153	Yes	0.1 gram	5 mL	5.71	Yes	1.15
3172	Yes	---	---	---	---	---
3182	Yes	100 mg	5 ml	2.03 #23565 5.42 #23566	Yes	1.21 #23565 1.23 #23566
3185	Yes	#23565:0.1138g #23566:0.1302g	#23565:5.69mL #23566:6.51mL	#23565:5.51 #23566:5.22	Yes	#23565:1.14 #23566:1.17
3190	Yes	# 23565:0.1044g # 23566:0.1014g	5mL	# 23565:5.9 # 23566:1.8	Yes	# 23565:1.2 # 23566:1.2
3195	No	0,1	5	1,2	No	1,2
3197	Yes	0.1483-23565 0.1543-23566	7.5-23565 7.5-23566	5.65-23565 2.80-23566	Yes	1.21-23565 1.20- 23566
3199	Yes	#23565 = 0.1020 g #23566 = 0.1024 g	#23565 = 5.1 mL #23566 = 5.1 mL	#23565 > 2.0 #23566 > 2.0	Yes	#23565 = 1.2 #23566 = 1.2
3209	Yes	23565:0.2002g 23566:0.2005g	23565:10mL 23566:5mL水 +5mL0.14mol/L HCL	23565:5.90 23566:3.55	Yes	23565:1.21 23566:1.18

lab	ISO/IEC17025 accredited	Sample intake (g)	Amount of 0.07 mol/L HCl solution (mL)	pH after shaking	Was the pH adjusted after shaking	pH after adjustment
3214	Yes	#23565:0.2044g #23566:0.2058g	10ml	#23565:1.18 #23566:1.26	No	---
3218	Yes	0.2g	10ml	5.704,5.593	Yes	1.278,1.265
3228	Yes	0.2g	10ml	>1.3	Yes	1.1-1.3
3233	Yes	#23566 = 0.1006g #23565 = 0.1009g	#23566 = 5 #23565 = 5	#23566 = 3.91 #23565 = 5.65	Yes	#23566 = 1.10 #23566 = 1.13
3237	Yes	0.2	10	23565 paint: 1,18	Yes	23565 paint:1,21
3243	Yes	0,5 g for dried paint and 0,4 g for inked paper	29 mL for dried paint and 21 mL for inked paper		No	---
3248	Yes	0.2 g	10	---	Yes	23565: 1.14 23566: 1.18
8005	Yes	0.1	5	---	---	---
8030	Yes	#23565 = 0.4937 g #23566 = 0.3900 g	#23565 = 25 ml #23566 = 20 ml	#23565 = 7.63 #23566 = 6.97	Yes	#23565 = 1.13 #23566 = 1.12

## APPENDIX 4

### Number of participants per country

1 lab in BANGLADESH  
1 lab in BELGIUM  
1 lab in BRAZIL  
1 lab in COLOMBIA  
1 lab in DENMARK  
4 labs in FRANCE  
8 labs in GERMANY  
1 lab in GUATEMALA  
9 labs in HONG KONG  
3 labs in INDONESIA  
6 labs in ITALY  
3 labs in KOREA, Republic of  
2 labs in MALAYSIA  
2 labs in MEXICO  
1 lab in MOROCCO  
27 labs in P.R. of CHINA  
2 labs in PAKISTAN  
1 lab in SLOVENIA  
1 lab in SRI LANKA  
3 labs in TAIWAN  
3 labs in THAILAND  
6 labs in TURKEY  
3 labs in U.S.A.  
1 lab 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
fr.	= first reported
f+?	= possibly a false positive test result?
f-?	= possibly a false negative test result?

### Literature

- 1 iis Interlaboratory Studies, Protocol for the Organisation, Statistics & Evaluation, June 2018
- 2 ISO5725:86
- 3 ISO5725 parts 1-6:94
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- 5 M. Thompson and R. Wood, J. AOAC Int, 76, 926, (1993)
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- 7 P.L. Davies, Fr. Z. Anal. Chem, 331, 513, (1988)
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- 9 Analytical Methods Committee, Technical Brief, No 4, January 2001
- 10 P.J. Lowthian and M. Thompson, The Royal Society of Chemistry, Analyst, 127, 1359-1364, (2002)
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