Results of Proficiency Test
Migration of Elements EN71-3
April 2019

Organised 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 (Council Directive 88/378/EEC). This directive has been superseded by Council Directive 2009/48/EC, which applies to toy imports into the EU since 20 July 2011. There is an exception for the chemical requirements under part III of Annex II of this directive. These chemical requirements became into force on 20 July 2013.
The test methods EN71-3:2013+A3:2018 and ISO 8124-3:2018 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).

Every year the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for Migration of Elements EN71-3 since 2010. During the annual proficiency testing program 2018/2019, it was decided to continue the proficiency test for the analysis of the migration of elements. This year the proficiency test was extended with a category 2 sample. In this interlaboratory study 103 laboratories in 31 different countries registered for participation. See appendix 4 for the number of participants per category per country. In this report, the results of the 2019 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 analyses for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory. It was decided to send to each participant depending on the registration one or more, up to five different samples divided over the three categories mentioned in EN71-3 with different concentrations of various elements, see below table.

PT id. / EN71-3 category	Sample id.	Sample amount	Matrix	Elements added
iis19V02A / category 1	#19532	0.5g	Plaster	Copper
iis19V02B / category 2	#19534	3g	Finger Paint	Nickel and Lead
iis19V02C / category 3	#19536	2 pcs	Ink on paper	Mercury and Selenium
	#19537	0.5g	Dried Paint	Cobalt, Manganese and Strontium
	#19538	3g	Textile	Nickel and Zinc

Table 1: overview of 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 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 Organization, 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

iis19V02A

For sample #19532 a batch of white plaster was purchased in a local shop. To this batch of plaster the element Copper was added. After thorough mixing the batch of plaster was divided over 58 plastic bags, each filled with 0.5 grams and labelled #19532. The homogeneity of the subsamples was verified by measuring total Copper content by an in-house method on 8 stratified randomly selected samples.

	Copper in mg/kg
sample #19532-1	605
sample #19532-2	604
sample #19532-3	576
sample #19532-4	578
sample #19532-5	558
sample #19532-6	569
sample #19532-7	558
sample #19532-8	602

Table 2: homogeneity test results of subsamples #19532

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

	Copper in mg/kg
r (observed)	56
reference test method	prEN71-3:12
0.3 * R (ref. test method)	112

Table 3: evaluation of the repeatability of subsamples #19532

The calculated repeatability of sample #19532 is in agreement with 0.3 times the respective reproducibility of the reference test method. Therefore, homogeneity of the subsamples #19532 was assumed.

iis19V02B

For sample #19534 a batch of green finger paint was purchased in a local shop. To this batch of finger paint the elements Nickel and Lead were added. After thorough mixing the batch of finger paint was divided over 60 plastic jars with approximately 3 grams of sample material and labelled #19534. The homogeneity of the subsamples was verified by measuring the Nickel and Lead content by EN71-3 on 7 stratified randomly selected samples.

	Nickel in mg/kg	Lead in mg/kg
sample #19534-1	26	15
sample #19534-2	28	18
sample #19534-3	28	19
sample #19534-4	29	19
sample #19534-5	24	18
sample #19534-6	28	19
sample #19534-7	29	19

Table 4: homogeneity test results of subsamples #19534

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

	Nickel in mg/kg	Lead in mg/kg
r (observed)	5	4
reference test method	prEN71-3:12	prEN71-3:12
0.3 * R (ref. test method)	8	4

Table 5: evaluation of the repeatabilities of subsamples #19534

The calculated repeatabilities of sample #19534 is in agreement with 0.3 times the respective reproducibilities of the reference test method. Therefore, homogeneity of the subsamples #19534 was assumed.

iis19V02C

For sample #19536 a paper with ink was prepared by iis. The elements Mercury and Selenium were added to the black ink and after thorough mixing printed on paper. After cutting and mixing of the paper the pieces were divided over 128 plastic bags. Each bag contained two 5x5cm pieces of paper and was labelled #19536. The homogeneity of the subsamples was verified by measuring the Selenium content by EN71-3 on 8 stratified randomly selected samples.

	Selenium in mg/kg
sample #19536-1	170
sample #19536-2	170
sample #19536-3	170
sample #19536-4	170
sample #19536-5	170
sample #19536-6	170
sample #19536-7	170
sample #19536-8	180

Table 6: homogeneity test results of subsamples #19536

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

	Selenium in mg/kg
r (observed)	10
reference method	prEN71-3:12
0.3 * R (reference method)	73

Table 7: evaluation of the repeatability of subsamples #19536

The calculated repeatability of sample #19536 is in agreement with 0.3 times the respective reproducibility of the reference method. Therefore, homogeneity of the subsamples #19536 was assumed.

For sample #19537 a dried green paint spiked with the elements: Cobalt, Manganese and Strontium was selected. This batch was also used in the 2018 PT iis18V02 as sample #18542. After thorough mixing 120 plastic bags were filled with 0.5 grams each and labelled #19537. The homogeneity of the batch was verified by measuring the Cobalt, Manganese and Strontium content by EN71-3 on 8 stratified randomly selected samples.

	Cobalt in mg/kg	Manganese in mg/kg	Strontium in mg/kg
sample #19537-1	177.9	174.2	1011
sample #19537-2	181.9	176.8	1015
sample #19537-3	181.3	174.6	1029
sample #19537-4	188.9	180.6	1039
sample #19537-5	183.0	173.2	1008
sample #19537-6	188.1	181.3	1026
sample #19537-7	180.6	176.6	1023
sample #19537-8	182.1	178.2	1024

Table 8: homogeneity test results of subsamples #19537

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

	Cobalt in mg/kg	Manganese in mg/kg	Strontium in mg/kg
r (observed)	10	8	28
reference method	prEN71-3:12	prEN71-3:12	prEN71-3:12
0.3 * R (reference method)	86	36	137

Table 9: evaluation of the repeatability of subsamples #19537

The calculated repeatability of sample #19537 is in agreement with 0.3 times the respective reproducibility of the reference method. Therefore, homogeneity of the subsamples #19537 was assumed.

For sample #19538 a black textile with white dots was obtained from a third party. This batch of textile was found positive on the elements Nickel and Zinc. After cutting and thorough mixing the batch of textile was divided over 148 plastic bags. Each bag filled with 3 grams of textile and labelled #19538. The homogeneity of the subsamples was verified by measuring the Nickel content by migration on 8 stratified randomly selected samples.

	Nickel in mg/kg
sample #19538-1	4.07
sample #19538-2	4.22
sample #19538-3	3.84
sample #19538-4	3.75
sample #19538-5	3.71
sample #19538-6	3.70
sample #19538-7	3.93
sample #19538-8	4.14

Table 10: homogeneity test results of subsamples #19538

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

	Nickel in mg/kg
r (observed)	0.57
reference test method	prEN71-3:12
0.3 * R (ref. test method)	1.15

Table 11: evaluation of the repeatability of subsamples #19538

The calculated repeatability of sample #19538 is in agreement with 0.3 times the respective reproducibility of the reference test method. Therefore, homogeneity of the subsamples #19538 was assumed.

To each of the participating laboratories, depending on the registration, one plastic bag with 0.5 gram of plaster (#19532), one plastic jar with 3 gram of finger paint (#19534), one plastic bag with 2 pieces of 1.0 gram of printed paper (#19536), one plastic bag with 0.5 gram of dried paint (#19537) and/or one plastic bag with 3 gram textile (#19538) were sent to the participating laboratories on March 27, 2019.

2.5 ANALYSES

The participants were requested to determine the migration of seventeen elements applying the analysis procedure that is routinely used in the laboratory. It was requested to report if the laboratory was accredited for the determination Migration of 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 to 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 evaluation.
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 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 samples 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 in appendix 1 or appendix 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 re-analyzes). Additional or corrected test results are used for data analysis and original test results are placed under 'Remarks' in the result tables in appendix 1. 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 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.

In accordance to ISO5725 the original test results per determination were submitted subsequently to Dixon’s and Grubbs’ and/or Rosner’s outlier tests. 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 the averages and the 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.

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. The Kernel Density Graph 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 was projected over the Kernel Density Graph for reference.

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, 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. In general, when no literature reproducibility is available, another target may be 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 is 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 result tables in appendix 1.
Absolute values for $z<2$ are very common and absolute values for $z>3$ are very rare. The usual interpretation of z-scores is as follows:

	$\lvert z\rvert < 1$	good
$1 <$	$\lvert z\rvert < 2$	satisfactory
$2 <$	$\lvert z\rvert < 3$	questionable
$3 <$	$\lvert z\rvert$	unsatisfactory

4 EVALUATION

During the execution of this proficiency test no problems were encountered. In total 103 participants registered for participation for one or more categories (proficiency tests). Three participants did not report any test results and eight other participants reported the test results after the deadline for reporting. Not all laboratories were able to report all elements requested. Finally, the 100 reporting laboratories submitted 1032 numerical test results. Observed were 32 outlying results, which is 3.1%. In proficiency studies outlier percentages of 3% - 7.5% are quite normal.

Not all original 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 determination is discussed per sample and per element. All statistical results reported on the samples are summarized in appendix 1. The test results of the elements which were not evaluated are summarized in appendix 2. The test methods, which were used by various laboratories were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables in appendix 1 together with the original data. The abbreviations used in these tables are listed in appendix 5.

EN71-3 method is considered to be the official test method for the determination of Metals migrated from different matrices. In 2012 a proficiency test was organized to determine the precision data for prEN71-3:2012. In June 2013 EN71-3:2013 was published with in Annex B.3 a quote with regards to the precision values was given.

The results on the different method part and on the 3 toy categories showed wide spread. Depending on the element/toy material category the statistical evaluation of this data lead to satisfying and unsatisfying estimations of the measurement uncertainty depending of the use of different statistical methods. These findings had been assessed by the CEN/TC 52/WG 5 “Safety of toys – Chemical properties” as not sufficient for taking the repeatability and reproducibility data on board of this standard. The evaluation of the causes for this is still ongoing.

In the following versions of EN71-3, with amendments A1 (in 2014), A2 (in 2017) and A3 (in 2018), the quote about the precision was continued.

In April 2019 during the execution of the PT the CEN committee published a new version of EN71-3:19. This version should be implemented by the laboratories in October 2019. In this 2019 test method of EN71-3 new precision data are given in table 4 and in table C.1. Table 4 contains precision data from a new 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 of EN71-3.

Because the new version was published during the execution of this April 2019 proficiency test iis decided to use still the precision data from CEN/TC 52/WG 5 No.426 (prEN71-3:12) to evaluate the performance of the group of participants as was also done in previous EN71-3 PTs. In appendix 1 the reproducibilities of EN71-3:19 table 4.1 and C.1 are given for comparison.

Unfortunately, a suitable reference test method providing the precision data for Mercury is not available in prEN71-3:12 therefore the calculated reproducibility was compared against the reproducibility estimated from the Horwitz equation.

iis19V02A (Cat.1) Plaster #19532

The test results in this sample of laboratories 2705 and 3150 showed significant number of statistical outliers and/or deviating test results due to low intake and deviating pH after adjustment. It was decided to exclude the remaining test results of these laboratories from the statistical evaluations as the test results are not independent.

Aluminum: The determination of Aluminum was not problematic. Four statistical outliers were observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. Remarkably the new requirements mentioned in EN71-3:19 are much lower.

Copper: The determination of Copper was not problematic. Two statistical outliers were observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is in good agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19.

Lead: The determination of Lead was not problematic. Two statistical outliers were observed and one other test result was excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. However, the new requirements mentioned in EN71-3:19 are stricter.

Strontium: The determination of Strontium was not problematic. No statistical outliers were observed, but two test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. However, the new requirements mentioned in EN71-3:19 are stricter.

The majority of the participants agreed on a concentration near or below the limit of detection for all other reported elements, see appendix 2.

iis19V02B (Cat.2) Finger Paint #19534

Barium: The determination of Barium was problematic for a number of participants. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in good agreement with the target reproducibility based on prEN71-3:12. However, the new requirements mentioned in EN71-3:19 are stricter.

Lead: The determination of Lead was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the target reproducibility based on prEN71-3:12. However, the new requirements mentioned in EN71-3:19 are stricter.

Nickel: The determination of Nickel was not problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19.

The majority of the participants agreed on a concentration near or below the limit of detection for all other reported elements, see appendix 2.

iis19V02C (Cat.3)

For the Ink on paper sample #19536 and dried paint sample #19537 it appeared that a group of laboratories found a much lower test result for Aluminum (#19536 and #19537), Manganese (#19537) and Strontium (#19537). Sample #19537 was enriched with Cobalt, Manganese and Strontium. It was proven (see paragraph 2.4) that subsamples of #19536 and #19537 are homogeneous. Therefore, it was concluded that the lower test results on Aluminum and Strontium were suspect. Furthermore, in EN71-3:19 a new part was introduced in which was emphasized that maintaining the pH between 1.1 and 1.3 is very important for the migration of the elements. Therefore, it was decided to use for the determination of the assigned values for category 3 only the test results of the laboratories that reported to have kept the pH between 1.1 and 1.3 as per EN71-3:13+A3:18 or ISO 8124-3. See for more information appendix 3 for analytical details and the discussion in paragraph 5.

Ink on Paper #19536

Aluminum: The determination of Aluminum was not problematic. Three statistical outliers were observed and eighteen other test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in good agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19.

Manganese: The determination of Manganese was not problematic. One statistical outlier was observed and thirteen other test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19.

Mercury: The determination of Mercury may be problematic. Two statistical outliers were observed and twenty-two other test results were excluded. The calculated reproducibility after rejection of the suspect data is not in agreement with the estimated reproducibility calculated using the Horwitz equation. EN71-3:19 mentions a requirement for Mercury which is less strict than Horwitz. The calculated reproducibility is in agreement with the

requirements of EN71-3:19.

Selenium: The determination of Selenium was not problematic. One statistical outlier was observed and twenty-two other test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19.

Strontium: The determination of Strontium was not problematic. One statistical outlier was observed and seventeen other test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19, table C.1, but not with table 4.

The majority of the participants agreed on a concentration near or below the limit of detection for all other reported elements, see appendix 2.

Dried Paint #19537

Aluminum: The determination of Aluminum was not problematic. No statistical outliers were observed, but eleven test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. Remarkably the new requirements mentioned in EN71-3:19 are stricter.

Cobalt: The determination of Cobalt was not problematic. No statistical outliers were observed, but twenty test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. Remarkably the new requirements mentioned in EN71-3:19 are stricter.

Manganese: The determination Manganese was not problematic. No statistical outliers were observed, but twenty test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. Remarkably the new requirements mentioned in EN71-3:19 are stricter.

Strontium: The determination of Strontium was not problematic. Three statistical outliers were observed and twenty other test results were excluded. The calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19, table C.1, but not with table 4.

The majority of the participants agreed on a concentration near or below the limit of detection for all other reported elements, see appendix 2.

Textile #19538

Nickel: The determination of Nickel was not problematic. No statistical outliers were observed, but twelve test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19.

Zinc: The determination of Zinc was not problematic. Two statistical outliers were observed and eighteen other test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in agreement with the target reproducibility based on prEN71-3:12. The calculated reproducibility is also in good agreement with the requirements of EN71-3:19, table C.1, but not with table 4.

The majority of the participants agreed on a concentration near or below the limit of detection for all other reported elements, see appendix 2.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

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

Element	unit	n	average	2.8 * sd	R (target)
Aluminum as Al	mg/kg	19	28.2	23.3	43.5
Copper as Cu	mg/kg	29	591	170	380
Lead as Pb	mg/kg	32	5.9	4.3	4.3
Strontium as Sr	mg/kg	30	421	230	224

Table 12: reproducibilities of test results on sample #19532 (plaster, cat 1)

Element	unit	n	average	2.8 * sd	R (target)
Barium as Ba	mg/kg	21	9.8	6.1	6.9
Lead as Pb	mg/kg	34	26.5	16.3	17.1
Nickel as Ni	mg/kg	33	40.7	21.1	41.1

Table 13: reproducibility of test results on sample #19534 (finger-paint, cat 2)

Element	unit	n	average	2.8 * sd	R (target)
Aluminum as Al	mg/kg	61	436	153	843
Manganese as Mn	mg/kg	27	6.4	2.3	4.3
Mercury as Hg	mg/kg	62	13.2	9.2	4.0
Selenium as Se	mg/kg	67	164	62	234
Strontium as Sr	mg/kg	47	34.9	12.4	15.6

Table 14: reproducibilities of test results in on sample #19536 (ink on paper, cat 3)

Element	unit	n	average	2.8 * sd	R (target)
Aluminum as Al	mg/kg	51	82.5	76.5	159.4
Cobalt as Co	mg/kg	68	140	80	219
Manganese as Mn	mg/kg	65	131	83	88
Strontium as Sr	mg/kg	64	823	351	369

Table 15: reproducibilities of test results on sample #19537 (dried paint, cat 3)

Element	unit	n	average	2.8 * sd	R (target)
Nickel as Ni	mg/kg	27	4.1	1.8	4.0
Zinc as Zn	mg/kg	65	81.4	32.4	98.0

Table 16: reproducibilities of test results on sample #19538 (textile, cat 3)

From the above tables it can be concluded that, without statistical calculations, the group of participating laboratories has no difficulties with the determination of the migration of the evaluated elements in plaster, finger paint, ink on paper, dried paint and textile in accordance with EN71-3:13+A3:18 when compared with the target reproducibilities based on the report “Statistical evaluation of results from the round robin on prEN71-3:12”.

4.3 COMPARISON OF THE PROFICIENCY TEST OF APRIL 2019 WITH PREVIOUS PTS

The uncertainties determined in this PT are compared with the relative standard deviations as found in previous years and with the target requirements in the next tables.

Element	April 2019	April 2018	April 2017	April 2016	2013-2015	Target*) category1	EN71-3:19 table C.1
Aluminum	29%	20%	23%	20%	20-21%	55%	15%
Antimony	--	--	47%	--	28%	39%	30%
Arsenic	--	--	--	32%	--	40%	20%
Barium	--	--	--	--	20%	29%	20%
Boron	--	--	--	--	--	21%	15%
Cadmium	--	18%	--	--	--	45%	20%
Chromium	--	--	--	44%	--	23%**)	15%
Cobalt	--	--	--	--	--	16%	15%
Copper	10%	--	28%	17%	--	23%	15%
Lead	26%	30%	22%	22%	18-19%	26%	20%
Manganese	--	14%	13%	16%	12-13%	12%	15%
Mercury	--	--	--	--	--	--	30%
Nickel	--	--	--	--	15%	24%	20%
Selenium	--	--	--	--	25%	54%	15%
Strontium	20%	15%	21%	18%	18%	19%	15%
Tin	--	--	--	--	--	37%	20%
Zinc	--	17%	--	--	--	32%	15%

Table 17: development of uncertainties over the years for category 1 materials (plaster)
*) From the report ‘Statistical evaluation of results from the round robin on prEN71-3:12”
**) Chromium total

Element	April 2019	Target*) category2	EN71-3:19 table C.1
Aluminum	--	17%	15%
Antimony	--	83%	30%
Arsenic	--	48%	20%
Barium	22%	25%	15%
Boron	--	10%	15%
Cadmium	--	67%	20%
Chromium III	--	7%	20%
Cobalt	--	36%	20%
Copper	--	16%	15%
Lead	22%	23%	20%
Manganese	--	24%	15%
Mercury	--	--	30%
Nickel	19%	36%	20%
Selenium	--	44%	20%
Strontium	--	11%	15%
Tin	--	43%	20%
Zinc	--	66%	15%

Table 18: development of uncertainties over the years for category 2 materials (finger paint)
*) From the report 'Statistical evaluation of results from the round robin on prEN71-3:12"

Element	April 2019	April 2018	April 2017	April 2016	2010-2015	Target*) category 3	EN71-3:19 table C.1
Aluminum	13-33%	46-54%	58-63%	16%	34-37%	69%	15%
Antimony	--	--	--	28%	22-33%	61%	30%
Arsenic	--	--	--	20%	13-16%	45%	20%
Barium	--	13%	--	--	20–76%	22%	30%
Boron	--	--	--	--	12%	14%	15%
Cadmium	--	20%	--	13%	11-14%	56%	15%
Chromium III	--	--	25%	17%	6-23%	29%	15%
Cobalt	20%	--	20%	--	10-18%	56%	15%
Copper	--	18%	--	--	11-12%	28%	15%
Lead	--	--	--	22%	12-22%	22%	30%
Manganese	13-22%	21-23%	24-29%	24%	13-15%	24%	15%
Mercury	25%	--	--	--	55%	--	20%
Nickel	15%	--	--	--	14-21%	35%	20%
Selenium	14%	--	--	--	26%	51%	15%
Strontium	13-15%	18-20%	20-25%	13%	--	16%	15%
Tin	--	--	--	--	32-42%	32%	30%
Zinc	14%	--	--	--	11-39%	43%	15%

Table 19: development of uncertainties over the years for category 3 materials (e.g. ink op paper, dried paint)
*) From the report 'Statistical evaluation of results from the round robin on prEN71-3:12".

The performance of the group is in general equal to or better in comparison to the performance in previous years. The performance is in general also in line with the precision requirements of prEN71-3:12 and with the new requirements of EN71-3:19 table C.1. For a vew elements the new requirements of EN71-3:19 table C.1 are more strict. See also above tables and the discussion in paragraph 4.1.

4.4 EVALUATION OF ANALYTICAL DETAILS

In this PT the participants were asked to provide several analytical details and if they were accredited for Migration of Elements EN71-3. The majority of the registered participants mentioned that they are ISO/IEC 17025 accredited for one or more categories of the determination of Migration of elements (EN71-3). The following can be summarized:

iis19V02A (category 1)
- The majority of the participants reported a sample intake of 100 mg or more. Two participants reported to have used a lower intake. However, test method EN71-3 mentions to take not less than 100 mg whenever possible.
- Almost all reporting participants mentioned to have used a volume ratio of 5 mL per 100 mg. for the amount of HCl solution used for the migration. Three participants reported another ratio.
- Twenty-three participants reported to keep the measured pH value between 1.1 and 1.3. Of these group sixteen participants adjusted the pH.
- All reporting participants except one mentioned to have shaken the solution for 60 minutes and wait another 60 minutes before the start of the analysis.

iis19V02B (category 2)
- The majority of the participants reported a sample intake of 100 mg or more. Three participants reported a lower intake. However, test method EN71-3 mentions to take not less than 100 mg whenever possible.
- Almost all reporting participants mentioned to have used a volume ratio of 5 mL per 100 mg for the amount of HCl solution used for the migration. Four participants reported another ratio.
- Twenty-four participants reported to keep the measured pH value between 1.1 and 1.3. Of these group six participants adjusted the pH.
- All reporting participants except one mentioned to have shaken the solution for 60 minutes and wait another 60 minutes before the start of the analysis.

iis19V02C (category 3)
- The majority of the participants reported a sample intake of 100 mg or more. Two participants reported a lower intake. However, test method EN71-3 mentions to take not less than 100 mg whenever possible.
- Almost all reporting participants mentioned to have used a volume ratio of 5 mL per 100 mg for the amount of HCl solution used for the migration. Five participants reported another ratio.
- About seventy participants reported to keep the measured pH value between 1.1 and 1.3. Of these group fifty-five participants adjusted the pH. The adjustment was quite dependent on sample matrix.
- All reporting participants except one mentioned to have shaken the solution for 60 minutes and did wait another 60 minutes before the start of the analysis.

For the matrix of dried paint and paper it became clear in previous proficiency tests that adjusting the pH and the sample intake of are critical (see also PT report: Migration of Elements iis18V02).

5 DISCUSSION

In the previous proficiency tests of Migration of Elements: iis16V02, iis17V02 and iis18V02 problems were found with the determination of certain elements in dried paint. In order to find the cause of the problems, the participants were asked to give some analytical details as used for the determination of migration of elements, e.g. the amount of sample, the volume of the 0.07 mol/l HCl and the pH adjustment. In the 2019 proficiency test the questions were repeated, but this time for all samples of all three categories.

It appeared that in the 2019 PT again not all participating laboratories followed EN 71-3 or ISO 8124-3 to the letter, especially for the step adjustment of the pH between 1.1 and 1.3. Remarkable is that a special paragraph is added in the new version of EN71-3:19 about how to deal with buffer effect by the sample.
For the plaster sample (#19532, category 1) the influence of following the test method correctly (e.g. adjusting the pH and a minimum amount of intake) is visible. The relative standard deviation of the group “only test results that maintain the pH between 1.1-1.3” is smaller compared to the relative standard deviation of the whole group. This was found for all elements given in appendix 1. All relative reproducibilities were 1-6% lower.

For the finger paint sample (#19534, category 2) the influence of following the test method correctly (e.g. maintaining the pH and a minimum amount of sample intake) is less visible. The relative standard deviation of the group “only test results that maintain the pH between 1.1-1.3” is somewhat smaller compared to the relative standard deviation of the whole group.

For the category 3 samples: ink on paper (#19536), dried paint (#19537) and in less extent for textile (#19538) the influence of the pH was again observed. This was also observed in previous iis PTs on EN71-3. As mentioned already in paragraph 4.1 the consensus values of the elements in appendix 1 were determined by excluding the test results for statistical calculations which did not follow the test method EN71-3 to the letter.

6 CONCLUSION

Again, it is concluded that keeping the pH between 1.1 and 1.3 as mentioned in EN71-3 and ISO8124-3 is important for the reproducibility of the determination of elements. Of course, maintaining the pH in this range highly depends on the sample matrix.

In next year proficiency test of Migration of Elements EN71-3 the precision data as mentioned in EN71-3:19, table C.1 will be used for the evaluation of the test results. In this year’s PT the reproducibilities were listed for comparison only in appendix 1. For a number of the determined elements of all samples for each category, the reproducibility showed a good agreement with the calculated reproducibility.

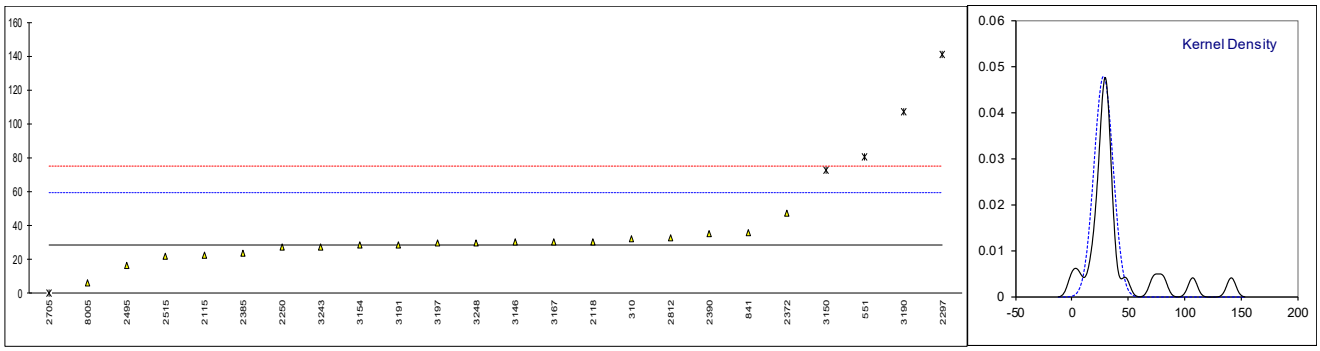
Each participating laboratory should evaluate its performance in this study and decide about any corrective actions if necessary. Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and thus increase of the quality of the analytical results.

APPENDIX 1

Determination of migration of Aluminum as Al on plaster sample #19532 (Cat.1); results in mg/kg

lab	method	value	mark	z(targ)	Remarks
310	EN71-3	31.95		0.24	
523		-----		-----	
551	EN71-3	80.653	R(0.01)	3.37	
841	EN71-3	36		0.50	
2115	EN71-3	22.23		-0.39	
2118	EN71-3	30.59		0.15	
2129		<100		-----	
2132	EN71-3	<250		-----	
2250	EN71-3	27.053		-0.08	
2290	EN71-3	<100		-----	
2297	EN71-3	141.1	R(0.01)	7.26	
2370	EN71-3	<50		-----	
2372	EN71-3	47.5	C	1.24	first reported: n.d.
2375	EN71-3	<50		-----	
2385	EN71-3	23.8		-0.29	
2390	EN71-3	35.3	C	0.45	first reported: 112.05
2492		-----		-----	
2495	EN71-3	16.26		-0.77	
2503		-----		-----	
2515	EN71-3	21.94		-0.41	
2659		-----		-----	
2705	EN71-3	0.341	ex	-1.80	test result excluded, see §4.1
2728		-----		-----	
2812	EN71-3	32.56		0.28	
2887		-----		-----	
3116		-----		-----	
3146	EN71-3	30.4		0.14	
3150	EN71-3	72.62	R(0.01)	2.86	
3153	EN71-3	<100		-----	
3154	EN71-3	28.46		0.01	
3167	EN71-3	30.5		0.15	
3172	EN71-3	< 50		-----	
3190	EN71-3	107	C,R(0.01)	5.07	first reported: not detected
3191		28.71		0.03	
3197	EN71-3	29.6		0.09	
3243	EN71-3	27.358		-0.06	
3248	EN71-3	30		0.11	
8005	EN71-3	6.46		-1.40	

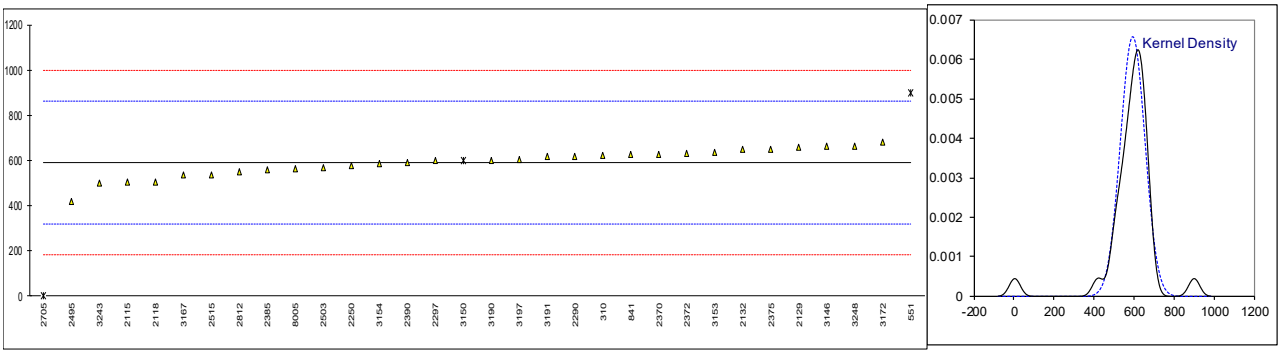
				Only test results that maintain pH between 1.1 – 1.3	
	normality	not OK		not OK	
	n	19		15	
	outliers	4 + 1ex		2	
	mean (n)	28.2458		28.7634	
	st.dev. (n)	8.33182	RSD = 29%	8.83849	RSD = 31%
	R(calc.)	23.3291		24.7478	
	st.dev.(RR prEN71-3:12)	15.53521		15.81987	
	R(RR prEN71-3:12)	43.4986		44.2956	
Compare					
	R(EN71-3:19, table C.1)	11.8633			
	R(EN71-3:19, table 4)	6.0107			



Determination of migration of Copper as Cu on plaster sample #19532 (Cat.1); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	620.895		0.22	
523		-----		-----	
551	EN71-3	897.9	C,R(0.01)	2.26	first reported: 1128.458
841	EN71-3	626.1		0.26	
2115	EN71-3	503.4		-0.64	
2118	EN71-3	505.61		-0.63	
2129		656		0.48	
2132	EN71-3	648.14		0.42	
2250	EN71-3	575.49		-0.11	
2290	EN71-3	619.66		0.21	
2297	EN71-3	597.6		0.05	
2370	EN71-3	627		0.27	
2372	EN71-3	632		0.30	
2375	EN71-3	650		0.44	
2385	EN71-3	558		-0.24	
2390	EN71-3	588.98		-0.01	
2492		-----		-----	
2495	EN71-3	417.31		-1.28	
2503		565.6		-0.19	
2515	EN71-3	535.05		-0.41	
2659		-----		-----	
2705	EN71-3	1.3601	R(0.01)	-4.34	
2728		-----		-----	
2812	EN71-3	551.21		-0.29	
2887		-----		-----	
3116		-----		-----	
3146	EN71-3	661		0.52	
3150	EN71-3	599.5	ex	0.06	test result excluded, see §4.1
3153	EN71-3	636.9		0.34	
3154	EN71-3	587.8		-0.02	
3167	EN71-3	535		-0.41	
3172	EN71-3	683		0.68	
3190	EN71-3	601.4		0.08	
3191		618.80		0.21	
3197	EN71-3	606.1		0.11	
3243	EN71-3	498.255		-0.68	
3248	EN71-3	664		0.54	
8005	EN71-3	562		-0.21	

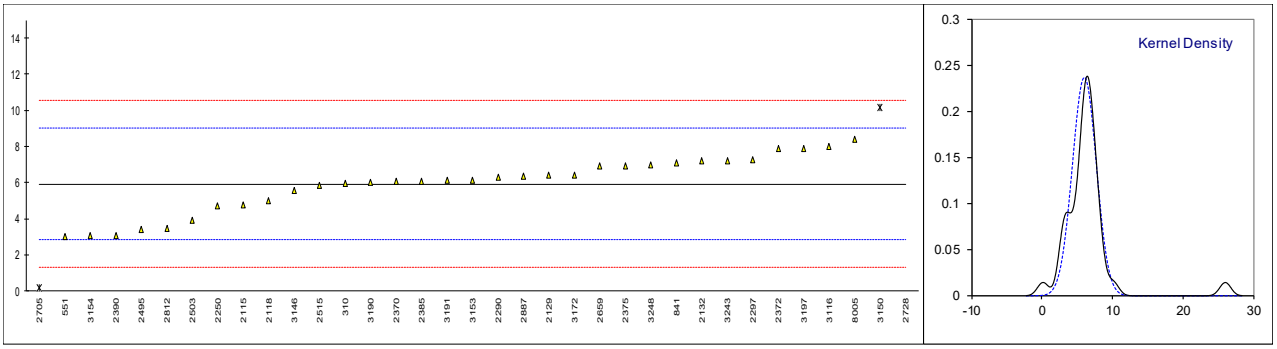
				Only test results that maintain pH between 1.1 – 1.3	
	normality	OK		OK	
	n	29		21	
	outliers	2 + 1ex		0	
	mean (n)	590.7690		590.6633	
	st.dev. (n)	60.72794	RSD = 10%	30.22989	RSD = 9%
	R(calc.)	170.0382		140.6437	
	st.dev.(RR prEN71-3:12)	135.87687		135.85256	
	R(RR prEN71-3:12)	380.4552		380.3872	
Compare					
	R(EN71-3:19, table C.1)	248.1230			
	R(EN71-3:19, table 4)	190.2276			



Determination of migration of Lead as Pb on plaster sample #19532 (Cat.1); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	5.939		0.01	
523		-----		-----	
551	EN71-3	3.038		-1.87	
841	EN71-3	7.1		0.76	
2115	EN71-3	4.79		-0.74	
2118	EN71-3	5.00		-0.60	
2129		6.4		0.31	
2132	EN71-3	7.20		0.83	
2250	EN71-3	4.708		-0.79	
2290	EN71-3	6.31		0.25	
2297	EN71-3	7.26		0.87	
2370	EN71-3	6.06		0.09	
2372	EN71-3	7.89		1.28	
2375	EN71-3	6.9		0.63	
2385	EN71-3	6.1		0.12	
2390	EN71-3	3.09		-1.84	
2492		-----		-----	
2495	EN71-3	3.42		-1.63	
2503		3.915		-1.30	
2515	EN71-3	5.86		-0.04	
2659	ISO8124-3	6.899		0.63	
2705	EN71-3	0.1726	R(0.05)	-3.73	
2728	ISO8124-3	26.06	C,R(0.01)	13.08	first reported: <5
2812	EN71-3	3.45		-1.61	
2887	In house	6.35		0.28	
3116	In house	8		1.35	
3146	EN71-3	5.55		-0.24	
3150	EN71-3	10.15	ex	2.75	test result excluded, see §4.1
3153	EN71-3	6.15		0.15	
3154	EN71-3	3.08		-1.85	
3167		-----		-----	
3172	EN71-3	6.4		0.31	
3190	EN71-3	6.0		0.05	
3191		6.14		0.14	
3197	EN71-3	7.9		1.28	
3243	EN71-3	7.219		0.84	
3248	EN71-3	7		0.70	
8005	EN71-3	8.41		1.62	

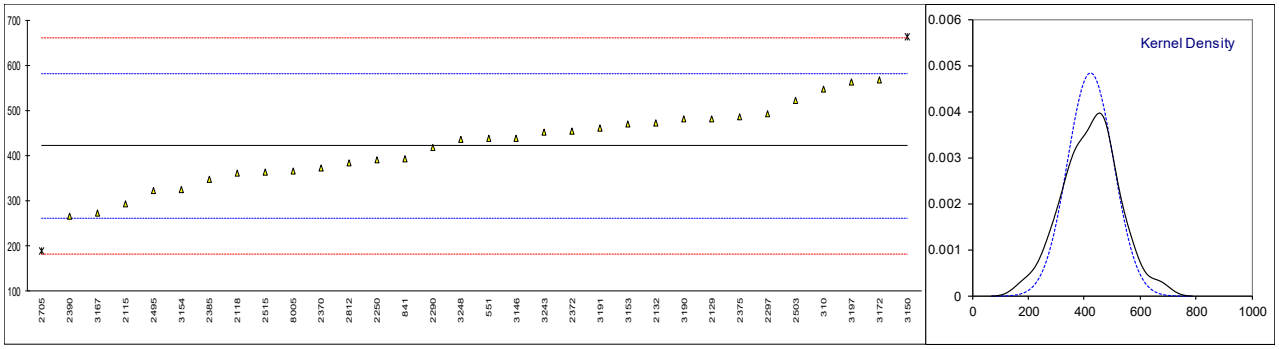
				Only test results that maintain pH between 1.1 – 1.3	
	normality	OK		OK	
	n	32		22	
	outliers	2 + 1ex		1	
	mean (n)	5.9228		6.1643	
	st.dev. (n)	1.53842	RSD =26%	1.36493	RSD = 22%
	R(calc.)	4.3076		3.8218	
	st.dev.(RR prEN71-3:12)	1.53992		1.60272	
	R(RR prEN71-3:12)	4.3118		4.4876	
Compare					
	R(EN71-3:19, table C.1)	3.3167			
	R(EN71-3:19, table 4)	2.6036			



Determination of migration of Strontium as Sr on plaster sample #19532 (Cat.1); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	547.766		1.58	
523		-----		-----	
551	EN71-3	438.4	C	0.21	first reported: 867.587
841	EN71-3	393.1		-0.35	
2115	EN71-3	293.6		-1.59	
2118	EN71-3	360.39		-0.76	
2129		482		0.76	
2132	EN71-3	472.36		0.64	
2250	EN71-3	391.04		-0.38	
2290	EN71-3	418.86		-0.03	
2297	EN71-3	491.5		0.88	
2370	EN71-3	372		-0.62	
2372	EN71-3	454		0.41	
2375	EN71-3	485		0.80	
2385	EN71-3	348		-0.92	
2390	EN71-3	265.77		-1.94	
2492		-----		-----	
2495	EN71-3	322.48		-1.23	
2503		521.2		1.25	
2515	EN71-3	363.41		-0.72	
2659		-----		-----	
2705	EN71-3	189.16	ex	-2.90	test result excluded, see §4.1
2728		-----		-----	
2812	EN71-3	383.46		-0.47	
2887		-----		-----	
3116		-----		-----	
3146	EN71-3	439		0.22	
3150	EN71-3	663.7	ex	3.03	test result excluded, see §4.1
3153	EN71-3	469.4		0.60	
3154	EN71-3	324.7		-1.21	
3167	EN71-3	272.5		-1.86	
3172	EN71-3	568		1.83	
3190	EN71-3	481.9		0.76	
3191		460.35		0.49	
3197	EN71-3	562.4		1.76	
3243	EN71-3	452.922		0.40	
3248	EN71-3	437		0.20	
8005	EN71-3	365		-0.70	

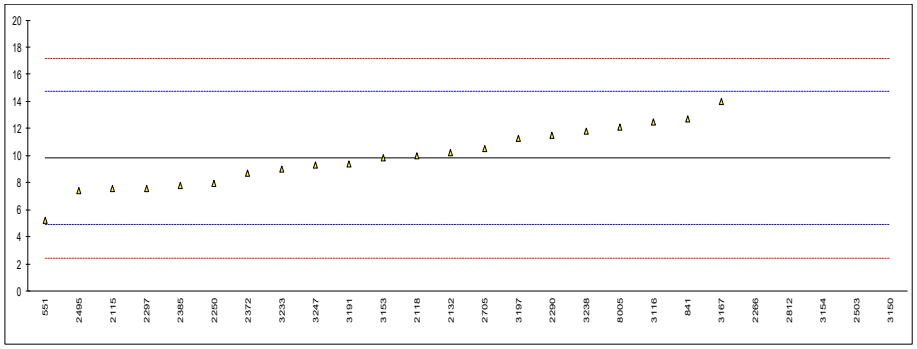
				Only test results that maintain pH between 1.1 – 1.3	
	normality	OK		OK	
	n	30		21	
	outliers	0 + 2ex		0	
	mean (n)	421.2503		421.5414	
	st.dev. (n)	82.21748	RSD = 20%	77.15630	RSD = 18%
	R(calc.)	230.2089		216.0376	
	st.dev.(RR prEN71-3:12)	80.03755		80.09286	
	R(RR prEN71-3:12)	224.1051		224.2600	
Compare					
	R(EN71-3:19, table C.1)	176.9251			
	R(EN71-3:19, table 4)	174.5661			

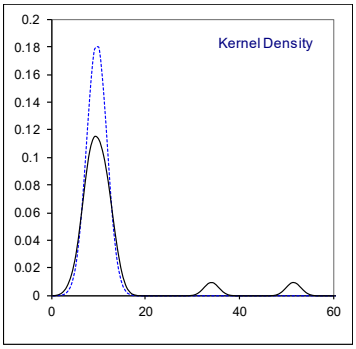


Determination of migration of Barium as Ba on finger paint sample #19534 (Cat.2); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	<50		-----	
523		-----		-----	
551	EN71-3	5.252		-1.86	
841	EN71-3	12.7		1.17	
2115	EN71-3	7.54		-0.93	
2118	EN71-3	9.955451		0.05	
2129		<10		-----	
2132	EN71-3	10.25		0.17	
2137		-----		-----	
2250	EN71-3	7.958		-0.76	
2266	EN71-3	34.2148	R(0.01)	9.92	
2271	EN71-3	N.D.		-----	
2290	EN71-3	11.52		0.69	
2297	EN71-3	7.58		-0.92	
2370	EN71-3	<50		-----	
2372		8.68	C	-0.47	first reported: <50
2375	EN71-3	<50		-----	
2385	EN71-3	7.8		-0.83	
2390		-----		-----	
2492		-----		-----	
2495	EN71-3	7.45		-0.97	
2503	In house	147.8	R(0.01)	56.15	
2705	EN71-3	10.533		0.29	
2728	ISO8214-3	< 5		-----	
2812	EN71-3	51.68	R(0.01)	17.03	
3116	EN71-3	12.51		1.09	
3146	EN71-3	n.d.		-----	
3150	EN71-3	245	C,R(0.01)	95.71	first reported: 204.0
3153	EN71-3	9.84		0.00	
3154	EN71-3	133.1	R(0.01)	50.17	
3167	EN71-3	14		1.70	
3172	EN71-3	< 50		-----	
3191	EN71-3	9.35		-0.19	
3197	EN71-3	11.3		0.60	
3233	EN71-3	8.99		-0.34	
3238	EN71-3	11.80		0.80	
3247	EN71-3	9.3		-0.22	
3248	EN71-3	ND		-----	
8005	EN71-3	12.1	C	0.92	first reported: 24.2

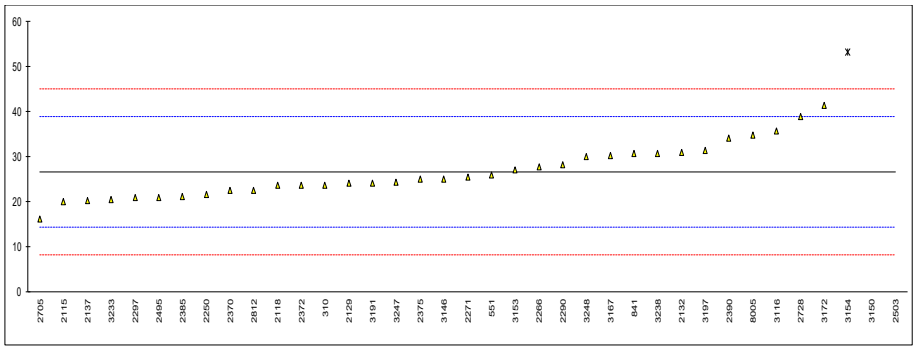
					Only test results that maintain pH between 1.1 – 1.3
	normality	OK			OK
	n	21			13
	outliers	5			2
	mean (n)	9.8290			9.6837
	st.dev. (n)	2.17531	RSD = 22%		1.81476 RSD = 19%
	R(calc.)	6.0909			5.0813
	st.dev.(RR prEN71-3:12)	2.45724			2.42092
	R(RR prEN71-3:12)	6.8803			6.7786
Compare					
	R(EN71-3:19, table C.1)	4.1282			
	R(EN71-3:19, table 4)	1.7614			

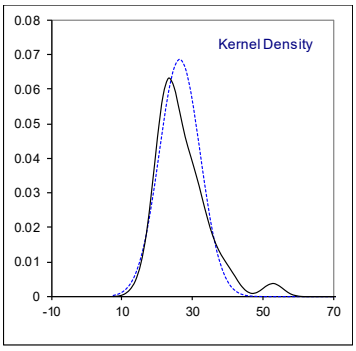




Determination of migration of Lead as Pb on finger paint sample #19534 (Cat.2); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	23.731		-0.46	
523		-----		-----	
551	EN71-3	25.908		-0.10	
841	EN71-3	30.7		0.68	
2115	EN71-3	19.94		-1.08	
2118	EN71-3	23.55		-0.49	
2129		24.1		-0.40	
2132	EN71-3	30.93		0.72	
2137	EN71-3	20.18		-1.04	
2250	EN71-3	21.478		-0.83	
2266	EN71-3	27.7604		0.20	
2271	EN71-3	25.5		-0.17	
2290	EN71-3	28.11		0.26	
2297	EN71-3	20.87		-0.93	
2370	EN71-3	22.4		-0.68	
2372		23.7		-0.46	
2375	EN71-3	25		-0.25	
2385	EN71-3	21.1		-0.89	
2390	EN71-3	34.07		1.23	
2492		-----		-----	
2495	EN71-3	20.94		-0.92	
2503	In house	400.1	R(0.01)	61.20	
2705	EN71-3	16.168		-1.70	
2728	ISO8214-3	38.83		2.01	
2812	EN71-3	22.55		-0.65	
3116	EN71-3	35.65		1.49	
3146	EN71-3	25.0		-0.25	
3150	EN71-3	361	C,R(0.01)	54.80	first reported: 427.4
3153	EN71-3	27.1		0.09	
3154	EN71-3	52.98	R(0.01)	4.33	
3167	EN71-3	30.1		0.58	
3172	EN71-3	41.2		2.40	
3191	EN71-3	24.12		-0.40	
3197	EN71-3	31.4		0.80	
3233	EN71-3	20.48		-0.99	
3238	EN71-3	30.70		0.68	
3247	EN71-3	24.2		-0.38	
3248	EN71-3	30		0.57	
8005	EN71-3	34.81	C	1.36	first reported: 69.62
					Only test results that maintain pH between 1.1 – 1.3
	normality	OK			OK
	n	34			24
	outliers	3			0
	mean (n)	26.5375			26.8146
	st.dev. (n)	5.79698	RSD = 22%		6.03377 RSD = 22%
	R(calc.)	16.2316			16.8946
	st.dev.(RR prEN71-3:12)	6.10363			6.16735
	R(RR prEN71-3:12)	17.0902			17.2686
Compare					
	R(EN71-3:19, table C.1)	14.8610			
	R(EN71-3:19, table 4)	14.7124			

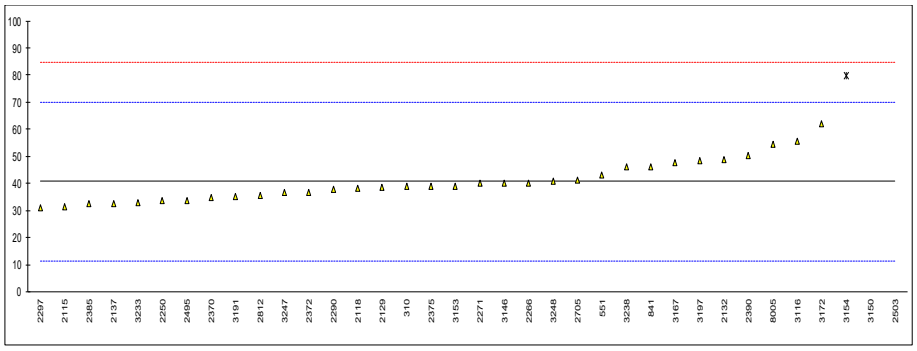


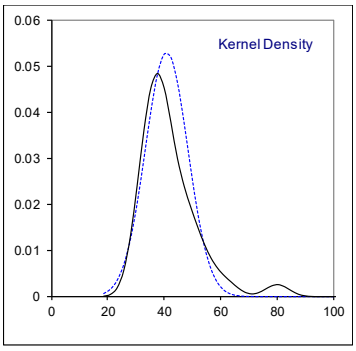


Determination of migration of Nickel as Ni on finger paint sample #19534 (Cat.2); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	38.833		-0.13	
523		-----		-----	
551	EN71-3	43.21		0.17	
841	EN71-3	46.2		0.37	
2115	EN71-3	31.61		-0.62	
2118	EN71-3	38.112973		-0.18	
2129		38.6		-0.15	
2132	EN71-3	48.89		0.55	
2137	EN71-3	32.55		-0.56	
2250	EN71-3	33.52		-0.49	
2266	EN71-3	40.2200		-0.04	
2271	EN71-3	40.1		-0.04	
2290	EN71-3	37.97		-0.19	
2297	EN71-3	31.15		-0.65	
2370	EN71-3	34.8		-0.41	
2372		36.9		-0.26	
2375	EN71-3	39		-0.12	
2385	EN71-3	32.5		-0.56	
2390	EN71-3	50.32		0.65	
2492		-----		-----	
2495	EN71-3	33.65		-0.48	
2503	In house	613.2	R(0.01)	39.02	
2705	EN71-3	41.27		0.04	
2728		-----		-----	
2812	EN71-3	35.64		-0.35	
3116	EN71-3	55.53		1.01	
3146	EN71-3	40.2		-0.04	
3150	EN71-3	472	C,R(0.01)	29.40	first reported: 552.7
3153	EN71-3	39.0		-0.12	
3154	EN71-3	79.96	R(0.01)	2.67	
3167	EN71-3	47.5		0.46	
3172	EN71-3	62.2		1.46	
3191	EN71-3	35.31		-0.37	
3197	EN71-3	48.6		0.54	
3233	EN71-3	32.95		-0.53	
3238	EN71-3	46.10		0.36	
3247	EN71-3	36.8		-0.27	
3248	EN71-3	41		0.02	
8005	EN71-3	54.5	C	0.94	first reported: 109

				Only test results that maintain pH between 1.1 – 1.3	
	normality	suspect		suspect	
	n	33		23	
	outliers	3		0	
	mean (n)	40.7496		40.4823	
	st.dev. (n)	7.54884	RSD = 19%	8.16356	RSD = 20%
	R(calc.)	21.1368		22.8580	
	st.dev.(RR prEN71-3:12)	14.66985		14.57363	
	R(RR prEN71-3:12)	41.0756		40.8062	
Compare					
	R(EN71-3:19, table C.1)	22.8198			
	R(EN71-3:19, table 4)	not available			



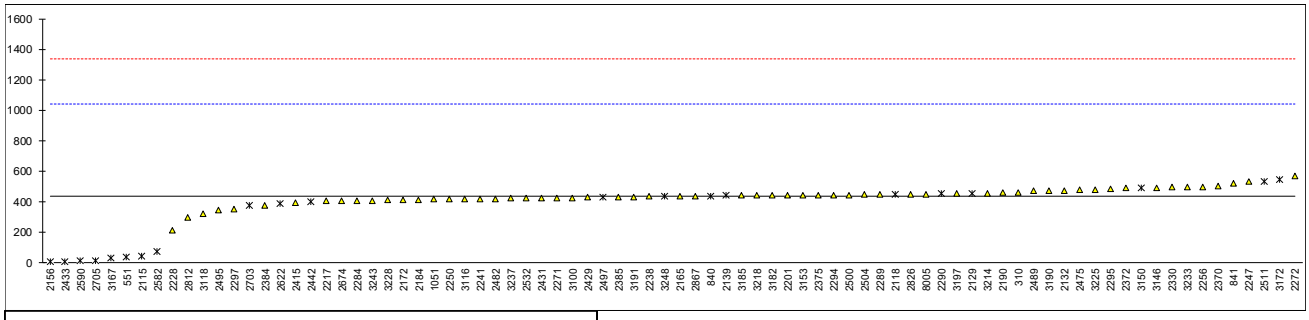


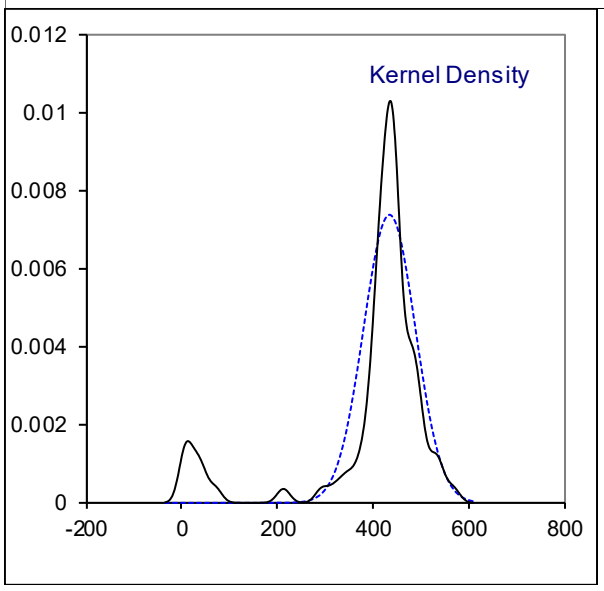
Determination of migration of Aluminum as Al with ink on paper sample #19536 (Cat.3);
results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	463.347		0.09	
523		-----		-----	
551	EN71-3	36.86	ex,C	-1.33	first reported: 2.604
840	EN71-3	439.27	ex	0.01	
841	EN71-3	519		0.27	
1051	EN71-3	415.32		-0.07	
2115	EN71-3	46.2	C,R(0.01)	-1.30	first reported: 10.1
2118	EN71-3	447.64	ex	0.04	
2129		453	ex	0.05	
2132	EN71-3	475.42		0.13	
2139		440.9	ex	0.01	
2156	EN71-3	7.282	ex,C	-1.43	first reported: 10.732
2165	EN71-3	438.01		0.01	
2172	EN71-3	410.6		-0.09	
2184	EN71-3	415.0		-0.07	
2190	EN71-3	461.71		0.08	
2201	EN71-3	444.7		0.03	
2217	EN71-3	403.8		-0.11	
2228	EN71-3	214.43	C	-0.74	first reported: 170.46
2238	EN71-3	434.9		-0.01	
2241	EN71-3	420.155		-0.05	
2247	EN71-3	533.73		0.32	
2250	EN71-3	417.92		-0.06	
2256	EN71-3	498.8		0.21	
2271	EN71-3	426.2		-0.03	
2272	EN71-3	570.4		0.44	
2284	EN71-3	407.256		-0.10	
2289	EN71-3	446.8		0.03	
2290	EN71-3	452.53	ex	0.05	
2293		-----		-----	
2294	EN71-3	445		0.03	
2295	EN71-3	483.7		0.16	
2297	EN71-3	354.8		-0.27	
2301	EN71-3	ND		-----	
2330	EN71-3	495.53		0.20	
2370	EN71-3	505		0.23	
2372		488		0.17	
2375	EN71-3	445		0.03	
2384	EN71-3	377.291		-0.20	
2385	EN71-3	430		-0.02	
2390		-----		-----	
2415	EN71-3	392.9		-0.14	
2429	EN71-3	428.3		-0.03	
2431	EN71-3	425.5372		-0.04	
2433	EN71-3	7.68	C,R(0.01)	-1.42	first reported: <5
2442	EN71-3	402.62	ex	-0.11	
2475	EN71-3	477.1		0.13	
2482	EN71-3	421		-0.05	
2489	EN71-3	472.9		0.12	
2492		-----		-----	
2495	EN71-3	343.54		-0.31	
2497	EN71-3	429.52	ex	-0.02	
2500	EN71-3	445.21		0.03	
2503		-----		-----	
2504	EN71-3	445.74		0.03	
2511	EN71-3	535.0	ex	0.33	
2532	EN71-3	425.38		-0.04	
2582	EN71-3	72.06	ex	-1.21	
2590	EN71-3	10.281	ex,C	-1.42	first reported: 5.310
2622	EN71-3	389.1	ex	-0.16	
2674	EN71-3	404.50		-0.11	
2685		-----		-----	
2689	EN71-3	<10	C	-----	first reported: not detected
2703	EN71-3	375.0	ex,C	-0.20	first reported: 1.83
2705	EN71-3	15.1	ex	-1.40	
2728		-----		-----	
2812	EN71-3	295.01		-0.47	
2826	EN71-3	449.16		0.04	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	438.21		0.01	
2879		-----		-----	
3100	EN71-3	426.413		-0.03	
3116	EN71-3	420		-0.05	
3118	EN71-3	322.863		-0.38	
3146	EN71-3	492		0.18	

lab	method	value	mark	z(targ)	remarks
3150		490.6	ex	0.18	
3153	EN71-3	444.9		0.03	
3154		-----		-----	
3167	EN71-3	32.7	C,R(0.01)	-1.34	first reported: 81.55
3172	EN71-3	544	ex	0.36	
3182	EN71-3	443.8		0.02	
3185	EN71-3	441.57		0.02	
3190	EN71-3	473.7		0.12	
3191	EN71-3	432.01		-0.01	
3192		-----		-----	
3197	EN71-3	452.7		0.05	
3214	EN71-3	453.90		0.06	
3218	EN71-3	443.1		0.02	
3225	EN71-3	480.59		0.15	
3228	EN71-3	410		-0.09	
3233	EN71-3	495.94		0.20	
3237	EN71-3	423.87		-0.04	
3243	EN71-3	408.370		-0.09	
3248	EN71-3	436	ex	0.00	
8005	EN71-3	451.5		0.05	
	normality	not OK			
	n	61			
	outliers	3 + 18ex			
	mean (n)	436.451			
	st.dev. (n)	54.6814	RSD = 13%		
	R(calc.)	153.108			
	st.dev.(RR prEN71-3:12)	301.1514			
	R(RR prEN71-3:12)	843.224			
Compare					
	R(EN71-3:19, table C.1)	183.310			
	R(EN71-3:19, table 4)	not available			

For excluded test results, see paragraphs 4.1 and 5.



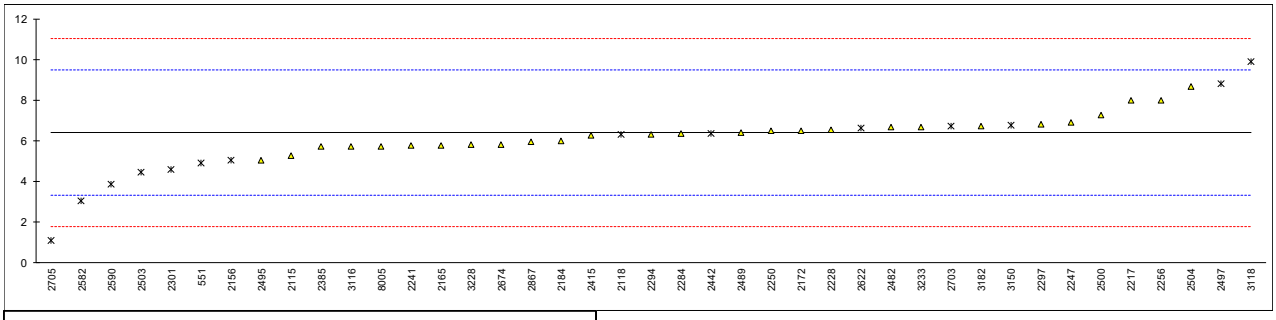


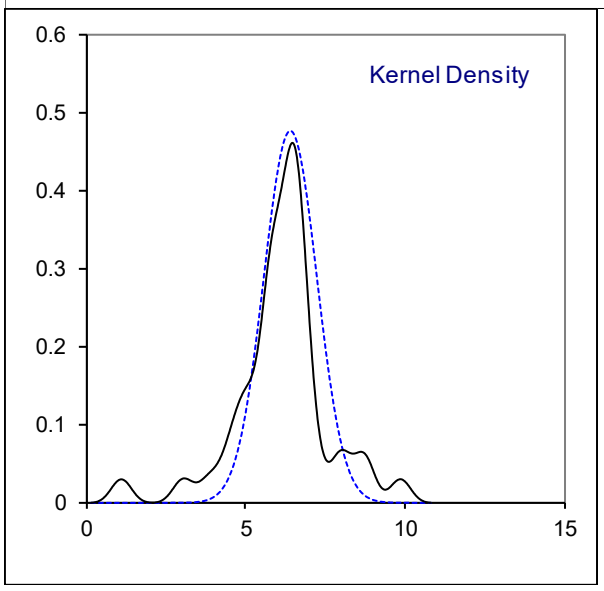
Determination of migration of Manganese as Mn with ink on paper sample #19536 (Cat.3); results in mg/kg

lab	method	Value	mark	z(targ)	remarks
310	EN71-3	<50		-----	
523		-----		-----	
551	EN71-3	4.92	ex	-0.97	
840	EN71-3	<50		-----	
841	EN71-3	ND		-----	
1051	EN71-3	<10		-----	
2115	EN71-3	5.26		-0.75	
2118	EN71-3	6.29	ex	-0.08	
2129		<10		-----	
2132	EN71-3	<25		-----	
2139		< 10		-----	
2156	EN71-3	5.043	ex	-0.89	
2165	EN71-3	5.78		-0.41	
2172	EN71-3	6.481		0.05	
2184	EN71-3	6.00		-0.27	
2190	EN71-3	<50		-----	
2201	EN71-3	<10		-----	
2217	EN71-3	7.99		1.03	
2228	EN71-3	6.54		0.08	
2238	EN71-3	<10		-----	
2241	EN71-3	5.766		-0.42	
2247	EN71-3	6.92		0.33	
2250	EN71-3	6.472		0.04	
2256	EN71-3	8.006		1.04	
2271	EN71-3	N.D.		-----	
2272	EN71-3	<10		-----	
2284	EN71-3	6.356		-0.04	
2289	EN71-3	<10		-----	
2290	EN71-3	<10		-----	
2293		-----		-----	
2294	EN71-3	6.3		-0.07	
2295		-----		-----	
2297	EN71-3	6.83		0.27	
2301	EN71-3	4.6	ex	-1.18	
2330	EN71-3	ND		-----	
2370	EN71-3	<50		-----	
2372		n.d.		-----	
2375	EN71-3	<50		-----	
2384	EN71-3	<50		-----	
2385	EN71-3	5.7		-0.46	
2390		-----		-----	
2415	EN71-3	6.25		-0.10	
2429	EN71-3	<10		-----	
2431		-----		-----	
2433	EN71-3	<5		-----	
2442	EN71-3	6.36	ex	-0.03	
2475		-----		-----	
2482	EN71-3	6.69		0.18	
2489	EN71-3	6.4		-0.01	
2492		-----		-----	
2495	EN71-3	5.05		-0.88	
2497	EN71-3	8.79	ex	1.55	
2500	EN71-3	7.24		0.54	
2503		4.468	ex	-1.26	
2504	EN71-3	8.67		1.47	
2511		-----		-----	
2532	EN71-3	<10		-----	
2582	EN71-3	3.04	ex	-2.19	
2590	EN71-3	3.867	ex	-1.65	
2622	EN71-3	6.615	ex	0.13	
2674	EN71-3	5.83		-0.38	
2685		-----		-----	
2689	EN71-3	not detected		-----	
2703	EN71-3	6.7	ex,C	0.19	first reported: 2.58
2705	EN71-3	1.0931	ex	-3.46	
2728		-----		-----	
2812		-----		-----	
2826	EN71-3	<10		-----	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	5.94		-0.31	
2879		-----		-----	
3100	EN71-3	<10		-----	
3116	EN71-3	5.7		-0.46	
3118	EN71-3	9.877	R(0.05)	2.25	
3146	EN71-3	n.d.		-----	

lab	method	Value	mark	z(targ)	remarks
3150		6.766	ex	0.23	
3153	EN71-3	<10		-----	
3154		-----		-----	
3167		-----		-----	
3172	EN71-3	< 50		-----	
3182	EN71-3	6.7		0.19	
3185	EN71-3	<10		-----	
3190	EN71-3	not detected		-----	
3191		-----		-----	
3192		-----		-----	
3197	EN71-3	<10		-----	
3214	EN71-3	<10		-----	
3218	EN71-3	<10		-----	
3225	EN71-3	ND		-----	
3228	EN71-3	5.8		-0.40	
3233	EN71-3	6.69		0.18	
3237		-----		-----	
3243	EN71-3	<10		-----	
3248	EN71-3	ND		-----	
8005	EN71-3	5.73		-0.44	
	normality	not OK			
	n	27			
	outliers	1 + 13ex			
	mean (n)	6.4108			
	st.dev. (n)	0.83518	RSD = 13%		
	R(calc.)	2.3385			
	st.dev.(RR prEN71-3:12)	1.53859			
	R(RR prEN71-3:12)	4.3080			
Compare					
	R(EN71-3:19, table C.1)	2.6925			
	R(EN71-3:19, table 4)	not available			

For excluded test results, see paragraphs 4.1 and 5.



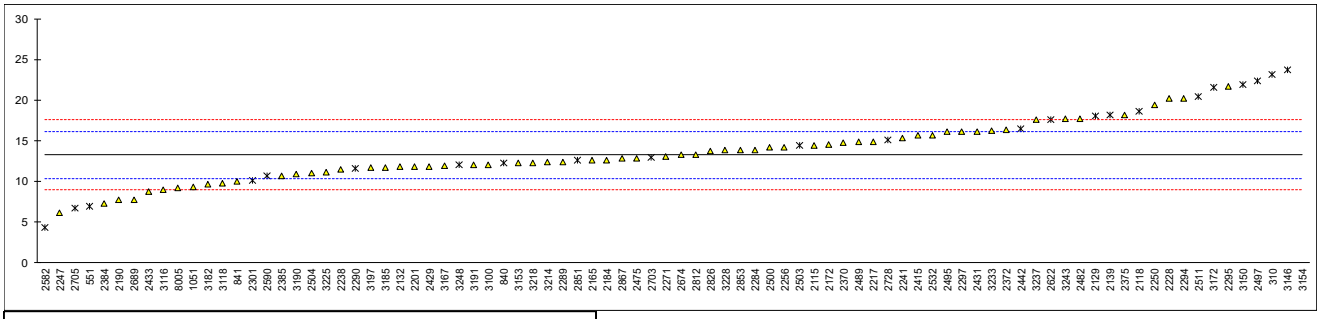


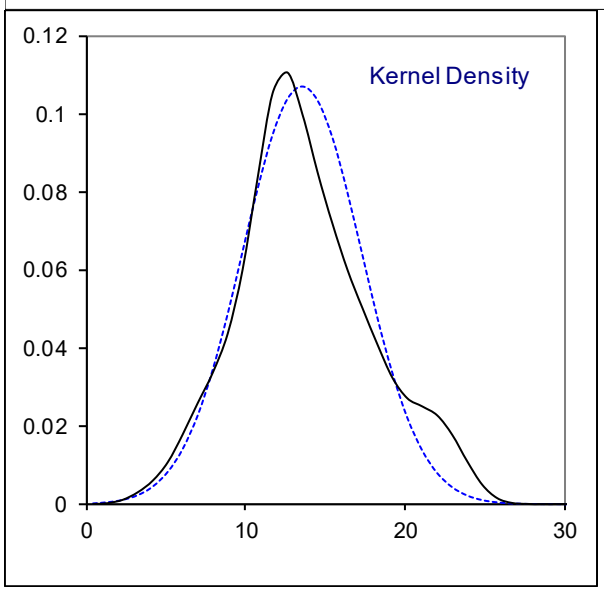
Determination of migration of Mercury as Hg on paper with ink sample #19536 (Cat.3); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	23.145	R(0.05)	6.88	
523		-----		-----	
551	EN71-3	6.97	ex	-4.37	
840	EN71-3	12.21	ex	-0.73	
841	EN71-3	10		-2.26	
1051	EN71-3	9.26		-2.78	
2115	EN71-3	14.46		0.84	
2118	EN71-3	18.60	ex	3.72	
2129		18	ex	3.30	
2132	EN71-3	11.76		-1.04	
2139		18.1	ex	3.37	
2156	EN71-3	<5		<-5.74	possibly a false negative test result?
2165	EN71-3	12.56		-0.48	
2172	EN71-3	14.481		0.85	
2184	EN71-3	12.61		-0.45	
2190	EN71-3	7.73		-3.84	
2201	EN71-3	11.8		-1.01	
2217	EN71-3	14.92		1.16	
2228	EN71-3	20.15		4.80	
2238	EN71-3	11.47		-1.24	
2241	EN71-3	15.340		1.45	
2247	EN71-3	6.13		-4.96	
2250	EN71-3	19.365		4.25	
2256	EN71-3	14.22		0.67	
2271	EN71-3	13.1		-0.11	
2272		-----	W	-----	test result withdrawn, first reported: <10
2284	EN71-3	13.891		0.44	
2289	EN71-3	12.4		-0.59	
2290	EN71-3	11.59	ex	-1.16	
2293	EN71-3	<2	C	<-7.83	first reported: 3.61, possibly a false negative result?
2294	EN71-3	20.2		4.83	
2295	EN71-3	21.7		5.88	
2297	EN71-3	16.11		1.99	
2301	EN71-3	10.1	ex	-2.19	
2330	EN71-3	ND		-----	
2370	EN71-3	14.8		1.08	
2372		16.3		2.12	
2375	EN71-3	18.2		3.44	
2384	EN71-3	7.3	C	-4.14	first reported: <10
2385	EN71-3	10.7		-1.78	
2390		-----		-----	
2415	EN71-3	15.61		1.64	
2429	EN71-3	11.82		-1.00	
2431	EN71-3	16.168		2.03	
2433	EN71-3	8.72		-3.15	
2442	EN71-3	16.44	ex	2.22	
2475	EN71-3	12.8		-0.32	
2482	EN71-3	17.7		3.09	
2489	EN71-3	14.9		1.14	
2492		-----		-----	
2495	EN71-3	16.09		1.97	
2497	EN71-3	22.34	ex	6.32	
2500	EN71-3	14.14		0.62	
2503		14.41	ex	0.80	
2504	EN71-3	11.03		-1.55	
2511	EN71-3	20.41	ex	4.98	
2532	EN71-3	15.7		1.70	
2582	EN71-3	4.35	ex	-6.20	
2590	EN71-3	10.690	ex	-1.78	
2622	EN71-3	17.64	ex	3.05	
2674	EN71-3	13.23		-0.02	
2685		-----		-----	
2689	EN71-3	7.74		-3.84	
2703	EN71-3	12.9	ex,C	-0.25	first reported: 6.34
2705	EN71-3	6.76	ex	-4.52	
2728	ISO8124-3	15.04	ex	1.24	
2812	EN71-3	13.33		0.05	
2826	EN71-3	13.78		0.37	
2851	EN71-3	12.5580	ex	-0.48	
2853	In house	13.88		0.44	
2867	EN71-3	12.79		-0.32	
2879		-----		-----	
3100	EN71-3	12.0742		-0.82	
3116	EN71-3	9		-2.96	
3118	EN71-3	9.716		-2.46	
3146	EN71-3	23.7	R(0.05)	7.27	

lab	method	value	mark	z(targ)	remarks
3150		21.952	ex	6.05	
3153	EN71-3	12.3		-0.66	
3154	EN71-3	236.2	ex	155.11	
3167	EN71-3	11.95		-0.91	
3172	EN71-3	21.6	ex	5.81	
3182	EN71-3	9.7		-2.47	
3185	EN71-3	11.73		-1.06	
3190	EN71-3	10.9		-1.64	
3191	EN71-3	12.01		-0.87	
3192		-----		-----	
3197	EN71-3	11.7		-1.08	
3214	EN71-3	12.39		-0.60	
3218	EN71-3	12.3		-0.66	
3225	EN71-3	11.08		-1.51	
3228	EN71-3	13.8		0.38	
3233	EN71-3	16.27		2.10	
3237	EN71-3	17.58		3.01	
3243	EN71-3	17.695		3.09	
3248	EN71-3	12	ex	-0.87	
8005	EN71-3	9.21		-2.81	
	normality	OK			
	n	62			
	outliers	2 + 22ex			
	mean (n)	13.255			
	st.dev. (n)	3.2873	RSD = 25%		
	R(calc.)	9.204			
	st.dev.(Horwitz)	1.4373			
	R(Horwitz)	4.025			
Compare					
	R(EN71-3:19, table C.1)	7.423			
	R(EN71-3:19, table 4)	not available			

For excluded test results, see paragraphs 4.1 and 5.



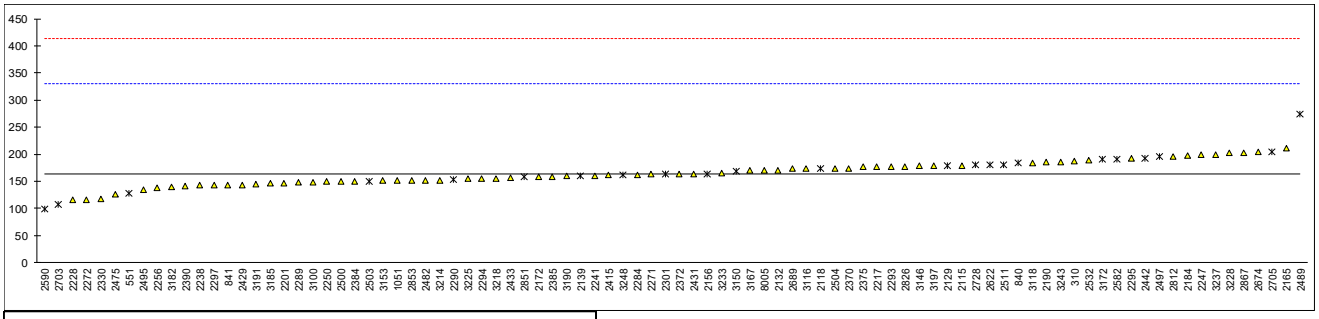


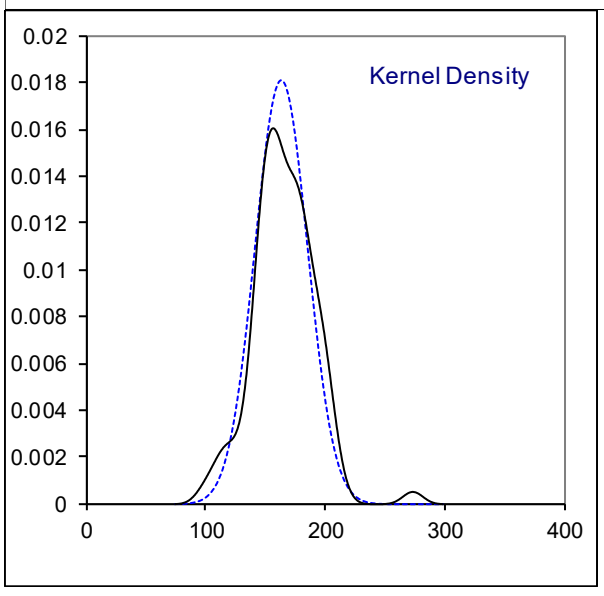
Determination of migration of Selenium as Se with ink on paper sample #19536 (Cat.3);
results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	187.86		0.29	
523		-----		-----	
551	EN71-3	128.3	ex,C	-0.42	first reported: 238.35
840	EN71-3	183.52	ex	0.24	
841	EN71-3	143.3		-0.24	
1051	EN71-3	151.07		-0.15	
2115	EN71-3	179.2		0.19	
2118	EN71-3	173.19	ex	0.11	
2129		179	ex	0.18	
2132	EN71-3	170.71		0.08	
2139		160.8	ex	-0.03	
2156	EN71-3	164.020	ex	0.00	
2165	EN71-3	211.98		0.58	
2172	EN71-3	158.6		-0.06	
2184	EN71-3	197.5		0.41	
2190	EN71-3	185.51		0.26	
2201	EN71-3	146.0		-0.21	
2217	EN71-3	177.3		0.16	
2228	EN71-3	115.28		-0.58	
2238	EN71-3	142.8		-0.25	
2241	EN71-3	160.818		-0.03	
2247	EN71-3	198.8	C	0.42	first reported: 324.69
2250	EN71-3	149.16		-0.17	
2256	EN71-3	137.49		-0.31	
2271	EN71-3	162.8		-0.01	
2272	EN71-3	115.8		-0.57	
2284	EN71-3	162.322		-0.02	
2289	EN71-3	148.7		-0.18	
2290	EN71-3	153.43	ex	-0.12	
2293	EN71-3	177.58		0.17	
2294	EN71-3	154.6		-0.11	
2295	EN71-3	191.6		0.34	
2297	EN71-3	143.2		-0.24	
2301	EN71-3	163	ex	-0.01	
2330	EN71-3	118.01		-0.55	
2370	EN71-3	174		0.12	
2372		163		-0.01	
2375	EN71-3	177		0.16	
2384	EN71-3	149.701		-0.17	
2385	EN71-3	158.9		-0.06	
2390	EN71-3	140.60		-0.28	
2415	EN71-3	161.3		-0.03	
2429	EN71-3	143.5		-0.24	
2431	EN71-3	163.3292		0.00	
2433	EN71-3	156.42		-0.09	
2442	EN71-3	193.15	ex	0.35	
2475	EN71-3	126.1		-0.45	
2482	EN71-3	152		-0.14	
2489	EN71-3	273.43	R(0.01)	1.32	
2492		-----		-----	
2495	EN71-3	134.07		-0.35	
2497	EN71-3	195.12	ex	0.38	
2500	EN71-3	149.31		-0.17	
2503		150.2	ex	-0.16	
2504	EN71-3	173.72		0.12	
2511	EN71-3	180.6	ex	0.20	
2532	EN71-3	188.9		0.30	
2582	EN71-3	191.58	ex	0.33	
2590	EN71-3	99.211	ex	-0.77	
2622	EN71-3	180.3	ex	0.20	
2674	EN71-3	203.84		0.48	
2685		-----		-----	
2689	EN71-3	173		0.11	
2703	EN71-3	107.7	ex,C	-0.67	first reported: 41.77
2705	EN71-3	204.6	ex	0.49	
2728	ISO8124-3	179.86	ex	0.19	
2812	EN71-3	196.40		0.39	
2826	EN71-3	177.72		0.17	
2851	EN71-3	158.1332	ex	-0.07	
2853	In house	151.24		-0.15	
2867	EN71-3	202.36		0.46	
2879		-----		-----	
3100	EN71-3	148.803		-0.18	
3116	EN71-3	173		0.11	
3118	EN71-3	184.207		0.25	
3146	EN71-3	178		0.17	

lab	method	value	mark	z(targ)	remarks
3150		169.0	ex	0.06	
3153	EN71-3	151.0		-0.15	
3154		-----		-----	
3167	EN71-3	169.5		0.07	
3172	EN71-3	190.8	ex	0.33	
3182	EN71-3	140.3		-0.28	
3185	EN71-3	145.88		-0.21	
3190	EN71-3	160.2		-0.04	
3191	EN71-3	144.91		-0.22	
3192		-----		-----	
3197	EN71-3	178.3		0.18	
3214	EN71-3	152.48		-0.13	
3218	EN71-3	155.6		-0.10	
3225	EN71-3	154.36		-0.11	
3228	EN71-3	202		0.46	
3233	EN71-3	165.41		0.02	
3237	EN71-3	199.37		0.43	
3243	EN71-3	186.136		0.27	
3248	EN71-3	162	ex	-0.02	
8005	EN71-3	170		0.08	
	normality	OK			
	n	67			
	outliers	1 + 22ex			
	mean (n)	163.640			
	st.dev. (n)	22.2074	RSD = 14%		
	R(calc.)	62.181			
	st.dev.(RR prEN71-3:12)	83.4562			
	R(RR prEN71-3:12)	233.677			
Compare					
	R(EN71-3:19, table C.1)	68.729			
	R(EN71-3:19, table 4)	not available			

For excluded test results, see paragraphs 4.1 and 5.



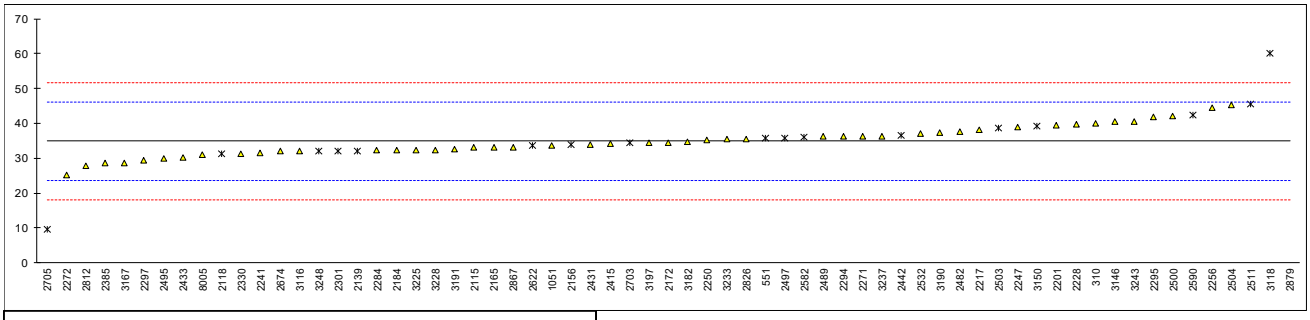


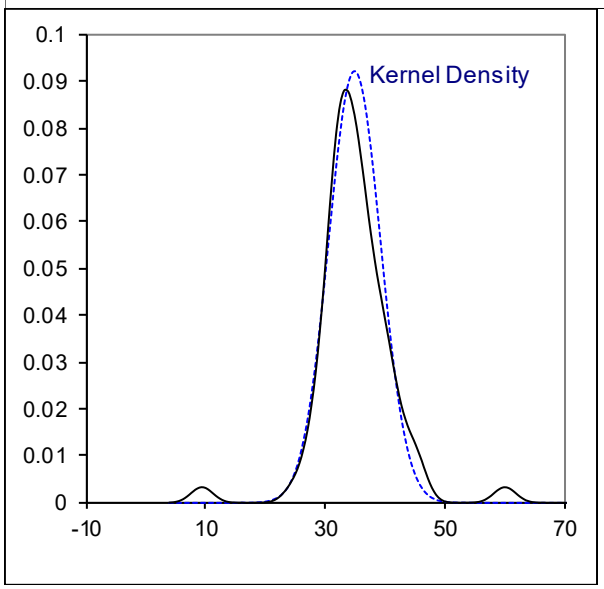
Determination of migration of Strontium as Sr with ink on paper sample #19536 (Cat.3);
results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	39.983		0.92	
523		-----		-----	
551	EN71-3	35.7	ex	0.15	
840	EN71-3	<50		-----	
841	EN71-3	ND		-----	
1051	EN71-3	33.67		-0.21	
2115	EN71-3	33.16		-0.31	
2118	EN71-3	31.24	ex	-0.65	
2129		<100		-----	
2132	EN71-3	<250		-----	
2139		32.1	ex	-0.50	
2156	EN71-3	33.913	ex	-0.17	
2165	EN71-3	33.21		-0.30	
2172	EN71-3	34.42		-0.08	
2184	EN71-3	32.30		-0.46	
2190	EN71-3	<50		-----	
2201	EN71-3	39.5		0.83	
2217	EN71-3	38.1		0.58	
2228	EN71-3	39.80		0.89	
2238	EN71-3	<100		-----	
2241	EN71-3	31.436		-0.61	
2247	EN71-3	39.01		0.74	
2250	EN71-3	35.205		0.06	
2256	EN71-3	44.40		1.71	
2271	EN71-3	36.3		0.26	
2272	EN71-3	25.1		-1.75	
2284	EN71-3	32.255		-0.47	
2289	EN71-3	<100		-----	
2290	EN71-3	<100		-----	
2293		-----		-----	
2294	EN71-3	36.3		0.26	
2295	EN71-3	41.8		1.24	
2297	EN71-3	29.33		-0.99	
2301	EN71-3	32.1	ex	-0.50	
2330	EN71-3	31.35		-0.63	
2370	EN71-3	<50		-----	
2372		n.d.		-----	
2375	EN71-3	<50		-----	
2384	EN71-3	<50		-----	
2385	EN71-3	28.5		-1.14	
2390		-----		-----	
2415	EN71-3	34.09		-0.14	
2429	EN71-3	<100		-----	
2431	EN71-3	33.9961		-0.16	
2433	EN71-3	30.28		-0.82	
2442	EN71-3	36.62	ex	0.32	
2475		-----		-----	
2482	EN71-3	37.6		0.49	
2489	EN71-3	36.18		0.24	
2492		-----		-----	
2495	EN71-3	29.97		-0.88	
2497	EN71-3	35.76	ex	0.16	
2500	EN71-3	42.13		1.30	
2503		38.74	ex	0.70	
2504	EN71-3	45.38		1.89	
2511	EN71-3	45.5	ex	1.91	
2532	EN71-3	37.2		0.42	
2582	EN71-3	36.00	ex	0.20	
2590	EN71-3	42.274	ex	1.33	
2622	EN71-3	33.60	ex	-0.23	
2674	EN71-3	31.94		-0.52	
2685		-----		-----	
2689	EN71-3	not detected		-----	
2703	EN71-3	34.3	ex,C	-0.10	first reported 13.28
2705	EN71-3	9.516	ex	-4.54	
2728		-----		-----	
2812	EN71-3	27.75		-1.28	
2826	EN71-3	35.6		0.13	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	33.22		-0.29	
2879	EN71-3	172.3	ex	24.64	
3100	EN71-3	<100		-----	
3116	EN71-3	32		-0.51	
3118	EN71-3	60.143	R(0.01)	4.53	
3146	EN71-3	40.4		0.99	

lab	method	value	mark	z(targ)	remarks
3150		39.30	ex	0.80	
3153	EN71-3	<100		-----	
3154		-----		-----	
3167	EN71-3	28.6		-1.12	
3172	EN71-3	< 50		-----	
3182	EN71-3	34.6		-0.05	
3185	EN71-3	<100		-----	
3190	EN71-3	37.4		0.45	
3191	EN71-3	32.51		-0.42	
3192		-----		-----	
3197	EN71-3	34.4		-0.08	
3214	EN71-3	<100		-----	
3218	EN71-3	<100		-----	
3225	EN71-3	32.34		-0.45	
3228	EN71-3	32.4		-0.44	
3233	EN71-3	35.56		0.13	
3237	EN71-3	36.37		0.27	
3243	EN71-3	40.616		1.03	
3248	EN71-3	32	ex	-0.51	
8005	EN71-3	30.87		-0.72	
	normality	OK			
	n	47			
	outliers	1 + 17ex			
	mean (n)	34.862			
	st.dev. (n)	4.4123	RSD = 13%		
	R(calc.)	12.355			
	st.dev.(RR prEN71-3:12)	5.5780			
	R(RR prEN71-3:12)	15.618			
Compare					
	R(EN71-3:19, table C.1)	14.642			
	R(EN71-3:19, table 4)	10.054			

For excluded test results, see paragraphs 4.1 and 5.



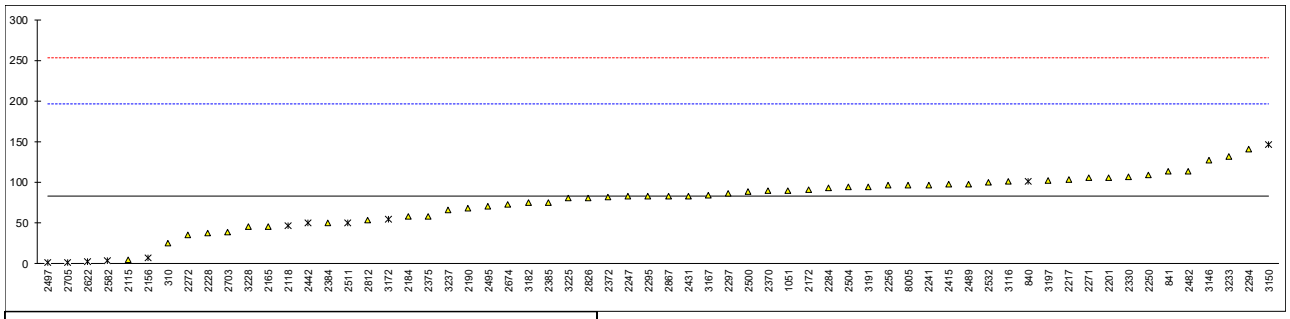


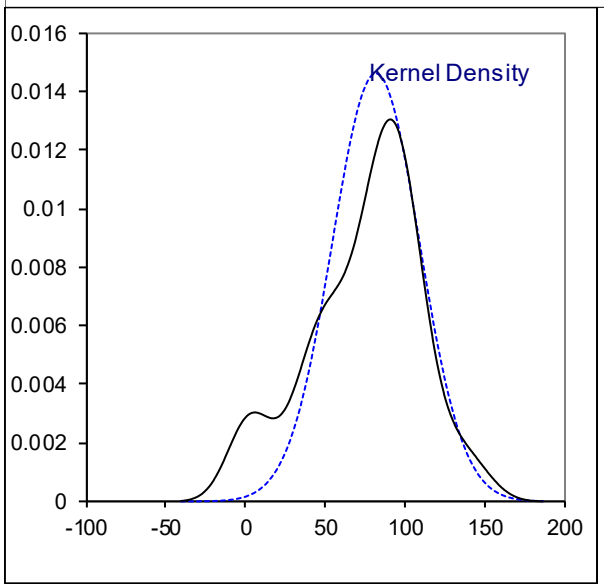
Determination of migration of Aluminum as Al on dried paint sample #19537 (Cat.3);
results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	25.7	C	-1.00	first reported: <50
523		-----		-----	
551	EN71-3	ND	C	-----	first reported: 1.414
840	EN71-3	101.45	ex	0.33	
841	EN71-3	113		0.54	
1051		90.00		0.13	
2115	EN71-3	4.4	C	-1.37	first reported: 2.72
2118	EN71-3	46.53	ex	-0.63	
2129		<100		-----	
2132	EN71-3	<250		-----	
2139		< 10		-----	
2156	EN71-3	6.922	ex,C	-1.33	first reported: 5.656
2165	EN71-3	45.13		-0.66	
2172	EN71-3	91.348		0.15	
2184	EN71-3	57.89		-0.43	
2190	EN71-3	67.7		-0.26	
2201	EN71-3	106.0		0.41	
2217	EN71-3	102.82		0.36	
2228	EN71-3	38.17		-0.78	
2238	EN71-3	<300		-----	
2241	EN71-3	96.530		0.25	
2247	EN71-3	82.50		0.00	
2250	EN71-3	109.395		0.47	
2256	EN71-3	96.198		0.24	
2271	EN71-3	105.3		0.40	
2272	EN71-3	35.7		-0.82	
2284	EN71-3	93.452		0.19	
2289	EN71-3	<300		-----	
2290	EN71-3	<300		-----	
2293		-----		-----	
2294	EN71-3	141		1.03	
2295		82.5		0.00	
2297	EN71-3	86.32		0.07	
2301	EN71-3	ND		-----	
2330	EN71-3	106.36		0.42	
2370	EN71-3	89.2		0.12	
2372		82.3		0.00	
2375	EN71-3	58	C	-0.43	first reported: <50
2384	EN71-3	50.000		-0.57	
2385	EN71-3	75		-0.13	
2390		-----		-----	
2415	EN71-3	97.5		0.26	
2429	EN71-3	<300		-----	
2431	EN71-3	83.5183		0.02	
2433		-----		-----	
2442	EN71-3	49.83	ex	-0.57	
2475		-----		-----	
2482	EN71-3	113		0.54	
2489	EN71-3	97.8		0.27	
2492		-----		-----	
2495	EN71-3	70.44		-0.21	
2497	EN71-3	1.38	ex	-1.43	
2500	EN71-3	88.82		0.11	
2503		-----		-----	
2504	EN71-3	93.84		0.20	
2511	EN71-3	50.5	ex	-0.56	
2532	EN71-3	99.7		0.30	
2582	EN71-3	3.43	ex	-1.39	
2590	EN71-3	< L.O.Q.		-----	
2622	EN71-3	2.958	ex,C	-1.40	first reported: 0.9771
2674	EN71-3	72.8		-0.17	
2685		-----		-----	
2689	EN71-3	<10	C	-----	first reported: not detected
2703	EN71-3	39.1	C	-0.76	first reported: 50.24
2705	EN71-3	1.481	ex	-1.42	
2728		-----		-----	
2812	EN71-3	53.41		-0.51	
2826	EN71-3	80.79		-0.03	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	82.79		0.00	
2879		-----		-----	
3100	EN71-3	<300		-----	
3116	EN71-3	101		0.32	
3118		-----		-----	
3146	EN71-3	127		0.78	

lab	method	value	mark	z(targ)	remarks
3150	EN71-3	146.1	ex	1.12	
3153	EN71-3	<300		-----	
3154		-----		-----	
3167	EN71-3	84.55		0.04	
3172	EN71-3	54.6	ex	-0.49	
3182	EN71-3	74.8		-0.14	
3185	EN71-3	<300		-----	
3190	EN71-3	<300	C	-----	first reported: not detected
3191		94.09		0.20	
3192		-----		-----	
3197	EN71-3	101.9		0.34	
3214	EN71-3	<300		-----	
3218	EN71-3	<300		-----	
3225	EN71-3	80.20		-0.04	
3228	EN71-3	45		-0.66	
3233	EN71-3	132.04		0.87	
3237	EN71-3	66.41		-0.28	
3243	EN71-3	<10		-----	
3248		-----		-----	
8005	EN71-3	96.33		0.24	
	normality	OK			
	n	51			
	outliers	0 + 11ex			
	mean (n)	82.524			
	st.dev. (n)	27.3069	RSD = 33%		
	R(calc.)	76.459			
	st.dev.(RR prEN71-3:12)	56.9418			
	R(RR prEN71-3:12)	159.437			
Compare					
	R(EN71-3:19, table C.1)	34.660			
	R(EN71-3:19, table 4)	not available			

For excluded test results, see paragraphs 4.1 and 5.



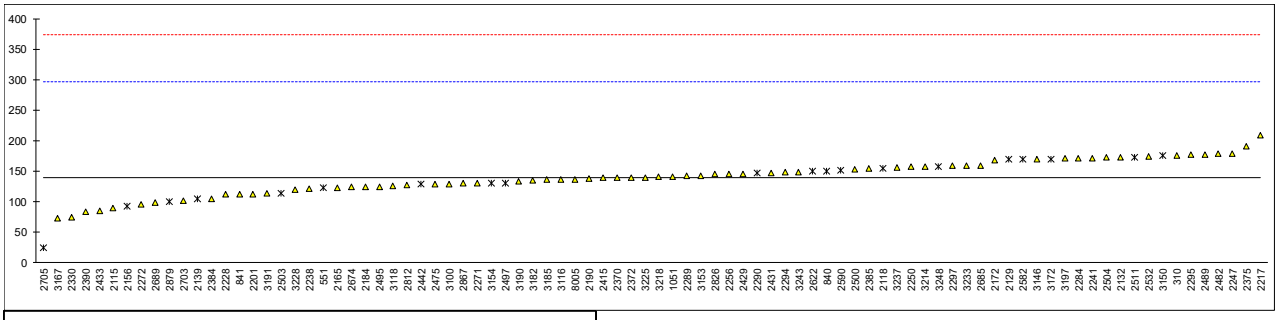


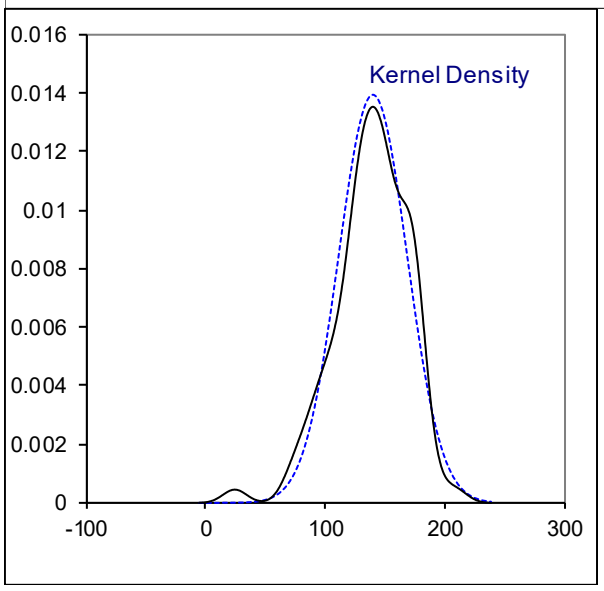
Determination of migration of Cobalt as Co on dried paint sample #19537 (Cat.3); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	176.344		0.47	
523		-----		-----	
551	EN71-3	122.4	ex	-0.22	
840	EN71-3	149.44	ex	0.13	
841	EN71-3	111.6		-0.36	
1051		140.65		0.01	
2115	EN71-3	89.34		-0.64	
2118	EN71-3	155.12	ex	0.20	
2129		169	ex	0.38	
2132	EN71-3	172.48		0.42	
2139		104.5	ex	-0.45	
2156	EN71-3	92.496	ex	-0.60	
2165	EN71-3	122.59		-0.22	
2172	EN71-3	168.7		0.37	
2184	EN71-3	123.9		-0.20	
2190	EN71-3	138		-0.02	
2201	EN71-3	112.0		-0.35	
2217	EN71-3	208.21		0.88	
2228	EN71-3	111.55		-0.36	
2238	EN71-3	121.7		-0.23	
2241	EN71-3	171.313		0.41	
2247	EN71-3	178.89		0.50	
2250	EN71-3	157.45		0.23	
2256	EN71-3	145.162		0.07	
2271	EN71-3	130.1		-0.12	
2272	EN71-3	95.8		-0.56	
2284	EN71-3	171.012		0.40	
2289	EN71-3	142.6		0.04	
2290	EN71-3	147.36	ex	0.10	
2293		-----		-----	
2294	EN71-3	148		0.11	
2295		177.1		0.48	
2297	EN71-3	158.9		0.25	
2301	EN71-3	ND		-----	
2330	EN71-3	74.03		-0.84	
2370	EN71-3	139		-0.01	
2372		140		0.01	
2375	EN71-3	190		0.65	
2384	EN71-3	104.679		-0.45	
2385	EN71-3	154		0.18	
2390	EN71-3	83.6		-0.72	
2415	EN71-3	139.0		-0.01	
2429	EN71-3	145.9		0.08	
2431	EN71-3	147.5772		0.10	
2433	EN71-3	85.32		-0.69	
2442	EN71-3	128.05	ex	-0.15	
2475	EN71-3	128.5		-0.14	
2482	EN71-3	178		0.49	
2489	EN71-3	177.43		0.48	
2492		-----		-----	
2495	EN71-3	124.11		-0.20	
2497	EN71-3	130.42	ex	-0.12	
2500	EN71-3	152.41		0.16	
2503	In house	113.9	ex	-0.33	
2504	EN71-3	172.24		0.42	
2511	EN71-3	173.2	ex	0.43	
2532	EN71-3	174.7		0.45	
2582	EN71-3	169.89	ex	0.39	
2590	EN71-3	151.497	ex	0.15	
2622	EN71-3	149.4	ex	0.13	
2674	EN71-3	123.77		-0.20	
2685	EN71-3	159.69		0.26	
2689	EN71-3	98.25		-0.53	
2703	EN71-3	101.1	C	-0.49	first reported: 58.20
2705	EN71-3	24.24	ex	-1.48	
2728		-----		-----	
2812	EN71-3	127.25		-0.16	
2826	EN71-3	144.97		0.07	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	129.65		-0.13	
2879	EN71-3	100.1	ex	-0.50	
3100	EN71-3	128.714		-0.14	
3116	EN71-3	136.5		-0.04	
3118	EN71-3	125.863		-0.18	
3146	EN71-3	170		0.39	

lab	method	value	mark	z(targ)	remarks
3150	EN71-3	176.1	ex	0.47	
3153	EN71-3	142.8		0.04	
3154	EN71-3	130.2	ex	-0.12	
3167	EN71-3	72.3	C	-0.86	first reported: 57.1
3172	EN71-3	170	ex	0.39	
3182	EN71-3	134.4		-0.07	
3185	EN71-3	136.08		-0.04	
3190	EN71-3	132.9		-0.09	
3191		113.02		-0.34	
3192		-----		-----	
3197	EN71-3	170.6		0.40	
3214	EN71-3	157.82		0.23	
3218	EN71-3	140.5		0.01	
3225	EN71-3	140.05		0.01	
3228	EN71-3	120		-0.25	
3233	EN71-3	159.40		0.25	
3237	EN71-3	155.68		0.21	
3243	EN71-3	148.487		0.11	
3248	EN71-3	158	ex	0.24	
8005	EN71-3	136.75		-0.04	
	normality	OK			
	n	68			
	outliers	0 + 20ex			
	mean (n)	139.565			
	st.dev. (n)	28.5870	RSD = 20%		
	R(calc.)	80.044			
	st.dev.(RR prEN71-3:12)	78.1565			
	R(RR prEN71-3:12)	218.838			
Compare					
	R(EN71-3:19, table C.1)	58.617			
	R(EN71-3:19, table 4)	42.205			

For excluded test results, see paragraphs 4.1 and 5.





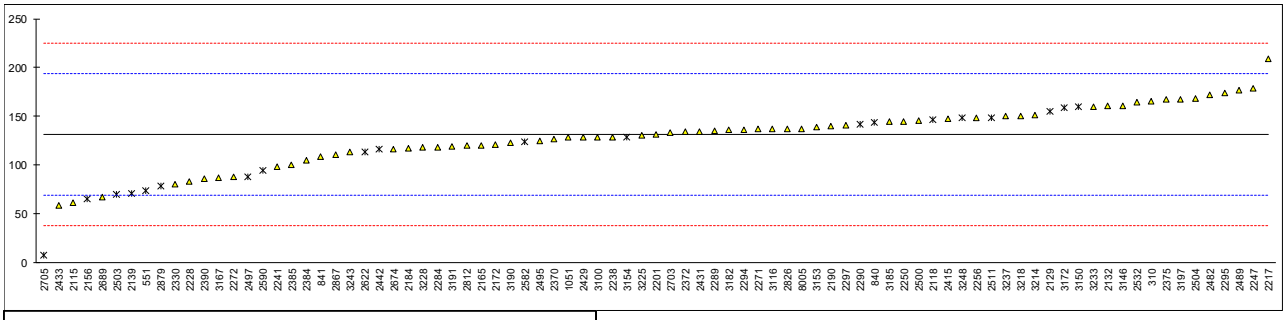
Determination of migration of Manganese as Mn on dried paint sample #19537 (Cat.3);
results in mg/kg

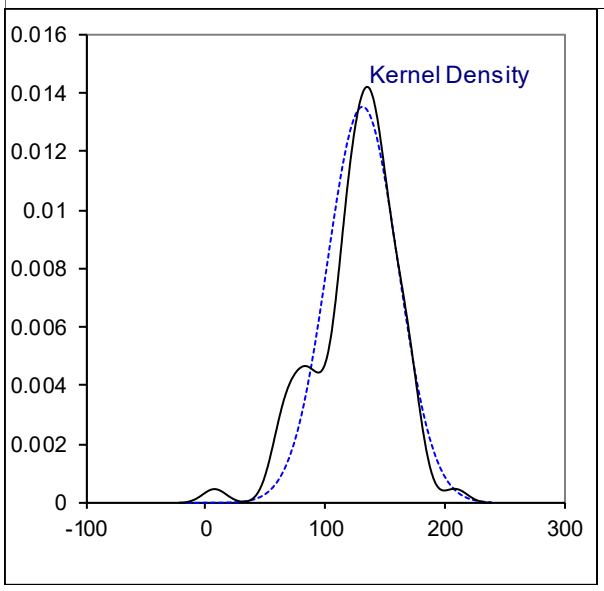
lab	method	value	mark	z(targ)	remarks
310	EN71-3	165.411		1.08	
523		-----		-----	
551	EN71-3	74.31	ex	-1.81	
840	EN71-3	143.31	ex	0.38	
841	EN71-3	108.4		-0.73	
1051		128.49		-0.09	
2115	EN71-3	61.90		-2.20	
2118	EN71-3	146.35	ex	0.48	
2129		155	ex	0.75	
2132	EN71-3	160.54		0.93	
2139		71.0	ex	-1.91	
2156	EN71-3	64.929	ex	-2.11	
2165	EN71-3	120.13		-0.35	
2172	EN71-3	120.8		-0.33	
2184	EN71-3	117.0		-0.45	
2190	EN71-3	140		0.28	
2201	EN71-3	131.0		-0.01	
2217	EN71-3	208.94		2.46	
2228	EN71-3	82.98		-1.53	
2238	EN71-3	129.1		-0.07	
2241	EN71-3	98.052		-1.06	
2247	EN71-3	178.90		1.51	
2250	EN71-3	145.145		0.44	
2256	EN71-3	148.126		0.53	
2271	EN71-3	136.8		0.17	
2272	EN71-3	88.1		-1.37	
2284	EN71-3	118.213		-0.42	
2289	EN71-3	135.6		0.14	
2290	EN71-3	142.13	ex	0.34	
2293		-----		-----	
2294	EN71-3	136		0.15	
2295		173.7		1.35	
2297	EN71-3	141.3		0.32	
2301	EN71-3	ND		-----	
2330	EN71-3	80.88		-1.60	
2370	EN71-3	127		-0.14	
2372		134		0.09	
2375	EN71-3	167		1.13	
2384	EN71-3	105.092		-0.83	
2385	EN71-3	100.6		-0.97	
2390	EN71-3	86.36		-1.43	
2415	EN71-3	147.3		0.51	
2429	EN71-3	128.7		-0.08	
2431	EN71-3	134.7424		0.11	
2433	EN71-3	58.55		-2.31	
2442	EN71-3	116.44	ex	-0.47	
2475		-----		-----	
2482	EN71-3	172		1.29	
2489	EN71-3	176.4		1.43	
2492		-----		-----	
2495	EN71-3	124.48	C	-0.22	first reported: <5
2497	EN71-3	88.18	ex	-1.37	
2500	EN71-3	145.21		0.44	
2503	In house	69.85	ex	-1.95	
2504	EN71-3	168.30		1.17	
2511	EN71-3	148.8	ex	0.56	
2532	EN71-3	164.3		1.05	
2582	EN71-3	123.61	ex	-0.24	
2590	EN71-3	94.681	ex	-1.16	
2622	EN71-3	113.6	ex	-0.56	
2674	EN71-3	116.74		-0.46	
2685		-----		-----	
2689	EN71-3	66.9		-2.04	
2703	EN71-3	133.8	C	0.08	first reported: 77.01
2705	EN71-3	7.36	ex	-3.93	
2728		-----		-----	
2812	EN71-3	119.75		-0.37	
2826	EN71-3	137.05		0.18	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	110.83		-0.65	
2879	EN71-3	78.5	ex	-1.68	
3100	EN71-3	128.981		-0.07	
3116	EN71-3	136.8		0.17	
3118		-----		-----	
3146	EN71-3	161		0.94	

lab	method	value	mark	z(targ)	remarks
3150	EN71-3	159.7	ex	0.90	
3153	EN71-3	138.9		0.24	
3154	EN71-3	129.1	ex	-0.07	
3167	EN71-3	87.1		-1.40	
3172	EN71-3	158.4	ex	0.86	
3182	EN71-3	135.8		0.14	
3185	EN71-3	144.78		0.43	
3190	EN71-3	122.9		-0.27	
3191		119.01		-0.39	
3192		-----		-----	
3197	EN71-3	167.4		1.15	
3214	EN71-3	151.64		0.65	
3218	EN71-3	150.5		0.61	
3225	EN71-3	130.30		-0.03	
3228	EN71-3	118		-0.42	
3233	EN71-3	160.18		0.92	
3237	EN71-3	150.15		0.60	
3243	EN71-3	113.366		-0.57	
3248	EN71-3	148	ex	0.53	
8005	EN71-3	137.56		0.20	

	normality	OK	
	n	65	
	outliers	0 + 20ex	
	mean (n)	131.307	
	st.dev. (n)	29.4922	RSD = 22%
	R(calc.)	82.578	
	st.dev.(RR prEN71-3:12)	31.5138	
	R(RR prEN71-3:12)	88.239	
Compare			
	R(EN71-3:19, table C.1)	55.149	
	R(EN71-3:19, table 4)	not available	

For excluded test results, see paragraphs 4.1 and 5.





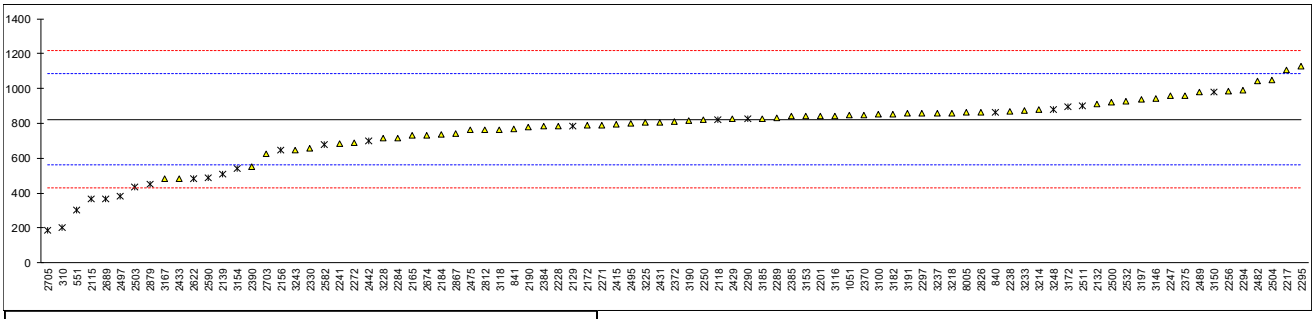
Determination of migration of Strontium as Sr on dried paint sample #19537 (Cat.3); results in mg/kg

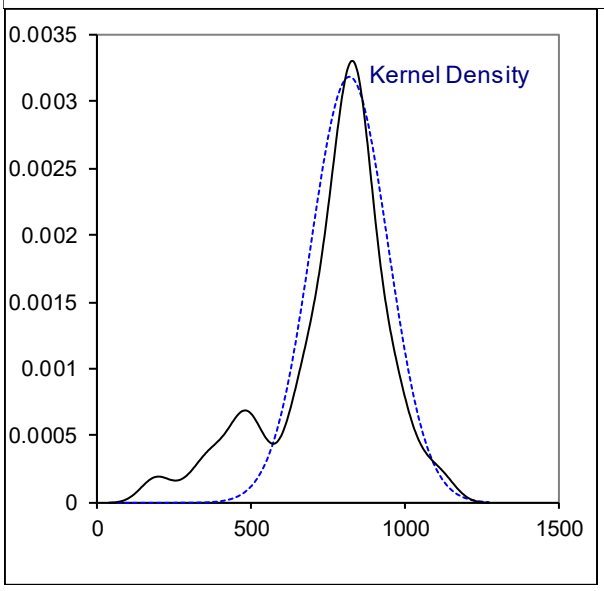
lab	method	value	mark	z(targ)	remarks
310	EN71-3	202.4	C,R(0.05)	-4.71	first reported: 1183.18
523		-----		-----	
551	EN71-3	300.4	ex,C	-3.97	first reported: 347.78
840	EN71-3	863.65	ex	0.31	
841	EN71-3	767.5		-0.42	
1051		845.14		0.17	
2115	EN71-3	365.0	C,R(0.05)	-3.48	first reported: 332.4
2118	EN71-3	823.48	ex	0.00	
2129		786	ex	-0.28	
2132	EN71-3	908.24		0.65	
2139		510.0	ex,C	-2.38	first reported: 399.4
2156	EN71-3	644.926	ex,C	-1.35	first reported: 350.973
2165	EN71-3	729.69		-0.71	
2172	EN71-3	788.1		-0.27	
2184	EN71-3	735.8		-0.66	
2190	EN71-3	780.9		-0.32	
2201	EN71-3	842.0		0.14	
2217	EN71-3	1108.82		2.17	
2228	EN71-3	784.38		-0.29	
2238	EN71-3	871.0		0.36	
2241	EN71-3	680.890		-1.08	
2247	EN71-3	959.58		1.04	
2250	EN71-3	819.258		-0.03	
2256	EN71-3	982.322		1.21	
2271	EN71-3	789.2		-0.26	
2272	EN71-3	686.6		-1.04	
2284	EN71-3	715.001		-0.82	
2289	EN71-3	831.3		0.06	
2290	EN71-3	827.03	ex	0.03	
2293		-----		-----	
2294	EN71-3	992		1.28	
2295		1130		2.33	
2297	EN71-3	857.2		0.26	
2301	EN71-3	ND		-----	
2330	EN71-3	657.76		-1.25	
2370	EN71-3	847		0.18	
2372		811		-0.09	
2375	EN71-3	960		1.04	
2384	EN71-3	783.945		-0.30	
2385	EN71-3	841		0.14	
2390	EN71-3	551.35		-2.06	
2415	EN71-3	794.0		-0.22	
2429	EN71-3	823.5		0.00	
2431	EN71-3	805.0458		-0.14	
2433	EN71-3	481.18	C	-2.60	first reported: 326.15
2442	EN71-3	697.06	ex	-0.96	
2475	EN71-3	760.5		-0.47	
2482	EN71-3	1045		1.69	
2489	EN71-3	977.18		1.17	
2492		-----		-----	
2495	EN71-3	801.01		-0.17	
2497	EN71-3	381.09	ex	-3.36	
2500	EN71-3	921.41		0.75	
2503	In house	433.5	ex	-2.96	
2504	EN71-3	1048.67		1.71	
2511	EN71-3	898.2	ex	0.57	
2532	EN71-3	925		0.77	
2582	EN71-3	675.55	ex	-1.12	
2590	EN71-3	490.253	ex	-2.53	
2622	EN71-3	482.0	ex	-2.59	
2674	EN71-3	731.15		-0.70	
2685		-----		-----	
2689	EN71-3	365	C,R(0.05)	-3.48	first reported: 329
2703	EN71-3	627.3	C	-1.49	first reported: 361.04
2705	EN71-3	187.8	ex	-4.82	
2728		-----		-----	
2812	EN71-3	762.35		-0.46	
2826	EN71-3	863.503		0.31	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	740.32		-0.63	
2879	EN71-3	450.3	ex	-2.83	
3100	EN71-3	851.485		0.22	
3116	EN71-3	844.2		0.16	
3118	EN71-3	764.901		-0.44	
3146	EN71-3	940		0.89	

lab	method	value	mark	z(targ)	remarks
3150	EN71-3	977.7	ex	1.17	
3153	EN71-3	841.4		0.14	
3154	EN71-3	540.6	ex	-2.14	
3167	EN71-3	481		-2.60	
3172	EN71-3	894	ex	0.54	
3182	EN71-3	852.7		0.23	
3185	EN71-3	828.35		0.04	
3190	EN71-3	817.0		-0.05	
3191		855.32		0.25	
3192		-----		-----	
3197	EN71-3	939.5		0.88	
3214	EN71-3	876.77		0.41	
3218	EN71-3	858.5		0.27	
3225	EN71-3	802.48		-0.16	
3228	EN71-3	715		-0.82	
3233	EN71-3	876.14		0.40	
3237	EN71-3	857.93		0.27	
3243	EN71-3	645.985		-1.34	
3248	EN71-3	877	ex	0.41	
8005	EN71-3	860.6		0.29	

	normality	suspect	
	n	64	
	outliers	3 + 20ex	
	mean (n)	823.021	RSD = 15%
	st.dev. (n)	125.2112	
	R(calc.)	350.591	
	st.dev.(RR prEN71-3:12)	131.6834	
	R(RR prEN71-3:12)	368.713	
Compare			
	R(EN71-3:19, table C.1)	345.669	
	R(EN71-3:19, table 4)	237.359	

For excluded test results, see paragraphs 4.1 and 5.





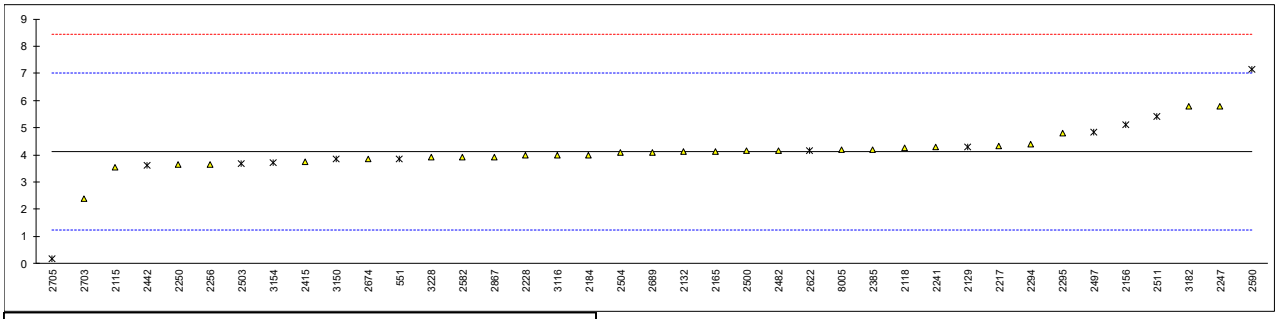
Determination of migration of Nickel as Ni on textile sample #19538 (Cat.3); results in mg/kg

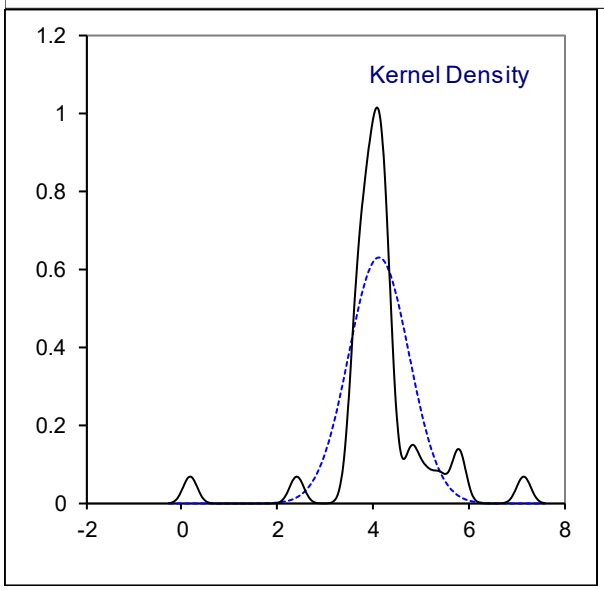
lab	method	value	mark	z(targ)	remarks
310	EN71-3	<10		-----	
523		-----		-----	
551	EN71-3	3.862	ex	-0.18	
840	EN71-3	<10		-----	
841	EN71-3	ND		-----	
1051		<10		-----	
2115	EN71-3	3.53		-0.41	
2118	EN71-3	4.26		0.10	
2129		4.3	ex	0.12	
2132	EN71-3	4.12		0.00	
2139		< 10		-----	
2156	EN71-3	5.103	ex	0.68	
2165	EN71-3	4.12		0.00	
2172	EN71-3	<5		-----	
2184	EN71-3	4.00		-0.08	
2190	EN71-3	<50		-----	
2201	EN71-3	<10		-----	
2217	EN71-3	4.34		0.15	
2228	EN71-3	3.97		-0.11	
2238	EN71-3	<10		-----	
2241	EN71-3	4.283		0.11	
2247	EN71-3	5.8	C	1.16	first reported: ND
2250	EN71-3	3.648		-0.33	
2256	EN71-3	3.66		-0.32	
2271	EN71-3	N.D.		-----	
2272	EN71-3	<10		-----	
2284		-----		-----	
2289	EN71-3	<10		-----	
2290	EN71-3	<10		-----	
2293		-----		-----	
2294	EN71-3	4.4		0.19	
2295		4.8		0.47	
2297	EN71-3	<5		-----	
2301	EN71-3	ND		-----	
2330	EN71-3	ND		-----	
2370	EN71-3	<10		-----	
2372		n.d.		-----	
2375	EN71-3	<10		-----	
2384	EN71-3	<10		-----	
2385	EN71-3	4.2		0.05	
2390		-----		-----	
2415	EN71-3	3.73		-0.27	
2429	EN71-3	<10		-----	
2431		-----		-----	
2433	EN71-3	<5		-----	
2442	EN71-3	3.62	ex	-0.35	
2475		-----		-----	
2482	EN71-3	4.15		0.02	
2489	EN71-3	<5	C	-----	first reported: ND
2492		-----		-----	
2495	EN71-3	<5		-----	
2497	EN71-3	4.82	ex	0.48	
2500	EN71-3	4.14	C	0.01	first reported: <2
2503		3.69	ex	-0.30	
2504	EN71-3	4.09		-0.02	
2511	EN71-3	5.4	ex	0.89	
2532	EN71-3	<10		-----	
2582	EN71-3	3.93		-0.13	
2590	EN71-3	7.157	ex,C	2.10	first reported:12.036
2622	EN71-3	4.159	ex	0.03	
2674	EN71-3	3.85		-0.19	
2685	EN71-3	<250	C	-----	first reported: 0
2689	EN71-3	4.1		-0.02	
2703	EN71-3	2.4	C	-1.19	first reported: 3.46
2705	EN71-3	0.167	ex	-2.74	
2728		-----		-----	
2812		-----		-----	
2826	EN71-3	<10		-----	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	3.93		-0.13	
2879		-----		-----	
3100	EN71-3	<10		-----	
3116	EN71-3	3.97		-0.11	
3118	EN71-3	<5		-----	
3146	EN71-3	n.d.		-----	

lab	method	value	mark	z(targ)	remarks
3150	EN71-3	3.840	ex	-0.20	
3153	EN71-3	<10		-----	
3154	EN71-3	3.72	ex	-0.28	
3167		-----		-----	
3172	EN71-3	< 10		-----	
3182	EN71-3	5.79	C	1.16	first reported: 11.6
3185	EN71-3	<10		-----	
3190	EN71-3	<10	C	-----	first reported: not detected
3191		-----		-----	
3192		-----		-----	
3197	EN71-3	<10		-----	
3214	EN71-3	<10		-----	
3218	EN71-3	<10		-----	
3225	EN71-3	ND		-----	
3228	EN71-3	3.9		-0.15	
3233	EN71-3	< 5		-----	
3237		-----		-----	
3243	EN71-3	<10		-----	
3248	EN71-3	ND		-----	
8005	EN71-3	4.194		0.05	

	normality	not OK	
	n	27	
	outliers	0 + 12ex	
	mean (n)	4.1224	
	st.dev. (n)	0.63267	RSD = 15%
	R(calc.)	1.7715	
	st.dev.(RR prEN71-3:12)	1.44284	
	R(RR prEN71-3:12)	4.0400	
Compare			
	R(EN71-3:19, table C.1)	2.3085	
	R(EN71-3:19, table 4)	2.2855	

For excluded test results, see paragraphs 4.1 and 5



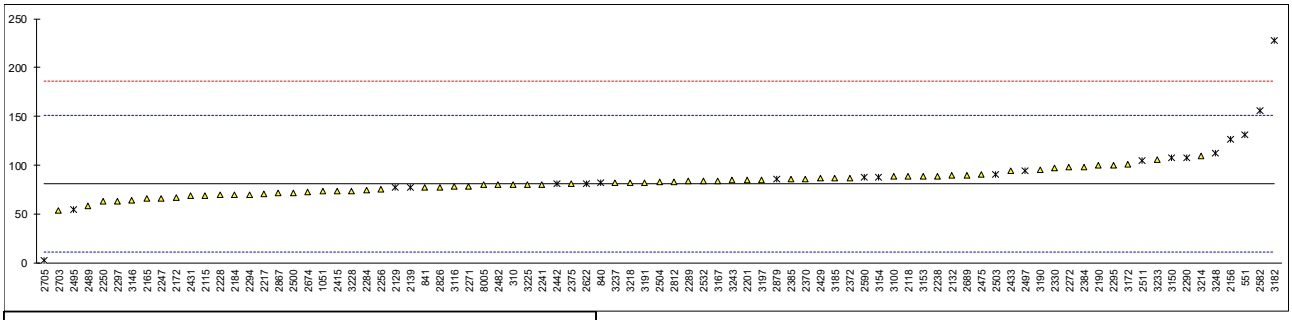


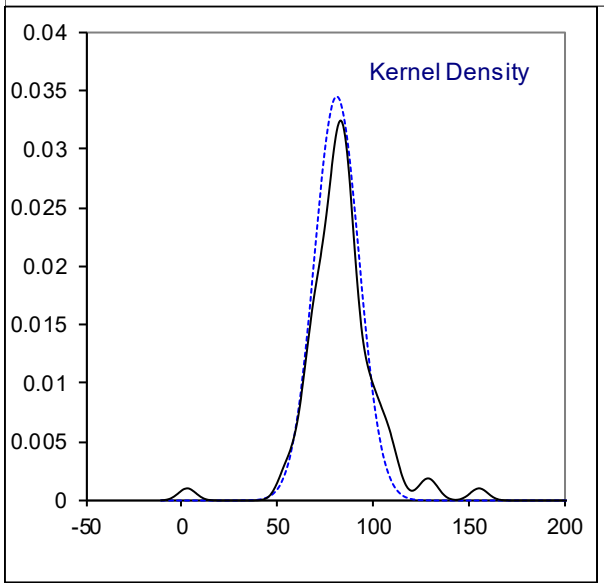
Determination of migration of Zinc as Zn on textile sample #19538 (Cat.3); results in mg/kg

lab	method	value	mark	z(targ)	remarks
310	EN71-3	80.274		-0.03	
523		-----		-----	
551	EN71-3	131.0	ex,C	1.42	first reported: 151.964
840	EN71-3	82.37	ex	0.03	
841	EN71-3	77.8		-0.10	
1051		73.45		-0.23	
2115	EN71-3	69.28		-0.35	
2118	EN71-3	88.77		0.21	
2129		77.6	ex	-0.11	
2132	EN71-3	89.61		0.23	
2139		77.7	ex	-0.11	
2156	EN71-3	127.062	ex	1.30	
2165	EN71-3	66.18		-0.44	
2172	EN71-3	67.51		-0.40	
2184	EN71-3	69.77		-0.33	
2190	EN71-3	99.98		0.53	
2201	EN71-3	85.0		0.10	
2217	EN71-3	70.59		-0.31	
2228	EN71-3	69.66		-0.34	
2238	EN71-3	89.1		0.22	
2241	EN71-3	80.667		-0.02	
2247	EN71-3	66.25		-0.43	
2250	EN71-3	63.49		-0.51	
2256	EN71-3	75.317		-0.17	
2271	EN71-3	78.4		-0.09	
2272	EN71-3	98.4		0.49	
2284	EN71-3	75.051		-0.18	
2289	EN71-3	83.8		0.07	
2290	EN71-3	107.96	ex	0.76	
2293		-----		-----	
2294	EN71-3	70		-0.33	
2295		100.4		0.54	
2297	EN71-3	63.72		-0.51	
2301	EN71-3	ND		-----	
2330	EN71-3	97.73		0.47	
2370	EN71-3	86.6		0.15	
2372		87.2		0.17	
2375	EN71-3	81		-0.01	
2384	EN71-3	98.778		0.50	
2385	EN71-3	86.4		0.14	
2390		-----		-----	
2415	EN71-3	74.05		-0.21	
2429	EN71-3	86.63		0.15	
2431	EN71-3	69.2368		-0.35	
2433	EN71-3	94.58		0.38	
2442	EN71-3	80.94	ex	-0.01	
2475	EN71-3	91.2		0.28	
2482	EN71-3	80.2		-0.03	
2489	EN71-3	58.8		-0.65	
2492		-----		-----	
2495	EN71-3	55.32	ex	-0.75	
2497	EN71-3	94.88	ex	0.38	
2500	EN71-3	72.36		-0.26	
2503		91.32	ex	0.28	
2504	EN71-3	83.00		0.05	
2511	EN71-3	104.7	ex	0.67	
2532	EN71-3	84.0		0.07	
2582	EN71-3	155.60	R(0.01)	2.12	
2590	EN71-3	88.015	ex	0.19	
2622	EN71-3	81.76	ex	0.01	
2674	EN71-3	73.35		-0.23	
2685		-----		-----	
2689	EN71-3	90		0.25	
2703	EN71-3	54.3	C	-0.77	first reported: 79.84
2705	EN71-3	3.431	ex	-2.23	
2728		-----		-----	
2812	EN71-3	83.76		0.07	
2826	EN71-3	77.89		-0.10	
2851		-----		-----	
2853		-----		-----	
2867	EN71-3	72.17		-0.26	
2879	EN71-3	86	ex	0.13	
3100	EN71-3	88.6215		0.21	
3116	EN71-3	78.31		-0.09	
3118	EN71-3	<5		-----	
3146	EN71-3	64.8		-0.47	

lab	method	value	mark	z(targ)	remarks
3150	EN71-3	107.8	ex	0.75	
3153	EN71-3	88.9		0.21	
3154	EN71-3	88.21	ex	0.19	
3167	EN71-3	84.25		0.08	
3172	EN71-3	101.6		0.58	
3182	EN71-3	227.39	C,R(0.01)	4.17	first reported: 428.3
3185	EN71-3	86.83		0.15	
3190	EN71-3	95.2	C	0.39	
3191		82.69		0.04	
3192		-----		-----	
3197	EN71-3	85.0		0.10	
3214	EN71-3	109.92		0.81	
3218	EN71-3	82.5		0.03	
3225	EN71-3	80.39		-0.03	
3228	EN71-3	74.1		-0.21	
3233	EN71-3	105.68		0.69	
3237	EN71-3	82.38		0.03	
3243	EN71-3	84.852		0.10	
3248	EN71-3	113	ex	0.90	
8005	EN71-3	80.05		-0.04	
	normality	OK			
	n	65			
	outliers	2 + 18ex			
	mean (n)	81.412			
	st.dev. (n)	11.5677	RSD = 14%		
	R(calc.)	32.389			
	st.dev.(RR prEN71-3:12)	35.0071			
	R(RR prEN71-3:12)	98.020			
Compare					
	R(EN71-3:19, table C.1)	34.193			
	R(EN71-3:19, table 4)	28.327			

For excluded test results, see paragraphs 4.1 and 5





APPENDIX 2

Determination of migration of Other Metals on plaster sample #19532 (Cat.1); results in mg/kg

lab	Sb	As	Ba	B	Cd	Cr	Co	Mn	Hg	Ni	Se	Sn	Zn
310	<10	<1	<50	6.137	<5	<0.2	<10	<50	<0.5	<10	<10	<0.2	<50
523	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	nd	3.553	0.8053	4.3227	0.0264	0.1983	0.092	10.563	0.014	1.7332	nd	nd	16.84
841	ND	ND	ND	11.2	ND	0.275	ND	ND	ND	ND	ND	ND	6.4
2115	-----	0.17	0.58	5.00	-----	-----	-----	4.57	-----	-----	-----	-----	1.18
2118	0.00	0.19	0.68	4.61	0.04	0.07	0.03	4.58	0.00	0.18	0.00	0.00	1.21
2129	<1,0	<0,20	<10	<10	<0,10	<1,0	<0,10	<10	<0,10	<1,0	<1,0	<0,20	<10
2132	<2.5	<0.25	<10	<25	<0.25	<0.05	<0.25	<25	<0.25	<2.5	<2.5	<15	<250
2250	<1	<0,1	<1	<10	<0,1	0.0714	<0,1	4.709	<0,1	<1	<5	<0,1	<2
2290	<10	<1.0	<10	<50	<0.5	<5.0	<10	<10	<1.0	<10	<5.0	<10	<100
2297	<5	<0.5	<5	<5	<0.3	<5	<5	<5	<1	<5	<5	<2.5	7.22
2370	<1	<0.5	<50	<50	<0.1	<0.005	<0.5	<50	<0.5	<10	<5	<0.36	<50
2372	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	<1.0	<0.5	<50	<50	<0.1	0.08	<0.5	<50	<0.5	<10	<5.0	<0.36	<50
2385	<1	<0,5	<1	6.0	<0,1	<0,2	<1	4.3	<0,1	<1	<1	<1	1.8
2390	-----	1.89	-----	-----	-----	0.65	-----	-----	-----	-----	-----	-----	17.82
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2495	<1	<0.2	<5	<5	<0.1	<1	<1	<5	<0.5	<5	<1	<5	<5
2503	-----	-----	1.041	4.621	-----	-----	-----	4.141	1.463	-----	1.669	-----	1.906
2515	LT	0.20	LT	3.27	LT	0.048	LT	3.61	LT	LT	LT	LT	LT
2659	-----	0.565	1.493	-----	0.081	-----	-----	-----	-----	-----	-----	-----	-----
2705	0.0135	0.0125	0.399	2.695	0.0305	0.0073	0.004	1.163	0.00	0.0403	0.004	0.00	0.25
2728	< 5	< 5	< 5	-----	< 5	< 5	-----	-----	< 5	-----	< 5	-----	-----
2812	-----	-----	-----	26.21	-----	-----	-----	-----	-----	-----	-----	-----	25.95
2887	<LQ	0.75	13.44	-----	<LQ	<LQ	-----	-----	<LQ	-----	<LQ	-----	-----
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	n.d.	1.17	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3150	0.072	0.140	3.043	279.0	0.058	0.840	0.077	4.855	0.051	<0,1	0.079	0.200	6.731
3153	<10	<1.0	<10	<50	<0.5	<5.0	<1.0	<10	<1.0	<10	<5	<4	<100
3154	-----	-----	24.06	27.44	-----	-----	-----	5.03	0.76	-----	-----	-----	61.35
3167	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	< 10	< 1	< 50	< 50	< 0.05	< 10	< 5	< 50	< 5	< 10	< 10	< 50	< 50
3190	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.
3191	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	<10	<0.5	<10	<10	<0.125	<0.5	<1	<10	<1	<10	<1	<10	<10
3243	<1	<1	<10	<10	<0.2	0.085	<1	<10	<1	<1	<1	<10	<10
3248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8005	-----	-----	-----	-----	-----	-----	-----	3.67	-----	-----	-----	-----	-----

Determination of migration of Other Metals on finger paint sample #19534 (Cat.2); results in mg/kg

lab	Al	Sb	As	B	Cd	Cr	Co	Cu	Mn	Hg	Se	Sr	Sn	Zn
310	<50	<10	<1	<2.5	<5	<0.2	<10	<50	<50	<0.5	<10	<50	<0.2	<50
523	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	2.8792	nd	0.998	0.3944	0.031	0.2421	0.048	0.5917	0.0368	0.0428	1.7876	0.1589	nd	1.2676
841	12	ND	ND	ND	ND	0.132	ND	ND	ND	ND	ND	ND	ND	ND
2115	2.99	-----	-----	-----	-----	-----	-----	2.11	-----	-----	-----	-----	-----	0.83
2118	4.447	0.301	0.586	0.264	0.004	0.006	0.002	0.902	0.052	0	0	0.202	0	0.942
2129	<100	<1,0	<0,1	<10	<0,10	<1,0	<0,10	<10	<10	<0,1	<1,0	<100	<0,05	<10
2132	<250	<2.5	<0.25	<25	<0.25	<0.05	<0.25	<15	<25	<0.25	<2.5	<250	<15	<250
2137	-----	-----	2.18	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2250	<10	<1	<0,1	<10	<0,1	<0,025	<0,1	<1	<1	<0,1	<5	<1	<0,1	<2
2266	7.7079	0.0076	0.0081	8.6778	0.0081	0.0056	0.0020	0.6949	0.0469	0.0000	0.0737	0.5026	0.0025	24.319
2271	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2290	<100	<1.0	<0.5	<50	<0.1	<1.0	<1.0	<10	<10	<1.0	<1.0	<100	<10	<100
2297	<5	<5	<0.5	<5	<0.3	<5	<5	<5	<5	<1	<5	<5	<2.5	<5
2370	<50	<1	<0.5	<50	<0.1	<0.005	<0.5	<50	<50	<0.5	<5	<50	<0.08	<50
2372	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	<50	<1	<0.5	<50	<0.1	0.01	<0.5	<50	<50	<0.5	<5	<50	<0.08	<50
2385	3.6	<1	<0,5	<1	<0,1	<0,2	<1	<1	<1	<0,1	<1	<1	<1	1.2
2390	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2495	<5	<1	<0.1	<5	<0.02	<1	<0.2	<5	<5	<0.2	<1	<5	<5	<5
2503	58.80	-----	-----	3.269	-----	-----	-----	16.99	-----	2.793	6.006	4.109	-----	4.164
2705	4.919	0.0033	0.0847	0.021	0.0019	0.0099	0.0022	22.21	0.0362	0.00	0.0524	0.2323	0.0038	0.1644
2728	-----	< 5	< 5	-----	< 5	< 5	-----	-----	-----	< 5	< 5	-----	-----	-----
2812	8.13	-----	-----	18.34	-----	-----	-----	-----	-----	-----	-----	-----	-----	22.56
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3150	407	0.999	0.653	795	0.428	3.904	0.275	53.31	28.29	0.468	0.703	64.07	3.102	230.4
3153	<100	<1.0	<0.5	<50	<0.1	<1.0	<1.0	<10	<10	<1.0	<1.0	<100	<4	<100
3154	22.88	-----	-----	33.44	-----	-----	-----	15.52	-----	-----	-----	-----	-----	90.94
3167	19.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	< 50	< 5	< 0.1	< 50	< 0.05	< 4	< 1	< 50	< 50	< 0.5	< 1	< 50	< 50	< 50
3191	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	<10	<1	<0.5	<10	<0.125	<0.5	<1	<10	<10	<1	<1	<10	<10	<10
3233	< 5	< 5	< 0.05	< 5	< 0.05	0.032	< 0.5	< 5	< 5	< 0.5	< 5	< 5	0.054	9.72
3238	-----	-----	-----	-----	-----	-----	-----	5.24	-----	-----	-----	-----	-----	-----
3247	8.3	ND	ND	1.0	ND	ND	ND	0.9	ND	ND	ND	0.3	ND	2.0
3248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8005	6.97	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Determination of migration of Other Metals on paper with ink sample #19536 (Cat.3); results in mg/kg

lab	Sb	As	Ba	B	Cd	Cr	Co	Cu	Pb	Ni	Sn	Zn
310	<10	<1	<50	<2.5	<5	0.416	<10	<50	<1	<10	<0.2	<50
523	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	nd	3.5904	1.0232	1.2613	nd	0.4157	0.1712	0.5749	nd	3.4156	nd	1.9215
840	<10	<10	<50	<50	<5	<0.15	<10	<50	<10	<10	<4.9	<50
841	ND	ND	ND	ND	ND	0.366	ND	ND	ND	ND	ND	ND
1051	<5	<5	<10	<10	<2	<5	<5	<10	<5	<10	<2.5	<10
2115	-----	-----	0.90	-----	-----	-----	-----	-----	-----	0.19	-----	2.01
2118	0.00	0.38	1.19	0.29	0.04	3.65	0.40	0.43	0.00	0.53	0.0	4.77
2129	<1,0	<0,10	<10	<10	<0,10	<1,0	<0,10	<10	<1,0	<1,0	<3,0	<10
2132	<2.5	<0.25	<10	<25	<0.25	<0.05	<0.25	<15	<0.5	<2.5	<15	<250
2139	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	16.6
2156	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2165	<5	<5	<2.5	<10	<1	<2.5	<2.5	<2.5	<2.5	<2.5	<1	<10
2172	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2184	<5	<5	<2.5	<10	<1	0.434	<2.5	<2.5	<2.5	<2.5	<1	<10
2190	<10	<2	<50	<50	<0.5	0.33	<2	<50	<2	<50	<4	<50
2201	<10	<10	<10	<10	<5	<10	<10	<10	<10	<10	<5	<100
2217	<0.025	0.12	2.18	0.53	0.04	0.46	<0.025	0.54	0.22	0.44	<0.05	5.0
2228	0.01	9.065	1.33	0.95	0.04	0.79	0.16	0.56	0.42	1.14	0.12	7.38
2238	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10
2241	0.033	0.145	1.012	0.411	0.030	0.342	0.020	0.270	0.129	0.314	0.042	2.933
2247	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39.03
2250	<1	<0,1	1.173	<10	<0,1	0.3305	<0,1	<1	0.17625	<1	<0,1	4.018
2256	ND	ND	ND	ND	ND	0.482	ND	ND	ND	ND	ND	3.767
2271	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2272	<10	<10	<10	<10	<2.5	<10	<10	<10	<10	<10	<10	<10
2284	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2289	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<100
2290	<10	<10	<10	<50	<5.0	<10	<10	<10	<10	<10	<10	<100
2293	< 2	< 2	3.625	-----	< 2	< 2	-----	-----	< 2	-----	-----	-----
2294	0	0	1.5	14.5	0	0	0	0	0	0	0	6.2
2295	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<5	<0.5	<5	<5	<0.3	<5	<5	<5	<2.5	<5	<2.5	<5
2301	ND	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2330	ND	ND	ND	ND	ND	0.37	ND	ND	ND	ND	ND	ND
2370	<10	<10	<50	<50	<5	<0.15	<0.5	<50	<10	<10	<4.9	<50
2372	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	<10	<10	<50	<50	<5	0.45	<10	<50	<10	<10	<4.9	<50
2384	<10	<10	<50	<50	<5	0.398	<10	<50	<10	<10	<4.9	<50
2385	<1	<0,5	1.2	<1	<0,1	0.38	<1	<1	<0,5	<1	<1	4.2
2390	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2415	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2429	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10
2431	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2433	-----	-----	<5	-----	-----	-----	-----	-----	-----	-----	14.51	<5
2442	N.D	N.D	N.D	N.D	N.D	0.469	N.D	N.D	N.D	N.D	N.D	8.14
2475	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.3
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2495	<5	<5	<5	<5	<1	<5	<5	<5	<5	<5	<5	<5
2497	-----	-----	1.06	-----	-----	-----	-----	-----	-----	0.532	-----	4.59
2500	<2	<2	<2	<2	<2	0.512	<2	<2	<2	<2	<2	<2
2503	-----	-----	1.262	-----	-----	-----	-----	11.8	-----	-----	-----	-----
2504	<1	<2	<5	<1	<2	<2	<0.2	<2	<2	<1	<2	4.04
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	<1	<0.5	<10	<10	<0.1	<0.1	<1	<10	<0.4	<10	<10	<10
2582	ND	0.02	2.20	ND	0.01	ND	0.01	ND	0.13	ND	ND	0.73
2590	< LOQ	< LOQ	0.991	-----	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ	4.899	< LOQ	2.576
2622	<0,324	0.2328	2.043	-----	<0,195	0.3437	<0,324	0.7394	0.4754	0.4664	<0,324	13.68
2674	n.d.	n.d.	n.d.	n.d.	n.d.	<1	n.d.	<10	n.d.	n.d.	n.d.	<10
2685	-----	-----	-----	-----	0.09	0	0	-----	0.0	0	-----	-----
2689	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det
2703	0.2	0.0	2.4	0.6	0.0	0.4	0.0	1.1	0.2	2.9	0.1	38.8
2705	0.0009	0.15	0.539	0.128	0.0057	0.036	0.12	0.283	0.0495	0.0925	0.0070	1.4076
2728	< 5	< 5	< 5	-----	< 5	< 5	-----	-----	< 5	-----	-----	-----
2812	-----	-----	72.47	92.95	-----	0.19	-----	-----	-----	-----	-----	59.01
2826	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2851	not det	not det	not det	-----	not det	not det	-----	-----	not det	-----	-----	-----
2853	ND	ND	ND	-----	ND	ND	-----	-----	ND	-----	-----	-----
2867	<5	<5	<2.5	<10	<1	<0.15	<2.5	<2.5	<2.5	<2.5	<1	<10
2879	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<2	<50
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4.84
3118	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
3146	n.d.	1.73	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

lab	Sb	As	Ba	B	Cd	Cr	Co	Cu	Pb	Ni	Sn	Zn
3150	0.075	0.063	2.563	1.883	0.048	1.654	0.096	2.770	0.366	<0,1	0.621	20.33
3153	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<4	<100
3154	-----	-----	53.58	14.44	-----	-----	-----	-----	-----	-----	-----	-----
3167	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	< 10	< 5	< 50	< 50	< 2	< 0.10	< 10	< 50	< 10	< 10	< 2	< 50
3182	<5	0.10	<5	<5	<0.1	0.343	<1	<5	<1	<5	<1	<5
3185	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<50
3190	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det
3191	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3192	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	<10	<0.5	<10	<10	<0.125	<0.5	<1	<10	<1	<10	<10	<10
3214	<10	<10	<10	<50	<5	<1	<10	<10	<1	<10	<10	<100
3218	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<5	<50
3225	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3228	<5	<5	<2.5	<10	<1	<0.5	<2.5	<2.5	<2.5	<2.5	<1.0	<10
3233	< 5	< 0.5	< 5	< 5	< 0.5	0.430	< 0.5	< 5	< 0.5	< 5	< 0.5	7.79
3237	-----	-----	-----	-----	-----	0.50	-----	-----	-----	-----	-----	-----
3243	<10	<10	<10	<10	<3	0.384	<10	<10	<3	<10	<10	<10
3248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8005	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4.92

Determination of migration of Other Metals on dried paint sample #19537 (Cat.3); results in mg/kg

lab	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Hg	Ni	Se	Sn	Zn
310	<10	<1	<50	<2.5	<5	<0.2	<50	<1	<0.5	10.775	<10	<0.2	<50
523	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	nd	4.2066	1.0274	0.601	nd	0.2699	0.1282	nd	0.0674	2.6384	nd	nd	0.3208
840	<10	<10	<50	<50	<5	<0.15	<50	<10	<10	<10	<10	<4.9	<50
841	ND	ND	ND	ND	ND	0.275	ND	ND	ND	ND	ND	ND	ND
1051	<5	<5	<10	<10	<2	<5	<10	<5	<5	<10	<10	<2.5	<10
2115	-----	-----	1.24	-----	-----	-----	-----	-----	-----	0.19	-----	-----	0.67
2118	0	0.36	2.38	0.51	0.16	0.13	0.24	0	0	0.30	0	0	3.30
2129	<1,0	<0,10	<10	<10	<1,0	<1,0	<10	<1,0	<0,10	<1,0	<1,0	<3,0	<10
2132	<2.5	<0.25	<10	<25	<0.25	<0.05	<15	<0.5	<0.25	<2.5	<2.5	<15	<250
2139	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2156	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2165	<5	<5	<2.5	<10	<1	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<1	<10
2172	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2184	<5	<5	3.71	<10	<1	<0.14	<2.5	<2.5	<2.5	<2.5	<10	<1	<10
2190	<10	<2	<50	<50	<0.5	<0.2	<50	<2	<5	<50	<50	<4	<50
2201	<10	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<5	<10
2217	0.05	0.85	5.74	1.05	0.29	0.37	0.83	0.63	0.09	0.77	<0.05	<0.05	7.69
2228	0.07	33.59	2.54	0.32	0.12	0.57	0.42	1.25	0.01	1.60	0.59	0.24	4.17
2238	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<10
2241	0.011	1.175	2.634	0.588	0.152	0.184	0.206	0.352	0.021	0.349	0.043	0.194	3.475
2247	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.43
2250	<1	0.1373	4.2275	<10	0.296	0.3509	<1	0.6915	<0,1	<1	<5	0.3278	7.7865
2256	ND	ND	4.476	ND	0.189	0.285	ND	0.587	ND	ND	ND	0.308	4.544
2271	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2272	-----	<10	<10	<10	<2.5	<10	<10	<10	<10	<10	<10	<10	<10
2284	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2289	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100
2290	<10	<10	<10	<50	<5.0	<10	<10	<10	<10	<10	<10	<10	<100
2293	< 2	< 2	< 2	-----	< 2	< 2	-----	< 2	< 2	-----	< 2	-----	-----
2294	0	0	4	0	0	0	0	4	6	0	0	0	14
2295	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	6.6
2297	<5	<0.5	<5	<5	<0.3	<5	<5	<2.5	<1	<5	<5	<2.5	<5
2301	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	31.4
2330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2370	<10	<10	<50	<50	<5	<0.15	<50	<10	<10	<10	<10	<4.9	<50
2372	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	<10	<10	<50	<50	<5	<0.15	<50	<10	<10	<10	<10	<4.9	<50
2384	<10	<10	<50	<50	<5	<0.15	<50	<10	<10	<10	<10	<4.9	<50
2385	<1	<0,5	3.0	1.7	0.20	0.27	<1	0.53	<0,1	<1	<1	<1	5.6
2390	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2415	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2429	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<10
2431	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2433	-----	-----	<5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2442	N.D	0.099	1.59	N.D	0.146	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
2475	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.48
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2495	<5	<5	<5	<5	<1	<5	<5	<5	<5	<5	<5	<5	<5
2497	-----	-----	1.42	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2500	<2	<2	<2	<2	<2	0.274	<2	<2	<2	<2	<2	<2	<2
2503	-----	-----	1.746	-----	-----	-----	8.873	-----	1.94	-----	2.014	-----	1.469
2504	<1	<2	5.27	<1	<2	<2	<2	<2	<2	<2	<1	<2	5.08
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	<1	<0.5	<10	<10	0.422	<0.1	<10	<0.4	<0.5	<10	<0.5	<10	<10
2582	ND	0.11	1.68	ND	0.12	ND	0.24	ND	0.09	0.02	ND	0.01	ND
2590	< LOQ	< LOQ	1.344	-----	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ	4.946	< LOQ	< LOQ	1.173
2622	<0,220	0.5018	2.647	-----	0.1408	<0,220	0.3433	<0,220	<0,021	<0,220	<0,220	<0,220	0.3917
2674	n.d.	n.d.	n.d.	n.d.	n.d.	<1	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2685	-----	-----	-----	-----	0.35	0	-----	0.0	-----	0	-----	-----	-----
2689	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det
2703	0.0	0.1	2.9	0.3	0.1	0.7	0.2	0.3	0.1	0.2	0.1	0.2	3.0
2705	0.0054	0.028	0.279	0.737	0.0005	0.0036	0.125	0.002	0.00	0.0691	0.0256	0.0046	0.3
2728	< 5	< 5	< 5	-----	< 5	< 5	-----	< 5	< 5	-----	< 5	-----	-----
2812	-----	-----	42.73	14.72	-----	0.11	-----	-----	-----	-----	-----	-----	15.09
2826	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2851	not det	not det	not det	-----	not det	not det	-----	not det	not det	-----	not det	-----	-----
2853	ND	ND	ND	-----	ND	ND	-----	ND	ND	-----	ND	-----	-----
2867	<5	<5	<2.5	<10	<1	<0.15	<2.5	<2.5	<2.5	<2.5	<10	<1	<10
2879	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<2	<50
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	5.51
3118	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
3146	n.d.	0.480	n.d.	n.d.	0.310	n.d.	n.d.	0.820	n.d.	n.d.	n.d.	n.d.	n.d.

lab	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Hg	Ni	Se	Sn	Zn
3150	0.050	0.181	5.797	106.0	0.366	0.385	1.500	0.973	0.083	<0,1	0.076	0.672	9.931
3153	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<4	<100
3154	-----	-----	44.50	13.31	-----	-----	-----	-----	-----	-----	-----	-----	41.86
3167	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	< 10	< 5	< 50	< 50	< 2	< 0.10	< 50	< 10	< 10	< 10	< 10	< 2	< 50
3182	<5	0.73	<5	<5	0.22	0.229	<5	<1	<1	<5	<5	<1	<5
3185	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<50
3190	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det
3191	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3192	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	<10	<0.5	<10	<10	0.35	<0.5	<10	<1	<1	<10	<1	<10	<10
3214	<10	<10	<10	<50	<5	<1	<10	<1	<10	<10	<10	<10	<100
3218	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<5	<50
3225	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3228	<5	<5	<2.5	<10	<1	<0.5	<2.5	<2.5	<2.5	<2.5	<10	<1.0	<10
3233	< 5	1.23	< 5	< 5	< 0.5	0.379	< 5	0.63	< 0.5	< 5	< 5	< 0.5	6.37
3237	-----	0.27	-----	-----	0.30	-----	-----	-----	-----	-----	-----	-----	-----
3243	<10	<10	<10	<10	<3	0.095	<10	<3	<10	<10	<10	<10	<10
3248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8005	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	5.59

Determination of migration of Other Metals on textile sample #19538 (Cat.3); results in mg/kg

lab	Al	Sb	As	Ba	B	Cd	Cr	Co	Cu	Pb	Mn	Hg	Se	Sr	Sn
310	<50	<10	<1	<50	<2.5	<5	<0.2	<10	<50	<1	<50	<0.5	<10	<50	<0.2
523	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	2.7993	nd	1.2652	1.0232	nd	nd	0.1617	0.0322	0.1036	0.0323	0.2094	0.0181	nd	0.884	0.2052
840	<50	<10	<10	<50	<50	<5	<0.15	<10	<50	<10	<50	<10	<10	<50	<4.9
841	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1051	<10	<5	<5	<10	<10	<2	<5	<5	<10	<5	<10	<5	<10	<10	<2.5
2115	1.87	-----	-----	1.38	-----	-----	-----	-----	-----	-----	0.21	-----	-----	0.38	-----
2118	2.93	0	0.01	1.70	0.18	0	0.01	0.03	0.09	0	0.26	0	0	0.52	0
2129	<100	<1,0	<0,10	<10	<10	<0,10	<1,0	<0,10	<10	<1,0	<10	<0,10	<1,0	<100	<3,0
2132	<250	<2.5	<0.25	<10	<25	<0.25	<0.05	<0.25	<15	<0.5	<25	<0.25	<2.5	<250	<15
2139	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2156	6.191	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2165	<10	<5	<5	<2.5	<10	<1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<2.5	<1
2172	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2184	<10	<5	<5	<2.5	<10	<1	<0.14	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<2.5	<1
2190	<50	<10	<2	<50	<50	<0.5	<0.2	<2	<50	<2	<50	<5	<50	<50	<4
2201	<10	<10	<10	<10	<10	<5	<10	<10	<10	<10	<10	<10	<10	<10	<5
2217	4.44	<0.025	<0.05	2.44	<0.25	<0.025	<0.025	<0.025	0.21	<0.025	0.28	<0.025	<0.05	0.53	<0.05
2228	3.31	0.01	0.19	1.91	0.63	0.00	0.02	0.00	0.25	0.11	0.26	0.01	0.01	0.47	0.09
2238	<300	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100	<10
2241	3.868	0.013	0.007	2.012	0.166	0.001	0.014	0.010	0.093	0.019	0.251	0.007	0.010	0.496	0.006
2247	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2250	<10	<1	<0,1	1.457	<10	<0,1	<0,025	<0,1	<1	<0,1	<1	<0,1	<5	<1	<0,1
2256	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2271	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
2272	<10	<10	<10	<10	<10	<2.5	<10	<10	<10	<10	<10	<10	<10	<10	<10
2284	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2289	<300	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100	<10
2290	<300	<10	<10	<10	<50	<5.0	<10	<10	<10	<10	<10	<10	<10	<100	<10
2293	-----	< 2	< 2	2.90	-----	< 2	< 2	-----	-----	< 2	-----	< 2	< 2	-----	-----
2294	3.4	0	0	3.5	0	0	0	0	0	0	0	0	0	0	0
2295	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<5	<5	<0.5	<5	<5	<0.3	<5	<5	<5	<2.5	<5	<1	<5	<5	<2.5
2301	ND	ND	ND	ND	ND	ND	ND	53.2	ND	ND	59.8	ND	ND	118.1	ND
2330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2370	<50	<10	<10	<50	<50	<5	<0.15	<0.5	<50	<10	<50	<10	<10	<50	<4.9
2372	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	<50	<10	<10	<50	<50	<5	<5	<10	<50	<10	<50	<10	<10	<50	<4.9
2384	<50	<10	<10	<50	<50	<5	<0.15	<10	<50	<10	<50	<10	<10	<50	<4.9
2385	3.7	<1	<0,5	1.7	<1	<0,1	<0,2	<1	<1	<0,5	<1	<0,1	<1	<1	<1
2390	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2415	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2429	<300	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100	<10
2431	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2433	<5	-----	-----	<5	-----	-----	-----	-----	-----	-----	<5	-----	-----	<5	-----
2442	4.36	N.D	N.D	1.73	N.D	N.D	N.D	N.D	2.08	N.D	N.D	N.D	N.D	N.D	N.D
2475	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2495	<5	<5	<5	<5	<5	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5
2497	3.93	-----	-----	-----	85.43	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2500	<2	<2	<2	<2	<2	<2	<0.15	<2	<2	<2	<2	<2	<2	<2	<2
2503	-----	-----	-----	1.716	-----	-----	-----	-----	8.76	-----	-----	1.731	2.481	1.091	-----
2504	4.06	<1	<2	<5	<1	<2	<2	<2	<2	<2	<2	<2	<1	<5	<2
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	<10	<0.1	<0.5	<10	<10	<0.1	<0.1	<1	<10	<0.4	<10	<0.5	<10	<10	<10
2582	2.33	ND	ND	1.52	ND	ND	ND	ND	ND	0.02	0.22	ND	0.01	0.33	ND
2590	3.707	< LOQ	< LOQ	1.264	-----	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ	< LOQ
2622	2.468	<0,252	<0,252	1.681	-----	<0,151	<0,252	<0,252	0.1514	<0,252	0.2473	<0,025	<0,252	0.3836	<0,252
2674	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2685	-----	-----	-----	-----	-----	0.56	0	0	-----	0.0	-----	-----	-----	-----	-----
2689	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det
2703	1.9	0.0	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.7	0.0
2705	0.0961	0.0053	0.011	0.0426	0.00	0.00	0.0044	0.025	0.0084	0.00005	0.029	0.00	0.00	0.020	0.0012
2728	-----	< 5	< 5	< 5	-----	< 5	< 5	-----	-----	< 5	-----	< 5	< 5	-----	-----
2812	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2826	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2851	-----	not det	not det	not det	-----	not det	not det	-----	-----	not det	-----	not det	not det	-----	-----
2853	-----	ND	ND	ND	-----	ND	ND	-----	-----	ND	-----	ND	ND	-----	-----
2867	<10	<5	<5	<2.5	<10	<1	<0.15	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<2.5	<1
2879	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<300	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100	<2
3116	3.53	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3118	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
3146	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

lab	Al	Sb	As	Ba	B	Cd	Cr	Co	Cu	Pb	Mn	Hg	Se	Sr	Sn
3150	42.85	0.088	0.019	4.121	129.4	<0,05	0.924	0.017	1.073	0.176	0.284	0.134	0.019	1.050	0.284
3153	<300	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100	<4
3154	-----	-----	-----	33.58	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3167	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	< 50	< 10	< 5	< 50	< 50	< 2	< 0.10	< 10	< 50	< 10	< 50	< 10	< 10	< 50	< 2
3182	24.9	<5	<0.1	<5	<5	<0.1	<0.04	<1	<5	<1	<5	<1	<5	<5	<1
3185	<300	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100	<10
3190	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det	not det
3191	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3192	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	<10	<10	<0.5	<10	<10	<0.125	<0.5	<1	<10	<1	<10	<1	<1	<10	<10
3214	<300	<10	<10	<10	<50	<5	<1	<10	<10	<1	<10	<10	<10	<100	<10
3218	<300	<10	<10	<10	<50	<5	<10	<10	<10	<10	<10	<10	<10	<100	<5
3225	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3228	<10	<5	<5	<2.5	<10	<1	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<10	<2.5	<1.0
3233	5.49	< 5	< 0.5	< 5	< 5	< 0.5	< 0.05	< 0.5	< 5	< 0.5	< 5	< 0.5	< 5	< 5	< 0.5
3237	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3243	13.122	<10	<10	<10	<10	<3	<0.04	<10	<10	<3	<10	<10	<10	<10	<10
3248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8005	4.322	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

APPENDIX 3
Analytical details as reported by the participants for sample #19532 (Cat.1)

lab	ISO/IEC17025 accredited	Sample intake in mg	Amount of 0.07 mol/l HCl solution used in mL	pH after 1 minute shaking	Was the pH adjusted after 1 minute of shaking	pH after adjustment	Shaking time in minutes	Time after shaking in minutes
310	No	254.8	12.5	1.4	Yes	1.2	60	60
523	---				---			
551	No	406,0	20	1,0	No		60	60
841	---	127	6.3	1.46	Yes	1.27	60	60
2115	Yes	100	5	1.2	No		60	60
2118	Yes	202,4	10	1.90	Yes	1.18	60	60
2129	Yes				Yes			
2132	Yes	100	5.0	1.48	Yes	1.22	60	60
2250	Yes	100	5	>1,3	Yes	1,2 - 1,3	60	60
2290	Yes				---			
2297	Yes	0.1 g	5		Yes	1.2	60	60
2370	Yes	0.2042 g	10	1.60	Yes	1.25	1 hr	1 hr
2372	Yes	>100	5	N.A.	Yes	1.292	60	60
2375	Yes	0,1003 g	5	1,39	Yes	1,22	1 hour	1 hour
2385	Yes	200	10	>1,5	Yes	1,20	60	60
2390	Yes	202.9	10.1	1.24	No		60	60
2492	---				---			
2495	Yes	0.2 g	10	1.00	No		60	60
2503	---				---			
2515	Yes	100.7	5.0	1.43	Yes	1.27	60	60
2659	Yes	186	15	5.21	Yes	1.33	60	60
2705	No	50	5	-	No	-	60	60
2728	Yes	100	5	1.51	Yes	1.17	60	60
2812	No	0,1 g	5	1,26	No		1 hour	1 hour
2887	Yes	200	10	1	No		60	60
3116	---				---			
3146	Yes	250	12.5	1.3	No	1.3	60	60
3150	No	5	5	1,3	Yes	0,8	60	15
3153	Yes	200	10	1.40	Yes	1.20	60	60
3154	---				---			
3167	Yes				No			
3172	---				---			
3190	Yes	154	7.7	/	Yes	1.2	60	60
3191	Yes	150.2	7.5	1.53	Yes	1.26	60	60
3197	---	200	10	1.26	No		60	60
3243	Yes	485.7	24	1.2	No		60	60
3248	Yes	200	10		---		60	60
8005	Yes	100	5	1.2	No		60	60

Analytical details as reported by the participants for sample #19534 (Cat.2)

lab	ISO/IEC17025 accredited	Sample intake in mg	Amount of 0.07 mol/l HCl solution used in mL	pH after 1 minute shaking	Was the pH adjusted after 1 minute of shaking	pH after adjustment	Shaking time in minutes	Time after shaking in minutes
310	No	351	17.5	1.3	No		60	60
523	---				---			
551	No	402.8	20	1	No		60	60
841	Yes	183.2	9.2	1.29	No	1.29	60	60
2115	Yes	100	5	1.2	No		60	60
2118	Yes	201	10	1.36	No		60	60
2129	Yes				Yes			
2132	Yes	100	5.0	1.35	Yes	1.21	60	60
2137	Yes	200	10	2.6	Yes	1.2	60	60
2250	Yes	100	5	1,2 +-0,1	---		60	60
2266	Yes	495.4	25	1.21	No		60	60
2271	Yes	200	10	1.2	Yes		60	60
2290	Yes				---			
2297	Yes	1 g	50		Yes	1.3	60	60
2370	Yes	1.015 g	50	1.34	Yes	1.29	1 hr	1 hr
2372	Yes	> 100	10	N.A.	Yes	1.299	60	60
2375	Yes	0.1960 g	10	1.2	No		1 hour	1 hour
2385	Yes	300	15	>1,5	Yes	1,20	60	60
2390	---	213.9	10.7	1.27	No		60	60
2492	---				---			
2495	Yes	0.4 g	20	1.01	No		60	60
2503	Yes	88.7			No			
2705	No	50	5	-	No	-	60	60
2728	Yes	100	5	1.3	No	-	60	60
2812	---	0,1 g	5	1,26	No		1 hour	1 hour
3116	---				---			
3146	Yes	270 / 530	13.6 / 26.6	1.3	No		60	60
3150	No	10	5	1,3	Yes	0,5	60	15
3153	Yes	200	10	1.21	No		60	60
3154	---				---			
3167	Yes				No			
3172	Yes	200	10	1.12	No		60	60
3191	Yes	202.8	10	1.26	No	Not adjusted.	60	60
3197	---	200	10	1.17	No		60	60
3233	Yes	121.7	6.1	1.25	No		60	60
3238	Yes	246,6	123,573	1,17	No		60	60
3247	No	200	10	1	No		60	60
3248	Yes	200	10		---		60	60
8005	Yes	100	5	1.2	No		60	60

Analytical details as reported by the participants for sample #19536/#19537/#19538 (Cat.3)

lab	ISO/IEC 17025 accredited	Sample intake in mg	Amount of 0.07 mol/l HCl solution used in mL	pH after 1 minute shaking	Was the pH adjusted after 1 minute of shaking	pH after adjustment	Shaking time in minutes	Time after shaking in minutes
310	Yes	19536: 395.3 19537: 254.1 19538: 262.9	19536: 50 19537: 12.5 19538: 13	19536: 2.65 19537: 5.4 19538: 1.3	Yes	19536: 1.1 19537: 1.1 19538: 1.3	60	60
523	---				---			
551	No	200.4	10	1.0	No		60	60
840	Yes		10		---		60	60
841	---	19536: 199.6, 19537: 117.1, 19538: 296.9	19536: 10, 19537: 5.9, 19538: 14.8	19536: 1.55, 19537: 6.0, 19538: 1.30	Yes	19536: 1.28, 19537: 1.20, 19538: 1.30	60	60
1051	Yes	300	15	<1.3	No		60	60
2115	Yes	500	25	1.2	No		60	60
2118	Yes	19536: 199.2 19537: 514.5 19538: 2926.6	19536: 10 19537: 26 19538: 150	19536: 2.45 19537: 5.58 19538: 1.27	Yes	19536: 1.45 19537: 1.43	60	60
2129	Yes				Yes			
2132	Yes	100	5.0	19356: 1.56 19357: 5.95 19358: 1.26	Yes	19356: 1.20 19357: 1.25 19358: 1.26	60	60
2139	Yes	19536: 206.6 19537: 180.4 19538: 523.7	19536: 10 2. 19537: 10 3. 19538: 25	19536: 2.42 19537: 1.48 19538: 1.47	Yes	19536: 1.48 19537: 1.48 19538: 1.47	1 Hour	1 Hour
2156	Yes	200	10	1.0	No		60	60
2165	Yes	100	10.0	19536: 1.6 19537: >2.8 19538: 1.1	Yes	19536: 1.1 19537: 1.1 19538: --	60	60
2172	Yes	100	5.00	19536: 1.6 19537: 5.6 19538: 1.2	Yes	1.2	60	60
2184	Yes	1005		19536: 1.966 19537: 5.407 19538: 1.140	Yes	19536: 1.242 19537: 1.226	60	60
2190	Yes	400	10	6.3	Yes	1.3	60	60
2201	Yes	200	10	19536: 1.56 19537: 5.47 19538: 1.26	Yes	19536: 1.28 19537: 1.15	60	60
2217	Yes	500	25	2-3	Yes	<1.2	60	60
2228	Yes	19536: 0.1164g 19537: 0.1088g 19538: 0.2345g	19536: 5.8 19537: 5.550 19538: 11.725	19536: 4.2 19537: 3.4 19538: 2.7	Yes	19536: 1.2 19537: 1.3 19538: 1.2	19536: 60 19537: 60 19538: 60	19536: 60 19537: 60 19538: 60
2238	Yes	19536: 100 19537: 140 19538: 200	19536: 5 19537: 7 19538:10	19536: 1.21 19537: 5.0 19538: 1.22	Yes	19536: -- 19537: 1.25 19538: --	60	60
2241	Yes	100	5	19536: 1.5 19537: 5.6 19538: 1.3.	Yes	19536: 1.2 19537: 1.2 19538: 1.2	60	60
2247	Yes	19536: 0.2g 19537: 0.3g 19538: 0.3g	19536: 10 19537: 15 19538: 15	19536: 6.20 19537: 6.04 19538: 1.45	Yes	19536: 1.24 19537: 1.28 19538: 1.25	60.0	60.0
2250	Yes	200	10	1,2+-0,1	Yes		60	60
2256	Yes	19536: 123 19537: 139 19538: 203	19536: 6.2 19537: 7.0 19538: 10.2	19536: 2.3 19537: 5.7 19538: 1.29	Yes	19536: 1.26 19537: 1.25 19538: --	60	60
2271	Yes	200	10	1.90	Yes	1.20	60	60
2272	Yes	0.4g	20	1.2±0.1pH	No		60	60
2284	Yes	0.2	10	19356:1.94; 19357:2.82; 19358:1.25	Yes	19356:1.24; 19357:1.19; 19358:1.25	60	60
2289	Yes	0.2	10	19536: 2.5 19537: 5.5 19538: 1.5	Yes	pH=1.2	60	60
2290	Yes				---			
2293	Yes	19536: 100.1 19537: 200.2 19538: 200.0	19536: 2.5 19537: 10.0 19538: 10.0	19536: 6.78 19537: 5.06 19538: 1.00	Yes	19536: 1.28 19537: 1.27 19538: --	60	60
2294	Yes	19536: 196.47 19537: 234.6 19538: 299.94	19536: 9.8 19537:11.730 19538: 15	19536: 2.65 19537: 5.45 19538: 1.28	Yes	19536: 1.28 19537: 1.28	60	60
2295	Yes	19536: 150 19537: 150 19538: 500	19536: 7.5 19537: 7.5 19538: 25	19536: 1.8 19537: 3.2 19538: 1.7	Yes	19536: 1.2 19537: 1.2 19538: 1.2	1 hour	1 hour

lab	ISO/IEC 17025 accredited	Sample intake in mg	Amount of 0.07 mol/l HCl solution used in mL	pH after 1 minute shaking	Was the pH adjusted after 1 minute of shaking	pH after adjustment	Shaking time in minutes	Time after shaking in minutes
2297	Yes	0.1	5		Yes	1.3	60	60
2301	---				---			
2330	Yes	19536: 200 19537: 100 19538: 200	19536: 5 19537: 5 19538: 10	19536: 3.260 19537: 6.310 19538: 1.436	Yes	19536: 1.162 19537: 1.270 19538: 1.291	19536: 60 19537: 60 19538: 60	19536: 60 19537: 60 19538: 60
2370	Yes	0.2020 g	10	1.96	Yes	1.29	1 hr	1 hr
2372	Yes	>100	10	N.A.	Yes	1.192	60	60
2375	Yes	0,2003 g	10	1,39	Yes	1,26	1 hour	1 hour
2384	Yes	100	5	3.20	Yes	1.20	60	60
2385	Yes	19536: 200 19537: 200 19538: 500	19536: 10 19537: 10 19538: 25	19536: >1,5 19537: >1,5 19538: 1,15	Yes	19536: 1,12 19537: 1,10 19538: 1,15	60	60
2390	Yes	19536: 214.6 19537: 203.5 19538: 1003.1	19536: 10.7 ml 19537: 10.2 ml 19538: 50.2 ml	19536: 1.26 19537: 1.24 19538: 1.23	No		60	60
2415	Yes	100	5	19536: 1.65 19537: 6.12 19538: 1.25	Yes	19536: 1.26 19537: 1.24	60	60
2429	Yes	300	15	Yes	Yes	1.23	60	60
2431	Yes	0.1g	5	19536: 2.2 19537: 5.68 19538: 1.12	Yes	19536: 1.24 19537: 1.15	1 hour	1 hour
2433	Yes	200	19537: 12.5 19538: 26.1	1.2	No		60	60
2442	---				---			
2475	Yes	19536: 151.6 19537: 116 19538: 189.9	19536: 7.6 19537: 5.8 19538: 9.5	19536: 1.50 19537: 5.45 19538: 1.21	Yes	19536: 1.22 19537: 1.27 19538: --	60	60
2482	Yes	19536: 200 19537: 200 19538: 500	19536: 10 19537; 10 19538: 25	19536: 1,80 19537: 4,95 19538: 1,28	Yes	19536: 1,26 19537: 1,29	60	60
2489	Yes	19536: 110 19537: 110 19538: 500	19536: 10 19537: 10 19538: 10	19536: 1.24 19537: 4.8 19538: 1.23	Yes	19537: 1.27	1 hour	1 hour
2492	---				---			
2495	Yes	19536: 0.2 19537: 0.2 19538: 0.4	19536: 10 19537: 10 19538: 20	19536: 1.14 19537: 1.12 19538: 1.00	No		60	60
2497	Yes	0.5	25	1.42	No		60	60
2500	No	0.3g	15	2.42	Yes	1.22	60	60
2503	Yes				No			
2504	Yes	19536: 0.1 g 19537: 0.1 g 19538: 0.2 g	19536: 5 19537: 5 19538: 10	19536: 2.45 19537: 5.81 19538: 1.29	Yes	19536: 1.20 19537: 1.27 19538: 1.29	60	70
2511	No	0.1000 g			---			
2532	Yes	19536: 100 19537: 100 19538: 300	19536: 5 19537: 5 19538: 15	19536: 1.55 19537: 3.2 19538: 1.42	Yes	19536: 1.25 19537: 1.29 19538: 1.18	60	60
2582	Yes	19536: 202.0 19537: 201.6 19538: 201.8	19536: 10, 19537: 10 19538: 10	19536: 4.65, 19537: 3.37, 19538: 1.17	Yes	19536: 1.48, 19537: 1.47	60	60
2590	Yes	103	5	1.49	No		60	60
2622	Yes	19536: 416,3 19537: 568,8 19538: 990,7	19536: 27 19537: 25 19538: 50	19536: <1 19537: 5 19538: <1	Yes	19536: <1 19537: <1 19538: <1	60	60
2674	Yes	about 100	5	19536: 1.5 19537: >1.3 19538: <1.3	Yes	pH<1.3	60	60
2685	Yes	100.6	5	1.13	No		60	60
2689	Yes	0.2g	10	1.2	No		1 hour	1 hour
2703	Yes	19536: 418.2 19537: 444.2 19538: 513.4	19536: 20ml 19537: 25ml 19538: 25ml	19536: 4.25 19537: 5.75 19538: <1.3	Yes	19536: 0.78 19537: 1.15 19538: --	60	60
2705	No	50	5	-	No	-	60	60
2728	Yes	100	5	19536: 3.00 19537: 5.67 19538: 1.34	Yes	19536: 1.41 19537: 1.37 19538: 1.34	60	60
2812	No	0,1	5	1,26	No		1 hour	1 hour
2826	Yes	100	5	19536:3 19537:6	Yes	1.2	60	60

lab	ISO/IEC 17025 accredited	Sample intake in mg	Amount of 0.07 mol/l HCl solution used in mL	pH after 1 minute shaking	Was the pH adjusted after 1 minute of shaking	pH after adjustment	Shaking time in minutes	Time after shaking in minutes
				19538:1.2				
2851	Yes	19536: 132.9 19537: 105.2 19538: 157.6	19536: 6.64 19537: 5.26 19538: 7.88	19536: 3.0 19537: 6.0 19538: 1.5	Yes	19536: 1.5 19537: 1.5 19538: --	60	60
2853	Yes	100	5	19536: 1.52 19537: 3.24 19538: 1.26	Yes	19536: 1.24 19537: 1.36	60	60
2867	Yes	19536: 200 19537: 200 19538: 300	19536: 10 19537: 10 19538: 15	19536: 1.2 19537: 6.8 19538: 1.2	Yes	19537: 1.2	60	60
2879	Yes	100 mg & 200 mg	100 mg 5 mL & 200 mg 10 mL		No		60	60
3100	Yes	19536: 0.1015 19537: 0.1009 19538: 0.2003	19536: 5 19537: 5 19538: 10	19536: 2.35 19537: 5.98 19538: 1.20	Yes	19536: 1.18 19537: 1.19 19538: 1.20	60	60
3116	Yes	100	5	>2	Yes	1.2	60	60
3118	Yes	100	5	1.56	Yes	1.23	1 hours	1 hours
3146	Yes	19536: 260/200 19537: 260/250 19538: 520/500	19536: 13/8.9 19537: 12,9/12,7 19538: 25.8/25	19536: 1.6/1.9 19537: > 2.5 19538: 1.3	Yes	19536: 1.3 19537: 1.3	60	60
3150	No	50	5,0	1,3	Yes	0,8	60	15
3153	Yes	100	5	19536: 2.74 19537: 4.60 19538: 1.20	Yes	19536: 1.20 19537: 1.19	60	60
3154	Yes				---			
3167	Yes				Yes	1.3		
3172	Yes	200	10	19536: 2.19 19537: 5.55 19538: 1.15	Yes	19536: 1.02 19537: 1.07 19538: --	60	60
3182	Yes	200	10	2.18	Yes	1.24	60	60
3185	Yes	0.12g	6	19536: 6.29 19537: 5.98 19538: 1.28	Yes	19536: 1.23 19537: 1.22	60	60
3190	Yes	15936: 115 15937: 103 15938: 192	15936: 5.7 15937: 5.0 15938: 9.6	/	Yes	1.2	60	60
3191	Yes	19536: 151.2 19537: 151.6 19538: 196.6	19536: 7.5 19537: 7.5 19538: 9.8	19536: 2.43 19537: 5.68 19538: 1.26	Yes	19536: 1.26 19537: 1.25	60	60
3192	---				---			
3197	Yes	200	10	19536: 1.92 19537: 4.21 19538: 1.21	Yes	19536: 1.19 19537: 1.23 19538: ---	60	60
3214	Yes	19536: 106.4 19537: 105.5 19538: 215.7	19536: 5 19537: 5 19538: 10	19536: 5.13 19537: 5.96 19538: 1.11	Yes	19536: 1.12 19537: 1.15 19538: NA	60	60
3218	Yes	200	10	19536: 2.0 19537: 5.2 19538:1.2	Yes	19536:1.2 19537:1.2	60	60
3225	Yes	100	5	>1.3	Yes	1.1-1.2	60	60
3228	Yes	200	10	19536: >1.3 19537: >1.3 19538: <1.3	Yes	1.3	60	60
3233	Yes	19536: 100.6 19537: 106.9 19538: 108.8	19536: 5 19537: 5.3 19538: 5.4	19536: 2.05 19537: 5.78 19538: 1.20	Yes	19536: 1.21 19537: 1.18 19538: --	60	60
3237	Yes	0,5 g	25	1,82	No	1,27	1 h	1 h
3243	Yes	19536: 398.3 19537: 426.0 19538: 600.0	19536: 20 19537: 21 19538: 30	1,2	No		60	60
3248	Yes	200	19536: 10 19537: 10 19538: 10		---		60	60
8005	Yes	100	5	19537: >2.2	Yes	1.2	60	60

APPENDIX 4

Number of participants per country

iis19V02A

1 lab in BELGIUM
1 lab in BRAZIL
1 lab in CHILE
7 labs in GERMANY
6 labs in HONG KONG
1 lab in INDONESIA
3 labs in ITALY
1 lab in LUXEMBOURG
1 lab in MALAYSIA
1 lab in MEXICO
4 labs in P.R. of CHINA
1 lab in PAKISTAN
2 labs in TAIWAN R.O.C.
1 lab in THE NETHERLANDS
3 labs in TURKEY
1 lab in U.S.A.
3 labs in VIETNAM

iis19V02B

1 lab in BELGIUM
1 lab in BRAZIL
1 lab in CYPRUS
3 labs in FRANCE
6 labs in GERMANY
6 labs in HONG KONG
1 lab in INDONESIA
3 labs in ITALY
1 lab in KOREA
1 lab in LUXEMBOURG
1 lab in MEXICO
4 labs in P.R. of CHINA
1 lab in PAKISTAN
2 labs in TAIWAN R.O.C.
1 lab in THE NETHERLANDS
3 labs in TURKEY
1 lab in U.S.A.
2 labs in VIETNAM

iis19V02C

1 lab in BANGLADESH
1 lab in BELGIUM
1 lab in BRAZIL
1 lab in CAMBODIA
3 labs in FRANCE
9 labs in GERMANY
1 lab in GUATEMALA
12 labs in HONG KONG
1 lab in HUNGARY
3 labs in INDIA
3 labs in INDONESIA
6 labs in ITALY
1 lab in KOREA
1 lab in LUXEMBOURG
3 labs in MALAYSIA
3 labs in MEXICO
24 labs in P.R. of CHINA
1 lab in PAKISTAN
1 lab in PHILIPPINES
1 lab in SPAIN
1 lab in SRI LANKA
3 labs in TAIWAN R.O.C.
2 labs in THAILAND
1 lab in THE NETHERLANDS
1 lab in TUNISIA
5 labs in TURKEY
1 lab in U.S.A.
1 lab in UNITED KINGDOM
4 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
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:

1 iis Interlaboratory Studies, Protocol for the Organisation, Statistics & Evaluation, June 2018
2 Council Directive 88/378/EEC
3 Council Directive 2009/48/EC
4 EN71-3:12 + A2:2019, Safety of Toys - Migration of certain elements
5 16 CFR § 1303.1
6 16 CFR § 1303.2
7 ASTM F963-07 Standard Consumer Safety Specification for Toy Safety
8 W. Horwitz and R. Albert, Journal of AOAC International, 79-3, 589 (1996)
9 P.L. Davies, Fr. Z. Anal. Chem., 351, 513 (1988)
10 W.J. Conover, Practical Nonparametric Statistics. J. Wiley & Sons NY, 302, (1971)
11 ISO 5725:86
12 ISO 5725 parts 1-6:94
13 ISC7/GF/csteeop/toysinorg/220604 D(04) Assessment of bioavailability of certain elements in toys
14 ISO 13528:2005 Statistical methods for use in proficiency testing by interlaboratory comparisons
15 M. Thompson and R. Wood, J. AOAC Int, 76, 926, (1993)
16 Analytical Methods Committee, Technical brief, No.4, January 2001
17 P.J. Lowthian and M. Thompson, The Royal Society of Chemistry, Analyst 2002, 127, 1359-1364, (2002)
18 Bernard Rosner, Percentage Points for a Generalized ESD Many-Outlier Procedure, Technometrics, 25(2), 165-172, (1983)
19 CEN/TC 52/WG 5 N 905, Statistical evaluation of results from the round robin on EN71-3:2013, Migration of compounds in dried paint, finger paint, plaster and PVC, Quo Data, 15 Oct 2012.
20 CEN/TC 52/WG 5 N 1461, Statistical evaluation of results from the round robin on EN71-3:2013, Migration of compounds in dried paint, finger paint, plaster and PVC, Quo Data, 22 Mar 2018.
21 ISO 8124-3:10