

**Results of Proficiency Test  
Migration of elements EN71-3  
April 2016**

**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 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 This directive has been superseded by Council Directive 2009/48/EC, which applies to toy imports into the EU since 20 July 2011.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.

Part 3 of EN71:1994 (to be superseded by EN71-3:2013) describes the determination of migration of elements (metals that are considered hazardous) when a toy gets into contact with an acid solution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).

In this interlaboratory study on migration of certain elements 120 laboratories in 28 different countries have registered for participation. See appendix 3 for the number of participants per country. In this report, the results of the 2016 proficiency test are presented and discussed. This report is also electronically available through the iis website [www.iisnl.com](http://www.iisnl.com).

## 2 SET UP

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, was the organiser of this proficiency test (PT). Sample analyses for fit-for-use and homogeneity testing were subcontracted to an ISO17025 accredited laboratory. It was decided to prepare three different samples with different concentrations of metals for evaluation in the PT. The first sample was a plaster to which Arsenic, Chromium, Copper and Lead were added. The second sample was a paper sample to which arsenic was added. The third sample was a dried paint spiked with the metals Antimony, Cadmium, Chromium, and Lead. The three materials contained a combination of elements mentioned in the 'new' Council Directive 2009/48/EC under categories 1 and 3. 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/IEC 17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). 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 organisation 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 April 2014 (iis-protocol, version 3.3). This protocol can be downloaded from the iis website [www.iisnl.com](http://www.iisnl.com), from the FAQ page.

## 2.3 CONFIDENTIALITY STATEMENT

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

## 2.4 SAMPLES

Three batches with three different matrices and containing a number of different elements were prepared. One batch was a plaster (= cat. 1), the second batch a paper sample (=cat. 3) and the third was a scraped-off dried paint (=cat. 3), all prepared by iis.

To the batch of plaster (used for sample #16555) the elements Arsenic, Chromium, Copper and Lead were added via several intermediate steps. After thorough mixing/homogenizing, the batch of plaster was divided over 160 plastic bags, each filled with 0.5 grams and labelled #16555. The homogeneity of the subsamples was verified by measuring the total element content on 8 stratified randomly selected samples. The results varied for Arsenic between 5 - 7 mg/kg, for Chromium between 22160 - 26950 mg/kg, for Copper between 1236 - 1455 mg/kg and for Lead between 70 - 77 mg/kg. The differences between the test results for homogeneity of the subsamples #16555 were all well within the precision of the laboratory and therefore the homogeneity of the subsamples #16555 was assumed.

A batch of paper was printed both sides with ink, that was enriched with Arsenic. After thorough mixing/homogenizing of the ink, it was used to print 75 sheets of paper. After drying, the sheets of paper were cut into pieces that were divided into 160 plastic bags each and labelled #16555. The homogeneity of the subsamples was verified by measuring Arsenic after migration according to EN71-3. The migration test results for Arsenic varied between 7.8 – 8.4 mg/kg. The differences between the test results for homogeneity of the subsamples #16556 were well within the precision of the laboratory and therefore the homogeneity of the subsamples #16556 was assumed.

A batch of liquid paint (to be used for sample #16557) was enriched with the elements Antimony, Cadmium, Chromium, and Lead. After application to a surface, drying, scraping off, milling, sieving and homogenization, a total of 160 samples of 0.5 gram were prepared and labelled #16557. The homogeneity of the subsamples #16557 was verified by measuring the total element content on 8 stratified randomly selected samples. The results varied for Antimony between 700 - 776 mg/kg, for Chromium between 752 - 835 mg/kg, Cadmium between 263 - 291 mg/kg and for Lead between 377 - 411 mg/kg.

The differences between the test results for homogeneity of the subsamples #16557 were all well within the precision of the laboratory and therefore the homogeneity of the subsamples #16557 was assumed.

One plastic bag with 0.5 gram of plaster (#16555), one plastic bag with 1.0 gram of printed paper (#16556) and one plastic bag with 0.5 gram of scraped-off dried paint (#16557) were sent to the participating laboratories on April 6, 2016.

## 2.5 ANALYSES

The participants were requested to determine the migration of elements applying the analysis procedure that is routinely used in the laboratory. To get comparable test results, a detailed report form, on which the analytes and the units were prescribed as well as the reference test method, and a letter of instructions were prepared. Both were made available on the data entry portal [www.kpmd.co.uk/sgs-iis-cts/](http://www.kpmd.co.uk/sgs-iis-cts/). A form to confirm receipt of the sample and a letter of instructions were added to the sample package.

## 3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal [www.kpmd.co.uk/sgs-iis-cts/](http://www.kpmd.co.uk/sgs-iis-cts/). The reported test results are tabulated per determination in appendix 1 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 reanalysis). Additional or corrected test results are used for data analysis and the original reported test results 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. A list of abbreviations used in the tables can be found in appendix 3.

### 3.1 STATISTICS

Statistical calculations were performed as described in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3) For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded results. 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. Not all data sets proved to have a normal distribution, in which cases the statistical evaluation of the results should be used with due care.

In accordance to ISO 5725 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. When the uncertainty passed the evaluation no remarks are made in the report. However, when the uncertainty failed the evaluation it is mentioned in the report and it will have consequences for the evaluation of the test results.

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

### 3.2 GRAPHICS

In order to visualise 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 analysis results are plotted. The corresponding laboratory numbers are under 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 individual participating laboratories the z-scores were calculated. In order to be able to have an objective evaluation of the performance of the individual participants, it was decided to evaluate this performance against the literature requirements. Therefore, the z-scores were calculated using a target standard deviation.

To validate the concept test method as laid down in EN71-3:2013, an interlaboratory study (ILS) was organized by the Netherlands Food and Consumer Product Safety Authority (NVWA) in 2012. The results from this ILS were evaluated by Quodata (see appendix 3, no.16). The  $RSD_R$ , calculated in this report via method III (after robust elimination of outlier laboratories and using methods according to ISO5725) were used as target standard deviations.

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 the fit-for-useness of the reported test result.

The  $z_{(target)}$ -scores were calculated according to:

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

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:

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

#### 4 EVALUATION

During the execution of this proficiency test no problems were encountered. From the 120 participants, only two participants reported results after the deadline for reporting and two participants did not report any test results at all. Finally, the 118 reporting laboratories submitted 2043 numerical results. Observed were 32 outlying results, which is 2.5%. 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.

For the dried paint sample (#16557) multimodal distributions were found for aluminium, cadmium, chromium, lead and strontium. Since the sample was enriched with cadmium, chromium and lead, in order to give significant migration levels of these elements, and given the proven fact that the elements were homogeneously divided over the sample material, it was clear that the lower test results were suspect. In order to have a good estimate of the migration level of these elements, the lower test results of the group of laboratories were excluded from the statistical evaluation of these elements.

##### 4.1 EVALUATION PER SAMPLE AND PER ELEMENT

In this section, the determination is discussed. All statistical results reported on the samples are summarised in appendix 1.

##### **PLASTER Sample #16555**

Aluminium: The migration of aluminium from plaster on sample #16555 at a level of 287 mg/kg may not be problematic. Four statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the target reproducibility based on the data in report “Statistical evaluation of results from round robin on EN71-3:13”, ref. 16.

Arsenic: The migration of arsenic from plaster on sample #16555 at a level of 4.1 mg/kg may not be problematic. No statistical outliers were observed. The calculated reproducibility is in good agreement with the target reproducibility based on the data in report “Statistical evaluation of results from round robin on EN71-3:13”, ref. 16.

- Chromium: The migration of chromium from plaster on sample #16555 at a level of 10.5 mg/kg may be problematic. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.
- Copper: The migration of copper from plaster on sample #16555 at a level of 1550 mg/kg may not be problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.
- Lead: The migration of lead from plaster on sample #16555 at a level of 52 mg/kg may not be problematic. No statistical outliers were observed. The calculated reproducibility is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.
- Manganese: The migration of manganese from plaster on sample #16555, at a level of 62 mg/kg may be problematic. Only one statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.
- Strontium: The migration of strontium from plaster on sample #16555, at a level of 306 mg/kg may be problematic for a number of laboratories. Seven statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

#### **PAPER Sample #16556:**

- Arsenic: The migration of arsenic from paper on sample #16556 at a level of 7 mg/kg may not be problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

#### **DRIED PAINT Sample #16557:**

- Aluminium: A bimodal distribution of the data was found. The test results of the group of laboratories with lower values (19%) were excluded. The migration of aluminium from dried paint on sample #16557 at a level of 3645 mg/kg may not be problematic. One statistical outlier was observed and twenty 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 the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.



When the lower test results are not excluded, the observed dispersion is still in agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

Antimony: The migration of antimony from dried paint on sample #16557 at a level of 181 mg/kg may not be problematic. Three statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

Cadmium: A multimodal distribution of the data was found. The test results of the group with lower values (10%) were excluded. The migration of cadmium from dried paint on sample #16557 at a level of 265 mg/kg may not be problematic. One statistical outlier was observed and twelve 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 the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16. When the lower test results are not excluded, the observed dispersion is still in agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

Chromium: A bimodal distribution of the data was found. The test results of the group with lower values (23%) were excluded. The migration of chromium from dried paint on sample #16557 at a level of 211 mg/kg may not be problematic. No statistical outliers were observed and twenty-five test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16. When the lower test results are not excluded, the observed dispersion is not at all in agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

Lead: A trimodal distribution of the data was found. The test results of the group with lower values (18%) were excluded. The migration of lead from dried paint on sample #16557 at a level of 318 mg/kg may not be problematic. One statistical outlier was observed and nineteen test results were excluded. However, the calculated reproducibility after rejection of the suspect data is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16. When the lower test results are not excluded, the observed dispersion is not at all in agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

Manganese: The migration of Manganese from dried paint on sample #16557 at a level of 11 mg/kg, may not be problematic. Two statistical outliers were observed. However, the calculated reproducibility, after rejection of the statistical outliers, is in good agreement with the target reproducibility based on the data in report "Statistical evaluation of results from round robin on EN71-3:13", ref. 16.

**Strontium:** A bimodal distribution of the data was found. The test results of the group with lower values (15%) were excluded. The migration of lead from dried paint on sample #16557 at a level of 151 mg/kg may not be problematic. No statistical outliers were observed, but sixteen results were excluded. However, the calculated reproducibility after rejection of the suspect data is in good agreement with the target reproducibility based on the data in report “Statistical evaluation of results from round robin on EN71-3:13”, ref. 16. When the lower test results are not excluded, the observed dispersion is not in agreement with the target reproducibility based on the data in report “Statistical evaluation of results from round robin on EN71-3:13”, ref. 16.

#### 4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the target reproducibilities based on the report “Statistical evaluation of results from round robin on EN71-3:13”, ref. 16 and the reproducibilities as found for the group of participating laboratories. The number of significant results, the average results, the calculated reproducibilities (standard deviation\*2.8) and the target reproducibilities (EN71-3:13) are compared in the next table.

<i>Element</i>	<i>unit</i>	<i>n</i>	<i>average</i>	<i>2.8 * sd</i>	<i>R (target)</i>
Aluminium	mg/kg	94	287	164	442
Arsenic	mg/kg	73	4.1	3.6	4.6
Chromium	mg/kg	86	10.5	12.8	6.8
Copper	mg/kg	98	1550	741	998
Lead	mg/kg	104	52.4	31.5	38.1
Manganese	mg/kg	99	62.3	27.2	21.3
Strontium	mg/kg	92	306	152	163

Table 1: reproducibilities of test results in plaster sample #16555

<i>Element</i>	<i>unit</i>	<i>n</i>	<i>average</i>	<i>2.8 * sd</i>	<i>R (target)</i>
Arsenic	mg/kg	97	7.0	3.9	8.8

Table 2: reproducibility of test results in paper sample #16556

<i>Element</i>	<i>unit</i>	<i>n</i>	<i>average</i>	<i>2.8 * sd</i>	<i>R (target)</i>
Aluminium	mg/kg	88	3638	1676	7029
Antimony	mg/kg	112	181	140	309
Cadmium	mg/kg	104	265	98	415
Chromium	mg/kg	88	211	97	171
Lead	mg/kg	93	319	166	196
Manganese	mg/kg	90	11.3	7.6	7.6
Strontium	mg/kg	96	151	57	68

Table 3: reproducibilities of test results in scraped off paint sample #16557

From the above table 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 and dried paint in accordance with EN71-3:2013 when compared

with the target reproducibilities based on the report “Statistical evaluation of results from round robin on EN71-3:13”, ref. 16.

It is to be expected that the validation data of EN71-3 will improve and that smaller target reproducibilities will be published in due time.

#### 4.3 COMPARISON OF THE PROFICIENCY TEST OF APRIL 2016 WITH PREVIOUS PTS

	<i>April 2016</i>	<i>April 2015</i>	<i>April 2014</i>	<i>April 2013</i>	<i>February 2012</i>	<i>March 2011</i>
Number of reporting labs	118	146	112	116	113	74
Number of results reported	2043	2099	1754	957	982	716
Statistical outliers	32	53	64	41	28	34
Percentage outliers	1.6%	2.5%	3.6%	4.3%	2.9%	4.4%

Table 4: comparison with previous proficiency tests

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

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:

<i>Element</i>	<i>April 2016</i>	<i>April 2015</i>	<i>April 2014</i>	<i>April 2013</i>	<i>Target*) category1</i>
Aluminium	20%	20%	21%	--	55%
Antimony	--	--	28%	--	39%
Arsenic	32%	--	--	--	40%
Barium	--	20%	--	--	29%
Boron	--	--	--	--	21%
Cadmium	--	--	--	--	45%
Chromium	44%	--	--	--	23%
Cobalt	--	--	--	--	16%
Copper	17%	--	--	22%	23%
Lead	22%	19%	18%	22%	26%
Manganese	16%	13%	12%	--	12%
Mercury	--	--	--	--	n.a.
Nickel	--	15%	--	--	24%
Selenium	--	25%	--	--	54%
Strontium	18%	18%	--	--	19%
Tin	--	--	--	--	37%
Organic Tin	--	--	--	--	39%
Zinc	--	--	--	14%	32%

Table 5: comparison of the uncertainties in the previous rounds and this PT for category 1 materials

\*) From the report ‘Statistical evaluation of results from round robin on EN71-3:13’, ref. 16.

<i>Element</i>	<i>April 2016</i>	<i>April 2015</i>	<i>April 2014</i>	<i>April 2013</i>	<i>February 2012</i>	<i>March 2011</i>	<i>April 2010</i>	<i>Target*) category 3</i>
Aluminium	16%	17%	37%	34%	--	--	--	69%
Antimony	28%	--	22%	22%	33%	23%	--	61%
Arsenic	20%	--	14%	16%	--	13%	--	45%
Barium	--	--	--	--	48–57%	42-76%	20%	22%
Boron	--	12%	--	--	--	--	--	14%
Cadmium	13%	12%	12%	13%	--	11–14%	--	56%
Chromium III	17%	14%	--	--	23%	--	6%	29%
Chromium VI	--	--	--	--	--	--	--	46%
Cobalt	--	10%	--	--	--	18%	--	56%
Copper	--	--	--	--	11-12%	--	--	28%
Lead	22%	12%	--	--	22%	18-19%	12-13%	22%
Manganese	24%	--	13%	15%	--	--	--	24%
Mercury	--	--	--	--	--	55%	--	n.a.
Nickel	--	21%	14%	16%	--	15-18%	--	35%
Selenium	--	--	--	--	26%	--	--	51%
Strontium	13%	--	--	--	--	--	--	16%
Tin	--	--	--	--	32-42%	--	--	32%
Organic Tin	--	--	--	--	--	--	--	39%
Zinc	--	--	13%	17%	11-39%	--	--	43%

Table 6: comparison of the uncertainties in the previous rounds and this PT for category 3 materials

\*) From the report 'Statistical evaluation of results from round robin on EN71-3:13', ref. 16.

For the investigated elements the performance of the group is similar to previous years. The performance of the group is good in comparison with the precision requirements of EN71-3.

## 5 DISCUSSION

In order to find the cause of the problems observed with sample #16557 in the determination of aluminium, cadmium, chromium, lead and strontium, the participants were asked to give some details on the first steps of the migration, e.g. the amount of dried paint and the volume of the 0.07 mol/l HCl, the pH adjustment, the membrane filter, the filter time and the use of a centrifuge. About 87% of the laboratories did respond within a week, see appendix 2. Only 44% of the responding laboratories appeared to follow EN71-3 to the letter.

### Ratio dried paint: 0.07 mol/l HCl

This ratio varied from 2.06 up to 30 (30.9 mg/15ml – 150 mg/5ml); 90% of the laboratories used a ratio of 20:1 as mentioned in EN71-3, but 10% of the laboratories used a deviating ratio. Laboratory 2295 used only 20 mg of dried paint and 5 ml 0.07 mol/l HCl as per EN71-3, resulting in a ratio of 4:1. The influence of the deviating ratios on the element concentrations does not show to be not significant for the dried paint sample evaluated in this PT.

### Membrane filter

About 70% of the laboratories used a 0.45µm membrane filter, while 16% used a 0.22µm membrane filter. Both filter types are mentioned to be suitable in EN71-3. The other laboratories used a wide variety of other filters not mentioned in EN71-3, see appendix 3.

No influence of the use of deviating filter types on the element concentrations is observed.

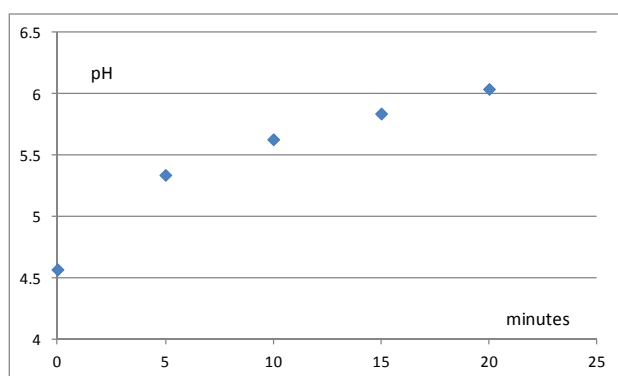
### Centrifuge

Almost all laboratories (94%) did not use a centrifuge to remove remaining visible solid materials. Therefore no conclusions could be drawn about the use of a centrifuge.

### pH adjustment

About 56% of the laboratories did adjust the pH after one minute shaking at 37°C, while 41% did not do that. A wide range of initial pH values (before adjustment) was reported: 1.2, 1.27, <1.3, 1.3, 2.5, 2.94 and 5.61. No less than 15 laboratories mentioned that the pH was adjusted before the shaking started and not after one minute of shaking at 37°C. The influence of the different acting of the laboratories on the element concentrations is visible.

To investigate the fact that very different initial pH values were reported, a small experiment was done. An amount of 250 mg dried paint sample #16557 was added to 12.5 ml 0.07 mol/l HCl at room temperature (approx 25°C). The blank pH was 1.25. After addition of the dried paint the mixture was not shaken, nor heated. The pH, immediately after addition of the dried paint was 4.57. It was measured again after 5 min., 10 min., 15 min. and 20 min., see graph:



After 20 min. the temperature was raised to 37°C. The final pH after 60 min. was 6.42 (!). No aluminium could be detected in this final solution with pH 6.42 after filtering through 0.45µm. The migration of elements of sample #16557 obviously consumes a significant amount of acid. Therefore it is clear that pH adjustment was necessary. However, many laboratories did not adjust the pH at all and several other laboratories did measure the pH at t = 0 min. and thus they may have added too little acid. In both cases the necessary excess of acid may not have been used. This will have caused aluminium to precipitate when pH>5. Other metals may have co-precipitated and the precipitate will have been removed during the filtering step. This may well explain the very low test results for aluminium, cadmium, chromium, lead and strontium as reported by a number of laboratories.

When the test results were evaluated of the 52 laboratories that reported to have followed EN71-3 to the letter and that reported to have adjusted the pH after one minute of shaking at 37°C, the following was found for the problematic elements:

<i>Element</i>	<i>unit</i>	<i>n</i>	<i>average</i>	<i>2.8 * sd</i>	<i>R (target)</i>
Aluminium	mg/kg	43	3636	1494	7024
Cadmium	mg/kg	50	263	94	413
Chromium	mg/kg	46	211	98	171
Lead	mg/kg	47	317	146	195
Strontium	mg/kg	48	141	67	66

Table 7: reproducibilities of selected test results in dried paint sample #16557

The results in above table 7 are very similar to the results found after exclusion of a selected group of laboratories that was used for the calculation of the z-scores and that is presented in table 3 of this report.

The migration capability does vary very much per element and per matrix. For example chromium hardly migrates from plaster, while it does migrate from dried paint. The element copper migrates very easily from plaster, see below table 8.

<i>Element</i>	<i>unit</i>	<i>total content in mg/kg</i>	<i>migration in mg/kg</i>	<i>%migration</i>	<i>category</i>
Antimony	mg/kg	750	180	24%	3
Arsenic	mg/kg	6	4	67%	1
Arsenic	mg/kg	17	7	41%	3
Cadmium	mg/kg	275	265	96%	3
Chromium	mg/kg	25000	10	0.04%	1
Chromium	mg/kg	800	210	26%	3
Copper	mg/kg	1440	1550	108%	1
Lead	mg/kg	75	52	69%	1
Lead	mg/kg	400	320	80%	3

Table 8: migration percentages per element for the samples evaluated in this PT

The reported test results will in practice be compared to the requirements for toys according to EN71-3:2013 (category I for plaster sample #16555 and category III for paper sample #16556 and for dried paint sample #16557), which supports essential requirements of EU Directive 2009/48/EC (no longer mentioning analytical corrections to be applied before reporting), see table 9. When this is done with the test results as reported in this proficiency test, the following is observed.

Plaster sample #16555 would be rejected by all laboratories for copper and lead, with the exception of laboratories 2118, 2254 and 3191 that reported a copper result below the maximum migration limit of 622.5 mg/kg.

Sample #16555 would be accepted by all laboratories for aluminium, chromium, manganese and strontium. However, laboratory 3220 would have rejected this sample because it reported an aluminium concentration above the maximum migration limit of 5625 mg/kg. For arsenic no consensus was found because 40 laboratories detected >3.8 mg/kg arsenic and would reject the sample, while 34 laboratories detected <3.8 mg/kg arsenic and would accept the sample.

Paper sample #16556 would be accepted by all laboratories as no laboratory reported arsenic above the maximum migration limit of 47 mg/kg.

Dried paint sample #16557 would be rejected by all laboratories for lead except for laboratories 551, 622, 2115, 2118, 2129, 2131, 2139, 2236, 2240, 2254, 2294, 2303, 2370, 2413, 2468, 2492, 2590, 2659, 3124, 3182, 3191, 3220 and 3238 that reported a lead concentration below the maximum migration limit of 160 mg/kg.

Sample #16557 would be accepted by all laboratories for aluminium, antimony, cadmium, chromium, manganese and strontium, except for laboratory 3220 (for Al) and laboratory 2489 (for Sb).

The maximum migration limits according to EN71-3:2013 are given in table 9.

<i>Element</i>	Migration limits for dry, brittle, powder like materials in mg/kg	Migration limits for scraped off materials in mg/kg
Aluminium	5625	70000
Antimony	45	560
Arsenic	3.8	47
Barium	1500	18750
Boron	1200	15000
Cadmium	1.3	17
Chromium III	37.5	460
Chromium VI	0.02	0.2
Cobalt	10.5	130
Copper	622.5	7700
Lead	13.5	160
Manganese	1200	15000
Mercury	7.5	94
Nickel	75	930
Selenium	37.5	460
Strontium	4500	56000
Tin	15000	180000
Organic Tin	0.9	12
Zinc	3750	46000

Table 9: maximum migration limits in EU according EN71-3:2013 and 2009/48/EN

**APPENDIX 1**

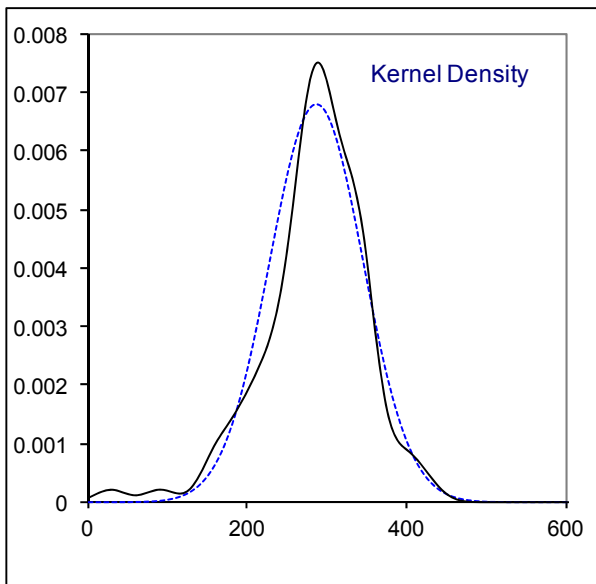
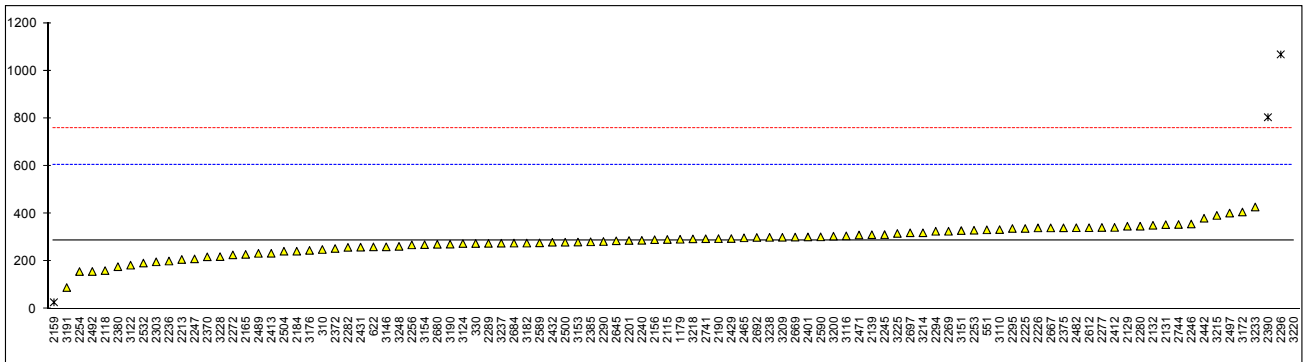
**Determination of migration of Aluminium as Al on plaster sample #16555; results in mg/kg**

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	249.8		-0.23	2459		----		----
330	EN71-3	275.112		-0.07	2465	EN71-3	298.70		0.08
551	EN71-3	332.21		0.29	2468		----		----
622	EN71-3	260.9380		-0.16	2471	EN71-3	310.645		0.15
1179	EN71-3	292.72		0.04	2475		----		----
2115	EN71-3	291.9		0.03	2482	EN71-3	340.95		0.34
2118	EN71-3	161.5697		-0.79	2489	EN71-3	233.71		-0.34
2129	EN71-3	347.48		0.38	2492	EN71-3	157.7		-0.82
2131	EN71-3	354.0		0.43	2497	EN71-3	402.6	C	0.73
2132	EN71-3	351.3	C	0.41	2500	EN71-3	280.44		-0.04
2139	EN71-3	311.6417		0.16	2504	EN71-3	242.527		-0.28
2156	EN71-3	290.8	C	0.03	2532	EN71-3	193	C	-0.59
2159	EN71-3	28.490	R(0.01)	-1.64	2553	EN71-3	ND		----
2165	EN71-3	229.35		-0.36	2589	EN71-3	277.6		-0.06
2184	EN71-3	242.75		-0.28	2590	EN71-3	302.711		0.10
2190	EN71-3	295.31		0.05	2612	EN71-3	341.0		0.34
2201	EN71-3	287.5		0.00	2615		----		----
2213	EN71-3	208		-0.50	2645	EN71-3	286.16		0.00
2225	EN71-3	338.1		0.33	2659		----		----
2226	EN71-3	340.267		0.34	2667	EN71-3	340.4		0.34
2228		----		----	2669	EN71-3	302		0.10
2232	EN71-3	ND		----	2680	EN71-3	271.783		-0.10
2234		----		----	2684	EN71-3	276.53		-0.07
2236	EN71-3	201.4		-0.54	2690		----		----
2240	EN71-3	288.1		0.01	2691		----		----
2243		----		----	2692	EN71-3	300.524		0.09
2245	EN71-3	312.124		0.16	2694		----		----
2246	EN71-3	356.9		0.44	2696		----		----
2247	EN71-3	210.32		-0.48	2697	EN71-3	320		0.21
2253	EN71-3	330.55		0.28	2732		----		----
2254	EN71-3	157.599		-0.82	2739		----		----
2256	EN71-3	269.22		-0.11	2741	EN71-3	295.04		0.05
2268		----		----	2742		----		----
2269	EN71-3	326.326		0.25	2744	EN71-3	354.6650		0.43
2272	EN71-3	227.2		-0.38	3110	EN71-3	333.19		0.29
2277	EN71-3	342.2673		0.35	3116	EN71-3	306.75		0.13
2279		----		----	3122	EN71-3	184		-0.65
2280	EN71-3	347.6		0.39	3124	EN71-3	274.8		-0.08
2282	EN71-3	258.95		-0.18	3146	EN71-3	261		-0.16
2289	EN71-3	275.5		-0.07	3151	EN71-3	329.333		0.27
2290	EN71-3	283.3		-0.02	3153	EN71-3	281.0		-0.04
2293		----		----	3154	EN71-3	270.0		-0.11
2294	EN71-3	326.2096	C	0.25	3172	EN71-3	407		0.76
2295	EN71-3	338		0.32	3176	EN71-3	246.22		-0.26
2296	EN71-3	1067.7400	C,R(0.01)	4.95	3182	EN71-3	276.6		-0.06
2303	EN71-3	198.0034		-0.56	3190	EN71-3	272.0		-0.09
2370	EN71-3	219.0		-0.43	3191	EN71-3	90.5184		-1.24
2372	EN71-3	254		-0.21	3197		----		----
2375	In house	340.80		0.34	3200	EN71-3	305.84		0.12
2380	EN71-3	177.7921		-0.69	3209	EN71-3	301.0		0.09
2385	EN71-3	282		-0.03	3214	EN71-3	320.0		0.21
2390	EN71-3	804.3	C,R(0.01)	3.28	3215	EN71-3	392.7		0.67
2401	EN71-3	302.5		0.10	3218	EN71-3	294.2		0.05
2412	EN71-3	342.4		0.35	3220	EN71-3	141368.35	R(0.01)	894.39
2413	In house	233.93		-0.34	3225	EN71-3	317.076		0.19
2429	EN71-3	295.83		0.06	3228	EN71-3	220.0		-0.42
2431	EN71-3	259.68		-0.17	3233	EN71-3	428.1501		0.90
2432	EN71-3	280.3067		-0.04	3237	EN71-3	276.008		-0.07
2433	EN71-3	<300		----	3238	EN71-3	300.7000		0.09
2442	EN71-3	381.1		0.60	3248	EN71-3	263		-0.15
normality		OK							
n		94							
outliers		4							
mean (n)		286.80							
st.dev. (n)		58.569							
R(calc.)		163.99							
R(RR prEN71-3:13)		441.68							



Lab 2132 first reported: 356.90  
 Lab 2156 first reported: 298.4  
 Lab 2294 first reported: 551.110  
 Lab 2296 first reported: 937.4292

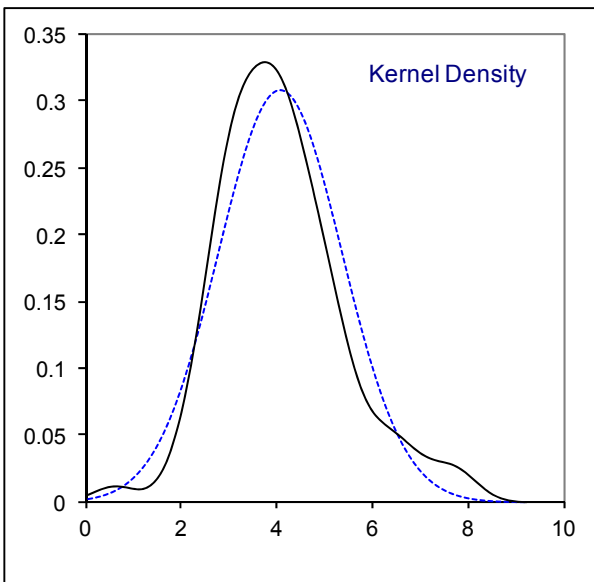
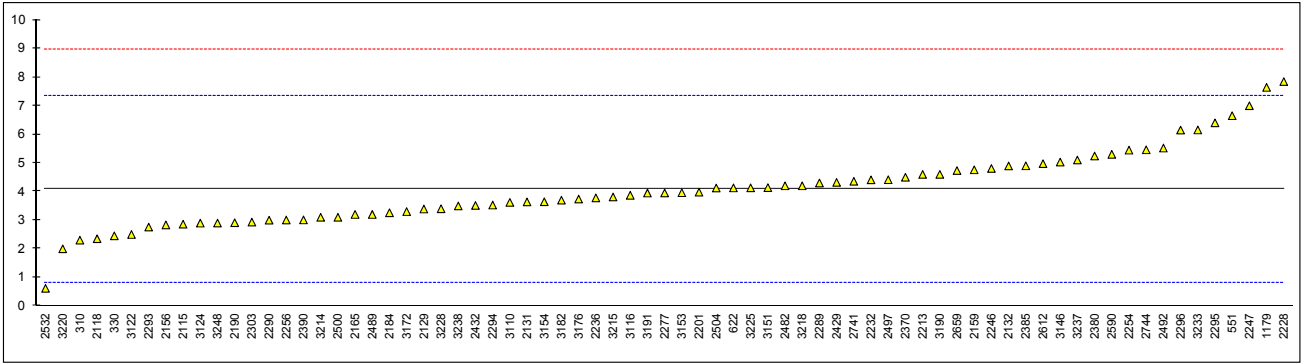
Lab 2390 first reported: 503.44  
 Lab 2497 first reported: 474.68  
 Lab 2532 first reported: 215



## Determination of migration of Arsenic as As on plaster sample #16555; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	2.303		-1.09	2459		----		----
330	EN71-3	2.454		-1.00	2465	EN71-3	<5		----
551	EN71-3	6.65	C	1.57	2468		----		----
622	EN71-3	4.1283		0.03	2471	EN71-3	<5		----
1179	EN71-3	7.64		2.18	2475		----		----
2115	EN71-3	2.86		-0.75	2482	EN71-3	4.20		0.07
2118	EN71-3	2.3526		-1.06	2489	EN71-3	3.2	C	-0.54
2129	EN71-3	3.39		-0.42	2492	EN71-3	5.52		0.88
2131	EN71-3	3.64		-0.27	2497	EN71-3	4.413		0.20
2132	EN71-3	4.898	C	0.50	2500	EN71-3	3.103		-0.60
2139	EN71-3	< 5		----	2504	EN71-3	4.124		0.03
2156	EN71-3	2.835	C	-0.76	2532	EN71-3	0.62	C	-2.12
2159	EN71-3	4.760		0.42	2553	EN71-3	ND		----
2165	EN71-3	3.20		-0.54	2589	EN71-3	<5		----
2184	EN71-3	3.26		-0.50	2590	EN71-3	5.301		0.75
2190	EN71-3	2.91		-0.72	2612	EN71-3	4.975		0.55
2201	EN71-3	3.98		-0.06	2615		----		----
2213	EN71-3	4.6		0.32	2645	EN71-3	<5		----
2225	EN71-3	<5.0		----	2659	ISO8124-3	4.734		0.40
2226	EN71-3	<5		----	2667	EN71-3	<5		----
2228	EN71-3	7.8450		2.31	2669	EN71-3	<5		----
2232	EN71-3	4.41	C	0.20	2680	EN71-3	<5		----
2234		----		----	2684	EN71-3	<5		----
2236	EN71-3	3.78		-0.18	2690		----		----
2240	EN71-3	<5		----	2691		----		----
2243		----		----	2692		----		----
2245	EN71-3	<5		----	2694		----		----
2246	EN71-3	4.808		0.45	2696		----		----
2247	EN71-3	7.00	C	1.79	2697	EN71-3	ND		----
2253	EN71-3	<5	C	----	2732		----		----
2254	EN71-3	5.447		0.84	2739		----		----
2256	EN71-3	3.008		-0.66	2741	EN71-3	4.36		0.17
2268		----		----	2742		----		----
2269	EN71-3	<5	C	----	2744	EN71-3	5.4595		0.84
2272		----		----	3110	EN71-3	3.62		-0.28
2277	EN71-3	3.9513		-0.08	3116	EN71-3	3.87		-0.13
2279		----		----	3122	EN71-3	2.5		-0.97
2280	EN71-3	<5.0	C	----	3124	EN71-3	2.897		-0.73
2282	EN71-3	<5		----	3146	EN71-3	5.03		0.58
2289	EN71-3	4.3		0.13	3151	EN71-3	4.1383		0.03
2290	EN71-3	3.0		-0.66	3153	EN71-3	3.96		-0.07
2293	EN71-3	2.76		-0.81	3154	EN71-3	3.645		-0.27
2294	EN71-3	3.529		-0.34	3172	EN71-3	3.3		-0.48
2295	EN71-3	6.4		1.42	3176	EN71-3	3.74		-0.21
2296	EN71-3	6.1500	C	1.27	3182	EN71-3	3.7		-0.23
2303	EN71-3	2.935365		-0.70	3190	EN71-3	4.6		0.32
2370	EN71-3	4.5		0.26	3191	EN71-3	3.9488		-0.08
2372	EN71-3	<10		----	3197		----		----
2375		----		----	3200	EN71-3	<2.5		----
2380	EN71-3	5.2445		0.71	3209	EN71-3	<5.0		----
2385	EN71-3	4.9		0.50	3214	EN71-3	3.1		-0.60
2390	EN71-3	3.01		-0.66	3215	EN71-3	3.81		-0.17
2401	EN71-3	ND		----	3218	EN71-3	4.2		0.07
2412		----		----	3220	EN71-3	2.0		-1.27
2413	In house	<10		----	3225	EN71-3	4.132		0.03
2429	EN71-3	4.32		0.15	3228	EN71-3	3.40		-0.42
2431		----		----	3233	EN71-3	6.1526		1.27
2432	EN71-3	3.5167		-0.35	3237	EN71-3	5.104		0.63
2433	EN71-3	<10		----	3238	EN71-3	3.5000		-0.36
2442		----		----	3248	EN71-3	2.9		-0.72
normality		suspect							
n		73							
outliers		0							
mean (n)		4.08							
st.dev. (n)		1.293							
R(calc.)		3.62							
R(RR prEN71-3:13)		4.57							

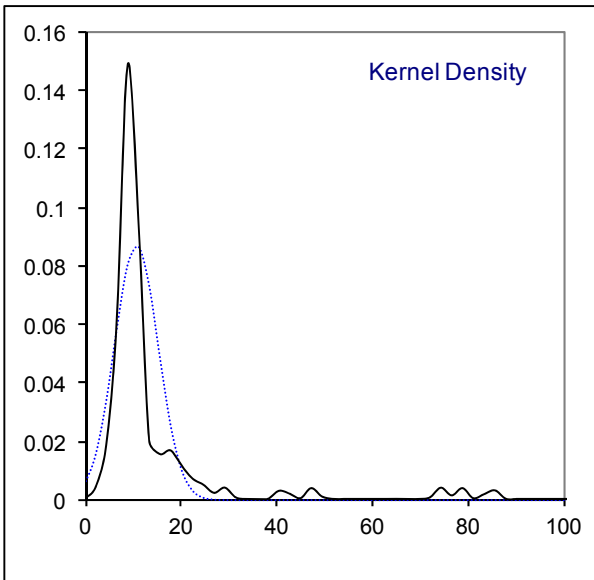
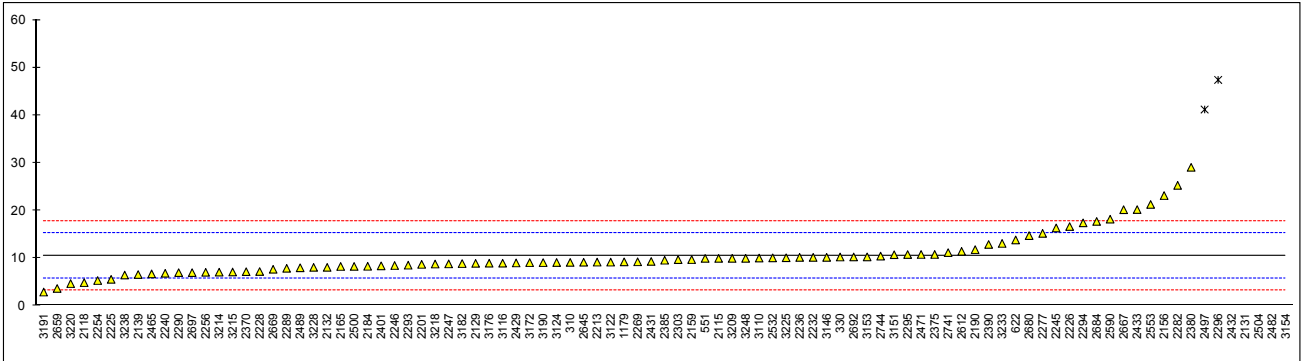
Lab 551 first reported: ND  
 Lab 2132 first reported: 4.808  
 Lab 2156 first reported: 2.557  
 Lab 2232 first reported: ND  
 Lab 2247 first reported: ND  
 Lab 2253 first reported: ND  
 Lab 2269 first reported: <2  
 Lab 2280 first reported: ND  
 Lab 2296 first reported: 10.0385  
 Lab 2489 first reported: ND  
 Lab 2532 first reported: not detected



## Determination of migration of Chromium as Cr on plaster sample #16555; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	9.152		-0.55	2459		----		----
330	EN71-3	10.270		-0.09	2465	EN71-3	6.742		-1.55
551	EN71-3	9.98	C	-0.21	2468		----		----
622	EN71-3	13.8560		1.40	2471	EN71-3	10.8057		0.13
1179	EN71-3	9.26		-0.51	2475		----		----
2115	EN71-3	9.99		-0.20	2482	EN71-3	341.25	C,R(0.01)	137.21
2118	EN71-3	4.9073		-2.31	2489	EN71-3	8.02		-1.02
2129	EN71-3	8.94		-0.64	2492		----		----
2131	EN71-3	78.41	R(0.01)	28.18	2497	EN71-3	41.2	C,R(0.01)	12.74
2132	EN71-3	8.106	C	-0.99	2500	EN71-3	8.3012		-0.90
2139	EN71-3	6.6068		-1.61	2504	EN71-3	84.700	C,R(0.01)	30.79
2156	EN71-3	23.16	C	5.26	2532	EN71-3	10.1	C	-0.16
2159	EN71-3	9.740		-0.31	2553	EN71-3	21.3		4.49
2165	EN71-3	8.29		-0.91	2589	EN71-3	<10		----
2184	EN71-3	8.33		-0.89	2590	EN71-3	18.202		3.20
2190	EN71-3	11.82		0.56	2612	EN71-3	11.47		0.41
2201	EN71-3	8.73		-0.73	2615		----		----
2213	EN71-3	9.2	C	-0.53	2645	EN71-3	9.18		-0.54
2225	EN71-3	5.6	C	-2.02	2659	ISO8124-3	3.688		-2.82
2226	EN71-3	16.66	C	2.56	2667	EN71-3	20.2		4.03
2228	EN71-3	7.2250		-1.35	2669	EN71-3	7.7	C	-1.15
2232	EN71-3	10.2	C	-0.12	2680	EN71-3	14.7613		1.78
2234		----		----	2684	EN71-3	17.73		3.01
2236	EN71-3	10.2		-0.12	2690		----		----
2240	EN71-3	6.860		-1.50	2691		----		----
2243		----		----	2692	EN71-3	10.287		-0.08
2245	EN71-3	16.373		2.44	2694		----		----
2246	EN71-3	8.494		-0.82	2696		----		----
2247	EN71-3	8.83		-0.69	2697	EN71-3	7		-1.44
2253	EN71-3	ND		----	2732		----		----
2254	EN71-3	5.343		-2.13	2739		----		----
2256	EN71-3	7.0763		-1.41	2741	EN71-3	11.2	C	0.30
2268		----		----	2742		----		----
2269	EN71-3	9.270		-0.50	2744	EN71-3	10.4685		-0.01
2272		----		----	3110	EN71-3	10.06		-0.17
2277	EN71-3	15.2324		1.97	3116	EN71-3	8.98		-0.62
2279		----		----	3122	EN71-3	9.2		-0.53
2280	EN71-3	ND		----	3124	EN71-3	9.127		-0.56
2282	EN71-3	25.3	C	6.15	3146	EN71-3	10.2		-0.12
2289	EN71-3	7.9		-1.07	3151	EN71-3	10.757		0.11
2290	EN71-3	7.0		-1.44	3153	EN71-3	10.3		-0.08
2293	EN71-3	8.56		-0.80	3154	EN71-3	572.8	R(0.01)	233.26
2294	EN71-3	17.439		2.89	3172	EN71-3	9.1		-0.57
2295	EN71-3	10.8		0.13	3176	EN71-3	8.974		-0.63
2296	EN71-3	47.4100	C,R(0.01)	15.32	3182	EN71-3	8.9		-0.66
2303	EN71-3	9.730428		-0.31	3190	EN71-3	9.1		-0.57
2370	EN71-3	7.2		-1.36	3191	EN71-3	2.9209		-3.14
2372	EN71-3	<10		----	3197		----		----
2375	In house	10.81		0.14	3200	EN71-3	<10.0		----
2380	EN71-3	29.0713	C	7.71	3209	EN71-3	10.0		-0.20
2385	EN71-3	9.6		-0.37	3214	EN71-3	7.10		-1.40
2390	EN71-3	12.91		1.01	3215	EN71-3	7.14		-1.39
2401	EN71-3	8.423		-0.85	3218	EN71-3	8.8		-0.70
2412		----		----	3220	EN71-3	4.7	C	-2.40
2413	In house	<10		----	3225	EN71-3	10.113		-0.15
2429	EN71-3	9.03		-0.60	3228	EN71-3	8.10		-0.99
2431	EN71-3	9.35		-0.47	3233	EN71-3	13.1242		1.10
2432	EN71-3	74.1036	C,R(0.01)	26.39	3237		----		----
2433	EN71-3	20.22		4.04	3238	EN71-3	6.5000		-1.65
2442		----		----	3248	EN71-3	10		-0.20
	normality	not OK							
	n	86							
	outliers	7							
	mean (n)	10.48							
	st.dev. (n)	4.587							
	R(calc.)	12.84							
	R(RR prEN71-3:13)	6.75							

Lab 551 first reported: 155.55	Lab 2380 first reported: 55.0169
Lab 2132 first reported: 8.494	Lab 2432 first reported: 18.8933
Lab 2156 first reported: 8.682	Lab 2482 first reported: 28.59
Lab 2213 first reported: 33.1	Lab 2497 first reported: 72.86
Lab 2225 first reported: 19.9	Lab 2504 first reported: 40.969
Lab 2226 first reported: 32.740	Lab 2532 first reported: 11
Lab 2232 first reported: 21.3165	Lab 2669 first reported: 28.7
Lab 2282 first reported: 67.2	Lab 2741 first reported: 61.63
Lab 2296 first reported: 57.3555	Lab 3220 first reported: 47.10

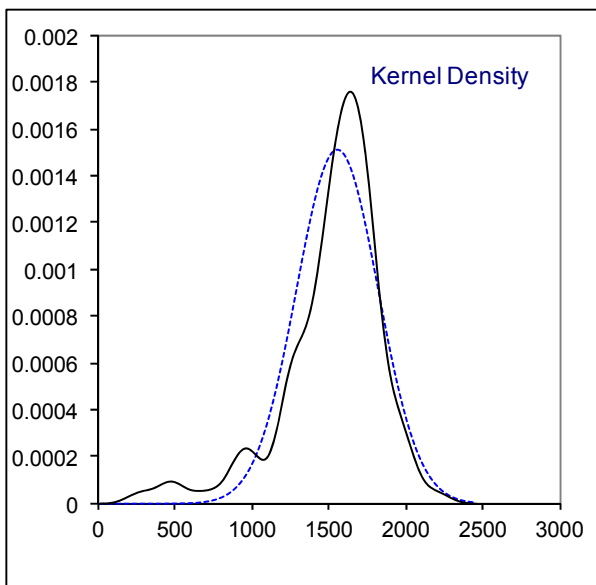
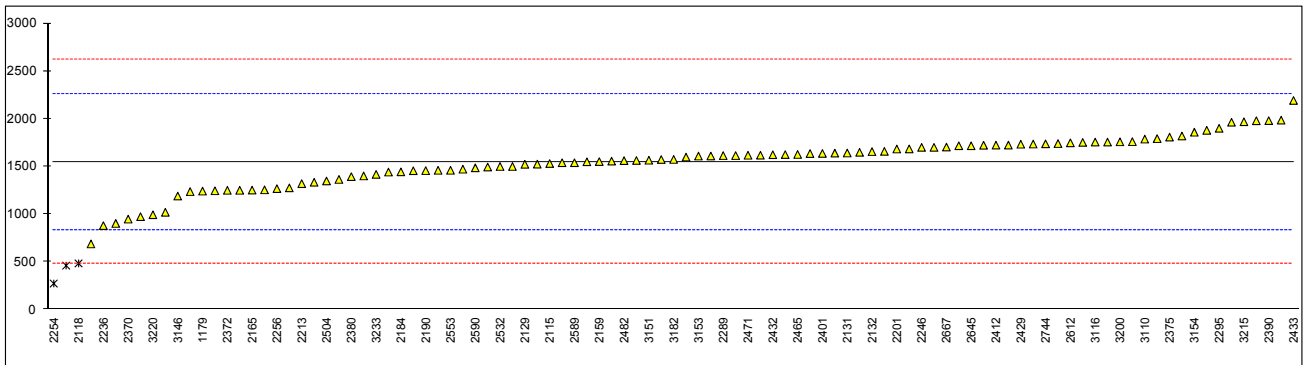


Determination of migration of Copper as Cu on plaster sample #16555; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	1563		0.04	2459		-----		-----
330	EN71-3	1493.662		-0.16	2465	EN71-3	1626		0.21
551	EN71-3	1792		0.68	2468		-----		-----
622	EN71-3	1756.2351		0.58	2471	EN71-3	1617.56		0.19
1179	EN71-3	1241.87		-0.86	2475		-----		-----
2115	EN71-3	1530.7		-0.05	2482	EN71-3	1561.64		0.03
2118	EN71-3	484.1124	R(0.05)	-2.99	2489	EN71-3	1524.84		-0.07
2129	EN71-3	1523.2		-0.08	2492	EN71-3	903.0		-1.82
2131	EN71-3	1641		0.25	2497	EN71-3	1964.35	C	1.16
2132	EN71-3	1656	C	0.30	2500	EN71-3	1250.131		-0.84
2139	EN71-3	1471.4979		-0.22	2504	EN71-3	1348.059	C	-0.57
2156	EN71-3	1401	C	-0.42	2532	EN71-3	1500	C	-0.14
2159	EN71-3	1551.425		0.00	2553	EN71-3	1460		-0.25
2165	EN71-3	1252.54		-0.83	2589	EN71-3	1539		-0.03
2184	EN71-3	1444.0		-0.30	2590	EN71-3	1485.303		-0.18
2190	EN71-3	1456.57		-0.26	2612	EN71-3	1748		0.56
2201	EN71-3	1683		0.37	2615		-----		-----
2213	EN71-3	1320.2	C	-0.64	2645	EN71-3	1717.14		0.47
2225	EN71-3	1648.0		0.27	2659		-----		-----
2226	EN71-3	1819.783		0.76	2667	EN71-3	1703.3		0.43
2228		-----		-----	2669	EN71-3	1740		0.53
2232	EN71-3	1459.7922		-0.25	2680	EN71-3	1614.19		0.18
2234		-----		-----	2684	EN71-3	1618.32		0.19
2236	EN71-3	879.9		-1.88	2690		-----		-----
2240	EN71-3	1335		-0.60	2691		-----		-----
2243		-----		-----	2692	EN71-3	1684.27		0.38
2245	EN71-3	1640.243		0.25	2694		-----		-----
2246	EN71-3	1700.00		0.42	2696		-----		-----
2247	EN71-3	1245.04		-0.86	2697	EN71-3	1735		0.52
2253	EN71-3	1760.23		0.59	2732		-----		-----
2254	EN71-3	273.512	R(0.01)	-3.58	2739		-----		-----
2256	EN71-3	1268.102		-0.79	2741	EN71-3	1364.27		-0.52
2268		-----		-----	2742		-----		-----
2269	EN71-3	1724.496		0.49	2744	EN71-3	1737.6500		0.53
2272	EN71-3	1236.6		-0.88	3110	EN71-3	1786.76		0.66
2277	EN71-3	1986.1442		1.22	3116	EN71-3	1756		0.58
2279		-----		-----	3122	EN71-3	1455		-0.27
2280	EN71-3	1722.9		0.48	3124	EN71-3	1573		0.06
2282	EN71-3	1598.5		0.14	3146	EN71-3	1190		-1.01
2289	EN71-3	1614		0.18	3151	EN71-3	1565.33		0.04
2290	EN71-3	1635.7		0.24	3153	EN71-3	1609.0		0.17
2293		-----		-----	3154	EN71-3	1859		0.87
2294	EN71-3	1979.639	C	1.20	3172	EN71-3	1879		0.92
2295	EN71-3	1900		0.98	3176	EN71-3	1275.5		-0.77
2296	EN71-3	973.8322		-1.62	3182	EN71-3	1574.1		0.07
2303	EN71-3	688.0544		-2.42	3190	EN71-3	1556		0.02
2370	EN71-3	948.0		-1.69	3191	EN71-3	461.4191	R(0.05)	-3.05
2372	EN71-3	1250		-0.84	3197		-----		-----
2375	In house	1808.30		0.72	3200	EN71-3	1758.33		0.58
2380	EN71-3	1393.5265		-0.44	3209	EN71-3	1700.0		0.42
2385	EN71-3	1549		0.00	3214	EN71-3	1658.0		0.30
2390	EN71-3	1980.97		1.21	3215	EN71-3	1969.1		1.18
2401	EN71-3	1637		0.24	3218	EN71-3	1716.8		0.47
2412	EN71-3	1724		0.49	3220	EN71-3	993.86		-1.56
2413	In house	1020.0		-1.49	3225	EN71-3	1624.632		0.21
2429	EN71-3	1733.26		0.51	3228	EN71-3	1255.0		-0.83
2431	EN71-3	1538.90		-0.03	3233	EN71-3	1417.2708		-0.37
2432	EN71-3	1623.4500		0.21	3237	EN71-3	1441.563		-0.30
2433	EN71-3	2192.10		1.80	3238	EN71-3	1500.0000		-0.14
2442	EN71-3	1752.1		0.57	3248	EN71-3	1610		0.17
	normality	suspect							
	n	98							
	outliers	3							
	mean (n)	1550.10							
	st.dev. (n)	264.561							
	R(calc.)	740.77							
	R(RR prEN71-3:13)	998.26							

Lab 2132 first reported: 1700.00  
 Lab 2156 first reported: 1436  
 Lab 2213 first reported: 1780  
 Lab 2294 first reported: 2205.926

Lab 2497 first reported: 2299.23  
 Lab 2504 first reported: 759.121  
 Lab 2532 first reported: 1552

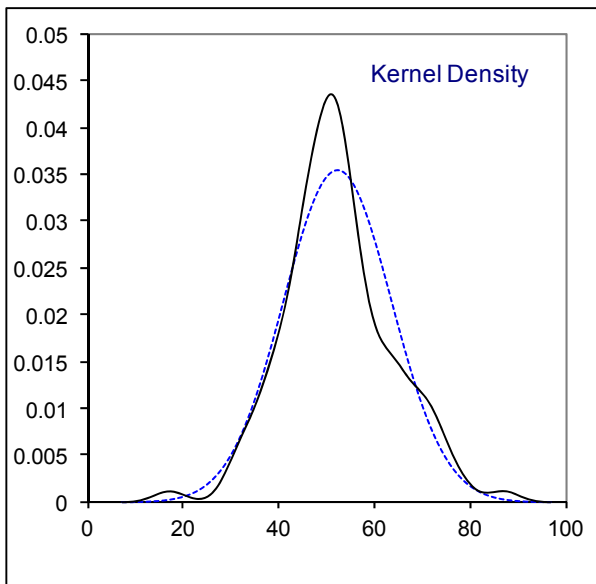
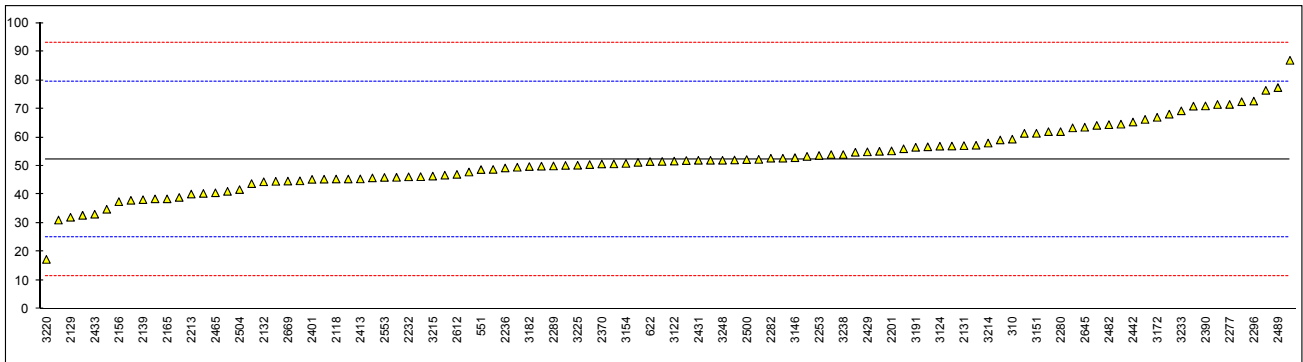


Determination of migration of Lead as Pb on plaster sample #16555; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	59.35		0.51	2459		----		----
330	EN71-3	50.495		-0.14	2465	EN71-3	40.63		-0.86
551	EN71-3	48.75		-0.26	2468		----		----
622	EN71-3	51.5228		-0.06	2471	EN71-3	52.7136		0.03
1179	EN71-3	68.11		1.16	2475		----		----
2115	EN71-3	61.99		0.71	2482	EN71-3	64.43		0.89
2118	EN71-3	45.4261		-0.51	2489	EN71-3	77.39		1.84
2129	EN71-3	32.06		-1.49	2492	EN71-3	47.88		-0.33
2131	EN71-3	57.11		0.35	2497	EN71-3	71.48	C	1.41
2132	EN71-3	44.47	C	-0.58	2500	EN71-3	52.231		-0.01
2139	EN71-3	38.2272		-1.04	2504	EN71-3	41.741		-0.78
2156	EN71-3	37.53	C	-1.09	2532	EN71-3	52	C	-0.03
2159	EN71-3	52.09		-0.02	2553	EN71-3	46		-0.47
2165	EN71-3	38.51		-1.02	2589	EN71-3	44.63		-0.57
2184	EN71-3	40.42		-0.88	2590	EN71-3	45.822		-0.48
2190	EN71-3	57.25		0.36	2612	EN71-3	47.08		-0.39
2201	EN71-3	55.26		0.21	2615		----		----
2213	EN71-3	40.2	C	-0.89	2645	EN71-3	63.53		0.82
2225	EN71-3	48.8		-0.26	2659	ISO8124-3	39.020		-0.98
2226	EN71-3	70.908		1.36	2667	EN71-3	52.3		0.00
2228	EN71-3	41.1250		-0.82	2669	EN71-3	44.7		-0.56
2232	EN71-3	46.2		-0.45	2680	EN71-3	51.8926		-0.03
2234		----		----	2684	EN71-3	43.84		-0.63
2236	EN71-3	49.3		-0.22	2690		----		----
2240	EN71-3	34.86		-1.28	2691		----		----
2243		----		----	2692	EN71-3	45.376		-0.51
2245	EN71-3	53.999		0.12	2694		----		----
2246	EN71-3	46.26		-0.45	2696		----		----
2247	EN71-3	38.5		-1.02	2697	EN71-3	56		0.27
2253	EN71-3	53.68		0.10	2732		----		----
2254	EN71-3	32.772		-1.44	2739		----		----
2256	EN71-3	51.5904		-0.06	2741	EN71-3	63.31		0.81
2268		----		----	2742		----		----
2269	EN71-3	53.350		0.07	2744	EN71-3	66.2750		1.02
2272	EN71-3	44.8		-0.55	3110	EN71-3	49.94		-0.18
2277	EN71-3	71.5005		1.41	3116	EN71-3	49.56		-0.20
2279		----		----	3122	EN71-3	51.7		-0.05
2280	EN71-3	62.0		0.71	3124	EN71-3	56.92		0.34
2282	EN71-3	52.711		0.03	3146	EN71-3	52.9		0.04
2289	EN71-3	50		-0.17	3151	EN71-3	61.408		0.67
2290	EN71-3	59.1		0.50	3153	EN71-3	55.1		0.20
2293	EN71-3	56.96		0.34	3154	EN71-3	50.90		-0.11
2294	EN71-3	46.039		-0.46	3172	EN71-3	67		1.08
2295	EN71-3	64.6		0.90	3176	EN71-3	72.468		1.48
2296	EN71-3	72.6588		1.49	3182	EN71-3	49.8		-0.19
2303	EN71-3	86.90789		2.54	3190	EN71-3	61.4		0.67
2370	EN71-3	50.7		-0.12	3191	EN71-3	56.5362		0.31
2372	EN71-3	50.2		-0.16	3197		----		----
2375	In house	76.43		1.77	3200	EN71-3	50.73		-0.12
2380	EN71-3	31.0992		-1.56	3209	EN71-3	46.8		-0.41
2385	EN71-3	54.8		0.18	3214	EN71-3	58.0		0.42
2390	EN71-3	70.98		1.37	3215	EN71-3	46.47		-0.43
2401	EN71-3	45.32		-0.52	3218	EN71-3	56.7		0.32
2412	EN71-3	51.25		-0.08	3220	EN71-3	17.35		-2.57
2413	In house	45.47		-0.51	3225	EN71-3	50.240		-0.15
2429	EN71-3	54.92		0.19	3228	EN71-3	38.00		-1.05
2431	EN71-3	51.97		-0.03	3233	EN71-3	69.2675		1.24
2432	EN71-3	45.4500		-0.51	3237	EN71-3	64.175		0.87
2433	EN71-3	33.14		-1.41	3238	EN71-3	54.0000		0.12
2442	EN71-3	65.359		0.96	3248	EN71-3	52		-0.03
	normality	OK							
	n	104							
	outliers	0							
	mean (n)	52.35							
	st.dev. (n)	11.248							
	R(calc.)	31.50							
	R(RR prEN71-3:13)	38.11							



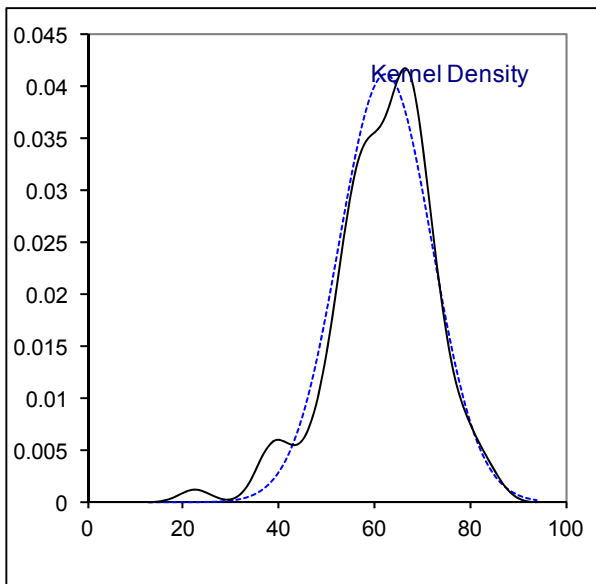
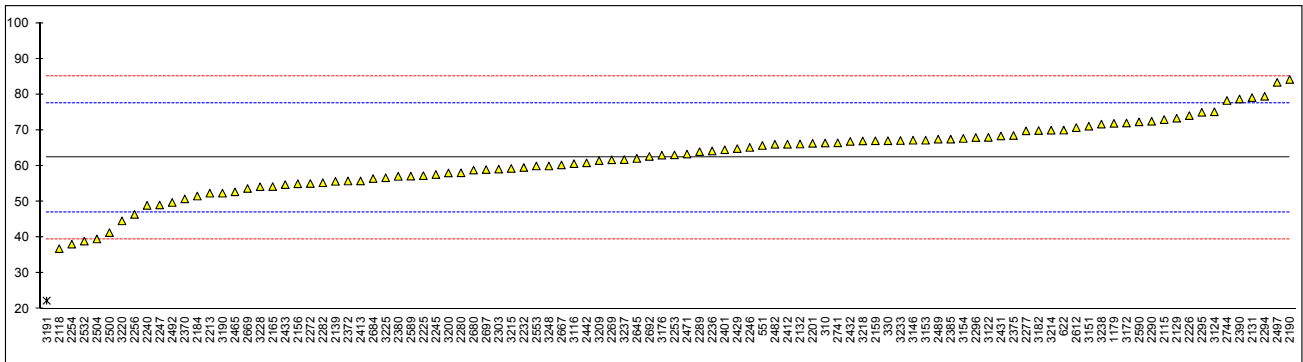
Lab 2132 first reported: 46.26  
 Lab 2156 first reported: 58.67  
 Lab 2213 first reported: 54  
 Lab 2497 first reported: 94.84  
 Lab 2532 first reported: 3.9



## Determination of migration of Manganese as Mn on plaster sample #16555; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	66.41		0.54	2459		----		----
330	EN71-3	67.064		0.63	2465	EN71-3	52.78		-1.25
551	EN71-3	65.73		0.45	2468		----		----
622	EN71-3	70.0260		1.02	2471	EN71-3	63.3396		0.14
1179	EN71-3	71.91		1.27	2475		----		----
2115	EN71-3	72.97		1.41	2482	EN71-3	66.07		0.50
2118	EN71-3	36.8918		-3.34	2489	EN71-3	67.49		0.69
2129	EN71-3	73.36		1.46	2492	EN71-3	49.8		-1.64
2131	EN71-3	79.13		2.22	2497	EN71-3	83.38	C	2.78
2132	EN71-3	66.13	C	0.51	2500	EN71-3	41.356		-2.75
2139	EN71-3	55.7053		-0.87	2504	EN71-3	39.600		-2.99
2156	EN71-3	55.03	C	-0.95	2532	EN71-3	39	C	-3.06
2159	EN71-3	67.045		0.63	2553	EN71-3	60		-0.30
2165	EN71-3	54.24		-1.06	2589	EN71-3	57.162		-0.67
2184	EN71-3	51.59		-1.41	2590	EN71-3	72.323		1.32
2190	EN71-3	84.18		2.88	2612	EN71-3	70.73		1.11
2201	EN71-3	66.32		0.53	2615		----		----
2213	EN71-3	52.4	C	-1.30	2645	EN71-3	62.10		-0.02
2225	EN71-3	57.3		-0.66	2659		----		----
2226	EN71-3	74.081		1.55	2667	EN71-3	60.3		-0.26
2228		----		----	2669	EN71-3	53.7		-1.13
2232	EN71-3	59.58		-0.36	2680	EN71-3	58.8703		-0.45
2234		----		----	2684	EN71-3	56.48		-0.76
2236	EN71-3	64.2		0.25	2690		----		----
2240	EN71-3	48.99		-1.75	2691		----		----
2243		----		----	2692	EN71-3	62.674		0.05
2245	EN71-3	57.622		-0.61	2694		----		----
2246	EN71-3	65.19		0.38	2696		----		----
2247	EN71-3	49.11		-1.73	2697	EN71-3	59		-0.43
2253	EN71-3	63.12		0.11	2732		----		----
2254	EN71-3	38.141		-3.18	2739		----		----
2256	EN71-3	46.4559		-2.08	2741	EN71-3	66.47		0.55
2268		----		----	2742		----		----
2269	EN71-3	61.731		-0.07	2744	EN71-3	78.3050		2.11
2272	EN71-3	55.1		-0.95	3110	EN71-3	<100		----
2277	EN71-3	69.8238		0.99	3116	EN71-3	60.64		-0.22
2279		----		----	3122	EN71-3	68		0.75
2280	EN71-3	58.1		-0.55	3124	EN71-3	75.16		1.69
2282	EN71-3	55.307		-0.92	3146	EN71-3	67.2		0.65
2289	EN71-3	64		0.23	3151	EN71-3	71.117		1.16
2290	EN71-3	72.5		1.34	3153	EN71-3	67.2		0.65
2293		----		----	3154	EN71-3	67.70		0.71
2294	EN71-3	79.472		2.26	3172	EN71-3	72		1.28
2295	EN71-3	75		1.67	3176	EN71-3	63.006		0.10
2296	EN71-3	67.9547		0.75	3182	EN71-3	69.9		1.00
2303	EN71-3	59.13542		-0.41	3190	EN71-3	52.4		-1.30
2370	EN71-3	50.8		-1.51	3191	EN71-3	22.3457	R(0.01)	-5.26
2372	EN71-3	55.8		-0.85	3197		----		----
2375	In house	68.51		0.82	3200	EN71-3	58.06		-0.56
2380	EN71-3	57.0954		-0.68	3209	EN71-3	61.5		-0.10
2385	EN71-3	67.5		0.69	3214	EN71-3	70.0		1.02
2390	EN71-3	78.74		2.17	3215	EN71-3	59.3		-0.39
2401	EN71-3	64.54		0.30	3218	EN71-3	67.0		0.62
2412	EN71-3	66.08		0.50	3220	EN71-3	44.66		-2.32
2413	In house	55.83		-0.85	3225	EN71-3	56.698		-0.73
2429	EN71-3	64.86		0.34	3228	EN71-3	54.20		-1.06
2431	EN71-3	68.39		0.80	3233	EN71-3	67.1146		0.64
2432	EN71-3	66.8733		0.60	3237	EN71-3	61.785		-0.07
2433	EN71-3	54.78		-0.99	3238	EN71-3	71.7000		1.24
2442	EN71-3	60.86		-0.19	3248	EN71-3	60		-0.30
	normality	OK							
	n	99							
	outliers	1							
	mean (n)	62.28							
	st.dev. (n)	9.715							
	R(calc.)	27.20							
	R(RR prEN71-3:13)	21.28							

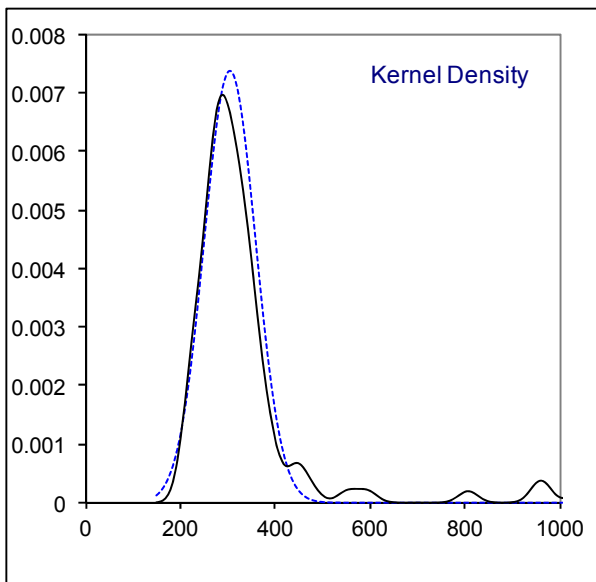
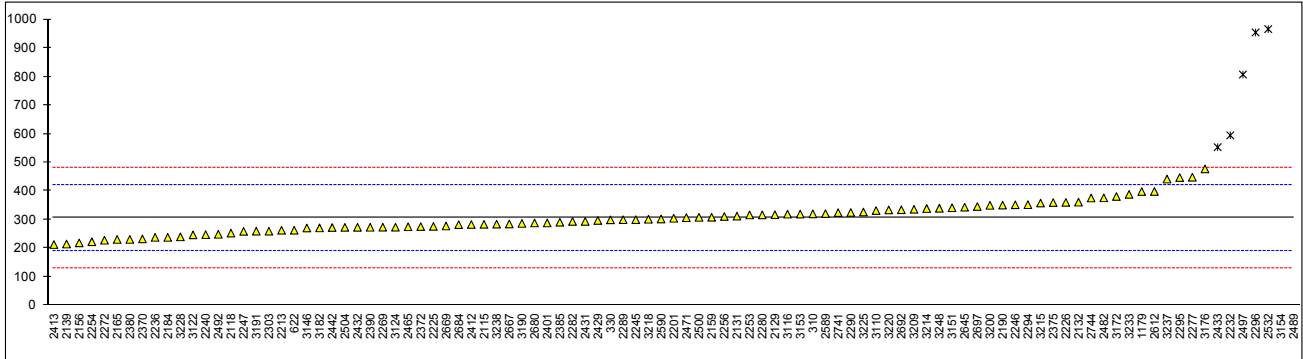
Lab 2132 first reported: 65.19  
 Lab 2156 first reported: 58.76  
 Lab 2213 first reported: 63  
 Lab 2497 first reported: 93.83  
 Lab 2532 first reported: 47.1



## Determination of migration of Strontium as Sr on plaster sample #16555; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	320.4		0.25	2459		-----		-----
330	EN71-3	299.383		-0.11	2465	EN71-3	275.2		-0.53
551	EN71-3	NA		-----	2468		-----		-----
622	EN71-3	263.2116	C	-0.74	2471	EN71-3	307.147		0.02
1179	EN71-3	398.4		1.59	2475		-----		-----
2115	EN71-3	283.7		-0.38	2482	EN71-3	376.44		1.21
2118	EN71-3	253.1734		-0.91	2489	EN71-3	1415	C,R(0.01)	19.07
2129	EN71-3	317.47		0.20	2492	EN71-3	249.0		-0.98
2131	EN71-3	312.5		0.11	2497	EN71-3	807.11	C,R(0.01)	8.62
2132	EN71-3	361.35	C	0.95	2500	EN71-3	308.231		0.04
2139	EN71-3	214.8836		-1.57	2504	EN71-3	273.197		-0.56
2156	EN71-3	218.9	C	-1.50	2532	EN71-3	966	C,R(0.01)	11.35
2159	EN71-3	308.625		0.04	2553	EN71-3	ND		-----
2165	EN71-3	231.04		-1.29	2589	EN71-3	321.2		0.26
2184	EN71-3	238.3		-1.16	2590	EN71-3	302.201		-0.07
2190	EN71-3	351.08		0.78	2612	EN71-3	398.7		1.59
2201	EN71-3	304.9		-0.02	2615		-----		-----
2213	EN71-3	263	C	-0.74	2645	EN71-3	343.62		0.65
2225	EN71-3	276.7		-0.50	2659		-----		-----
2226	EN71-3	360.511		0.94	2667	EN71-3	285.2		-0.36
2228		-----		-----	2669	EN71-3	278		-0.48
2232	EN71-3	595	C,R(0.01)	4.97	2680	EN71-3	288.588		-0.30
2234		-----		-----	2684	EN71-3	282.74		-0.40
2236	EN71-3	238.3		-1.16	2690		-----		-----
2240	EN71-3	247.8		-1.00	2691		-----		-----
2243		-----		-----	2692	EN71-3	334.893		0.50
2245	EN71-3	300.243		-0.10	2694		-----		-----
2246	EN71-3	352.20		0.79	2696		-----		-----
2247	EN71-3	259.42		-0.80	2697	EN71-3	346		0.69
2253	EN71-3	316.56		0.18	2732		-----		-----
2254	EN71-3	223.087		-1.43	2739		-----		-----
2256	EN71-3	311.3128		0.09	2741	EN71-3	324.82		0.32
2268		-----		-----	2742		-----		-----
2269	EN71-3	273.829		-0.55	2744	EN71-3	375.8211		1.20
2272	EN71-3	228.3		-1.34	3110	EN71-3	331.83		0.44
2277	EN71-3	448.4690		2.45	3116	EN71-3	319.4		0.23
2279		-----		-----	3122	EN71-3	247		-1.01
2280	EN71-3	316.7		0.18	3124	EN71-3	273.9		-0.55
2282	EN71-3	293.78		-0.21	3146	EN71-3	271		-0.60
2289	EN71-3	300		-0.10	3151	EN71-3	341.83		0.62
2290	EN71-3	325.1		0.33	3153	EN71-3	319.6		0.23
2293		-----		-----	3154	EN71-3	1042	R(0.01)	12.66
2294	EN71-3	352.453		0.80	3172	EN71-3	381		1.29
2295	EN71-3	447		2.42	3176	EN71-3	477.3	C	2.95
2296	EN71-3	954.2400	C,R(0.01)	11.15	3182	EN71-3	271.3		-0.60
2303	EN71-3	259.9805		-0.79	3190	EN71-3	287.0		-0.33
2370	EN71-3	233.0		-1.26	3191	EN71-3	259.9198		-0.79
2372	EN71-3	276		-0.52	3197		-----		-----
2375	In house	360	C	0.93	3200	EN71-3	350.21		0.76
2380	EN71-3	231.0958		-1.29	3209	EN71-3	336.5		0.52
2385	EN71-3	291		-0.26	3214	EN71-3	339.0		0.57
2390	EN71-3	273.53		-0.56	3215	EN71-3	358.3		0.90
2401	EN71-3	288.6		-0.30	3218	EN71-3	301.5		-0.08
2412	EN71-3	283.2		-0.39	3220	EN71-3	334.26		0.49
2413	In house	213.10		-1.60	3225	EN71-3	326.987		0.36
2429	EN71-3	297.41		-0.15	3228	EN71-3	240.0		-1.14
2431	EN71-3	293.87		-0.21	3233	EN71-3	388.5248		1.42
2432	EN71-3	273.4600		-0.56	3237	EN71-3	441.888		2.34
2433	EN71-3	553.40	R(0.01)	4.25	3238	EN71-3	284.5000		-0.37
2442	EN71-3	272.75		-0.57	3248	EN71-3	340		0.58
normality		OK							
n		92							
outliers		7							
mean (n)		306.01							
st.dev. (n)		54.115							
R(calc.)		151.52							
R(RR prEN71-3:13)		162.80							

Lab 551 reported: NA or Not Applicable      Lab 2296 first reported: 895.9901  
 Lab 622 first reported: 115.5265            Lab 2375 first reported: 1097.81  
 Lab 2132 first reported: 352.20              Lab 2489 first reported: 1219  
 Lab 2156 first reported: 447.2                Lab 2497 first reported: 977.93  
 Lab 2213 first reported: 464.5                Lab 2532 first reported: 283  
 Lab 2232 first reported: ND                  Lab 3176 first reported: 505.89



## Determination of migration of Antimony, Barium, Boron, Cadmium and Cobalt on plaster sample #16555; results in mg/kg

lab	method	Sb	Ba	B	Cd	Co
310	EN71-3	0.029	5.067	3.733	0.102	0.245
330	EN71-3	< 2	< 15	< 15	< 0.2	< 2
551	EN71-3	ND	3.87	2.44	ND	ND
622	EN71-3	0.0572	4.871	8.2747	0.1811	0.2231
1179	EN71-3	0.114	6.64	----	0.25	0.29
2115	EN71-3	----	4.91	4.85	0.102	----
2118	EN71-3	0	4.2881	9.0239	0.1028	0.1940
2129	EN71-3	<1	48.7	201.4	0.12	0.33
2131	EN71-3	0.03	6.33	0.15	0.15	0.33
2132	EN71-3	ND	ND	ND	0.1218	ND
2139	EN71-3	< 5	< 5	----	< 5	< 5
2156	EN71-3	0.399	2.6	3.26	0.114	0.215
2159	EN71-3	0.155	4.495	5.680	0.170	0.290
2165	EN71-3	n.d.	4.09	n.d.	n.d.	n.d.
2184	EN71-3	< 1	4.39	< 10	0.10	< 0.5
2190	EN71-3	<10	<50	<50	0.12	< 1
2201	EN71-3	<10	<10	<50	<0.5	<1.0
2213	EN71-3	<5	6	<5	<0.1	<1
2225	EN71-3	<5.0	<5.0	<25	<5.0	<25
2226	EN71-3	<5	<10	<10	<5	<5
2228	EN71-3	0.0660	4.2450	----	0.0900	----
2232	EN71-3	ND	7.2433	4.1743	ND	0.7372
2234		----	----	----	----	----
2236	EN71-3	<2.5	4.70	3.07	<0.25	<2.5
2240	EN71-3	<5	8.706	6.314	<2	<5
2243		----	----	----	----	----
2245	EN71-3	<5	5.888	6.050	<2	<5
2246	EN71-3	<1.0	<25	<25	0.1346	<0.1
2247	EN71-3	ND	5.75	9.67	ND	ND
2253	EN71-3	ND	ND	ND	ND	ND
2254	EN71-3	<0.2	3.611	5.072	<0.2	<0.2
2256		----	----	----	----	----
2268		----	----	----	----	----
2269	EN71-3	<5	<5	<5	<2	<5
2272		----	----	----	----	----
2277	EN71-3	<1	7.5972	8.5175	<1	<1
2279		----	----	----	----	----
2280	EN71-3	ND	ND	ND	ND	ND
2282	EN71-3	<5	5.1305	4.974	<5	<5
2289	EN71-3	<10	<10	<50	<0.5	<1.0
2290	EN71-3	<10	<10	<50	<0.5	<1.0
2293	EN71-3	n.d.	6.96	----	n.d.	----
2294	EN71-3	ND	4.679	3.294	0.433	0.212
2295	EN71-3	<1	8	8.6	<1	<1
2296	EN71-3	0.0000	19.2200	51.2312	0.7837	0.0000
2303	EN71-3	0.330147	3.644554	4.835748	0.176004	0.269973
2370	EN71-3	<1	<50	<50	<0.1	<0.5
2372	EN71-3	<10	<10	<10	<10	<10
2375		----	----	----	----	----
2380		----	----	----	----	----
2385	EN71-3	<1	5.0	6.5	0.13	<1
2390	EN71-3	ND	ND	ND	ND	ND
2401	EN71-3	ND	ND	ND	ND	ND
2412		----	----	----	----	----
2413	In house	<10	<10	45.53	<10	<10
2429	EN71-3	<10	<10	<50	<0.5	<1
2431		----	----	----	----	----
2432	EN71-3	----	3.7733	4.4633	----	----
2433	EN71-3	<10	<10	<50	<10	<10
2442		----	----	----	----	----
2459		----	----	----	----	----
2465	EN71-3	<5	<5	7.071	<2	<5
2468		----	----	----	----	----
2471	EN71-3	<5	6.1665	7.9373	<2	<5
2475		----	----	----	----	----
2482	EN71-3	<1	<10	<10	<0,1	<0,1
2489	EN71-3	ND	35	53.49	ND	ND
2492	EN71-3	----	5.52	----	0.100	----
2497	EN71-3	0.526	16.04	23.91	0.432	0.521
2500	EN71-3	ND	ND	ND	ND	ND
2504	EN71-3	<1.0	4.489	4.357	<0.2	<0.2
2532	EN71-3	Not Detect.	Not Detect.	Not Detect.	Not Detect.	Not Detect.
2553	EN71-3	ND	7.24	4.17	ND	ND
2589	EN71-3	<5	<5	<50	<5	<5
2590	EN71-3	< L.O.Q	5.712	5.503	< L.O.Q	< L.O.Q

2612	EN71-3	0.1065	6.878	8.370	0.1427	0.3210
2615		<5	<5	<5	<5	<5
2645	EN71-3	<5	6.48	<5	<5	<5
2659	ISO8124-3	0.050	1.919	<5	0.174	<5
2667	EN71-3	<5	<5	<10	<5	<5
2669	EN71-3	<5	<5	<5	<5	<5
2680	EN71-3	<5	6.0692	8.7515	<5	<5
2684	EN71-3	<5	<5	<5	<5	<5
2690		<5	<5	<5	<5	<5
2691		<5	<5	<5	<5	<5
2692		<5	<5	<5	<5	<5
2694		<5	<5	<5	<5	<5
2696		<5	<5	<5	<5	<5
2697	EN71-3	ND	ND	ND	ND	ND
2732		<5	<5	<5	<5	<5
2739		<5	<5	<5	<5	<5
2741	EN71-3	<1	<25	<25	0.1	0.22
2742		<1	<25	<25	0.1	0.22
2744	EN71-3	<1	6.2955	9.5483	<1	<1
3110	EN71-3	<5	<20	<100	<0.2	0.32
3116		<5	<20	<100	<0.2	0.32
3122	EN71-3	<1	5	3	<1	<1
3124	EN71-3	0.225	4.908	5.828	0.1507	0.2749
3146	EN71-3	n.d.	n.d.	n.d.	0.125	n.d.
3151	EN71-3	<0,1	6.5783	7.2200	0.12183	0.26300
3153	EN71-3	<10	<10	<50	<0.5	<1
3154	EN71-3	<10	30.82	18.99	<0.5	<1
3172	EN71-3	< 5	< 50	< 50	< 0.5	< 1
3176	EN71-3	<5	8.778	5.362	<5	<5
3182	EN71-3	<5	<5	<5	<5	<5
3190	EN71-3	<10	<10	<50	<5	<1.0
3191	EN71-3	<1	4.7371	1.3701	0.0943	<1
3197		<1	4.7371	1.3701	0.0943	<1
3200	EN71-3	<5.0	<10.0	<10.0	<1.0	<10.0
3209	EN71-3	<10.0	<10.0	<10.0	<10.0	<10.0
3214	EN71-3	<10	<10	<50	<0.5	<1
3215	EN71-3	<0.1	4.71	3.31	0.083	<0.5
3218	EN71-3	<10	<10	<50	<0.5	<10
3220	EN71-3	Not detected	Not detected	91.5	Not detected	Not detected
3225	EN71-3	<5.0	<5.0	<5.0	<0.25	0.262
3228	EN71-3	<1	4.20	<10	<0.1	<0.5
3233	EN71-3	0.1370	6.2081	4.1967	0.1162	0.2389
3237	EN71-3	ND	4.947	5.371	ND	ND
3238	EN71-3	<0,10	4.5000	5.2000	0.1080	0.1600
3248	EN71-3	<10	<10	<100	<0.5	<1
normality		n.a.	n.a.	n.a.	n.a.	n.a.
n		89	95	83	91	85
outliers		n.a.	n.a.	n.a.	n.a.	n.a.
mean (n)		<10	<50	<50	<10	<10
st.dev. (n)		n.a.	n.a.	n.a.	n.a.	n.a.
R(calc.)		n.a.	n.a.	n.a.	n.a.	n.a.

Lab 2129 first reported for Barium 54.09 and for Boron 112.17

Lab 2132 first reported for Cadmium 0.1346

Lab 2156 first reported for Antimony 0.414, for Barium 8.602, for Boron 13.19, for Cadmium 0.227, for Cobalt 0.233

Lab 2413 first reported for Antimony 22.89

Lab 2296 first reported for Barium 21.4482

Lab 2489 first reported for Barium 24.59

Lab 2497 first reported for Barium 26.21

Determination of migration of Mercury, Nickel, Selenium, Tin and Zinc on plaster  
sample #16555; results in mg/kg

lab	method	Hg	Ni	Se	Sn	Zn
310	EN71-3	0.001	0.52	0.363	0.006	5.405
330	EN71-3	< 0.5	< 2	< 2	< 0.2	< 15
551	EN71-3	ND	ND	ND	ND	ND
622	EN71-3	0.0280	0.6130	0.1737	571.3088	7.7197
1179	EN71-3	0.054	0.64	0.64	0.042	7.08
2115	EN71-3	----	----	----	----	7.39
2118	EN71-3	0	0.3125	0.2720	0	2.8167
2129	EN71-3	<0,1	<1	<1	<3	220.80
2131	EN71-3	0.23	0.79	0.48	0.09	9.66
2132	EN71-3	ND	ND	ND	ND	ND
2139	EN71-3	< 5	< 5	< 5	< 5	9.7991
2156	EN71-3	0.1	0.506	0.1	0.1	4.093
2159	EN71-3	Not Determ.	0.515	0.490	0.021	5.08
2165	EN71-3	n.d.	n.d.	n.d.	n.d.	n.d.
2184	EN71-3	< 0.5	< 2.5	< 2.5	< 0.2	< 10
2190	EN71-3	<1	<10	<5	<4	<50
2201	EN71-3	< 1.0	<10	<5	<10	<100
2213	EN71-3	<1	<5	<5	<1	<5
2225	EN71-3	<5.0	<25	<5.0	<2.5	<25
2226	EN71-3	<5	<5	<5	<5	<10
2228	EN71-3	0.3200	----	0.0000	----	----
2232	EN71-3	ND	ND	ND	ND	ND
2234		----	----	----	----	----
2236	EN71-3	<2.5	<2.5	<2.5	<2.5	<5.0
2240	EN71-3	<2	<5	<5	<2.5	<5
2243		----	----	----	----	----
2245	EN71-3	<2	<5	<5	<2.5	<10
2246	EN71-3	<0.1	<1.0	<2.0	<10	<50
2247	EN71-3	ND	ND	ND	ND	11.11
2253	EN71-3	ND	ND	ND	ND	ND
2254	EN71-3	<0.2	0.260	0.486	<0.2	2.100
2256		----	----	----	----	----
2268		----	----	----	----	----
2269	EN71-3	<2	<5	<5	<2.5	<5
2272		----	----	----	----	----
2277	EN71-3	<1	1.6053	<1	<1	<1
2279		----	----	----	----	----
2280	EN71-3	ND	ND	ND	ND	ND
2282	EN71-3	<5	<5	<5	<2.5	7.0325
2289	EN71-3	<1.0	<10	<5.0	<10	<100
2290	EN71-3	<1.0	<10	<5.0	<10	<100
2293	EN71-3	n.d.	----	n.d.	----	----
2294	EN71-3	ND	0.632	ND	4.030	15.399
2295	EN71-3	<1	<1	<1	<1	4.6
2296	EN71-3	0.0000	0.0000	0.0000	0.0000	28.1157
2303	EN71-3	0.031457	0.665502	0.49873	0.043342	4.195459
2370	EN71-3	<0.5	<10	<5	<0.36	<50
2372	EN71-3	<10	<10	<10	<10	<10
2375		----	----	----	----	----
2380		----	----	----	----	----
2385	EN71-3	<0,5	<1	1.0	<1	7.2
2390	EN71-3	ND	ND	ND	ND	ND
2401	EN71-3	ND	ND	ND	ND	ND
2412		----	----	----	----	----
2413	In house	<10	<10	<10	<10	<10
2429	EN71-3	<1	<10	<5	<10	<100
2431		----	----	----	----	----
2432	EN71-3	----	----	----	----	3.6333
2433	EN71-3	<10	<10	<10	<10	<100
2442		----	----	----	----	----
2459		----	----	----	----	----
2465	EN71-3	<2	<5	<5	<2.5	19.51
2468		----	----	----	----	----
2471	EN71-3	<2	<5	<5	<2.5	15.4022
2475		----	----	----	----	----
2482	EN71-3	<0,1	<1	<1	<10	<10
2489	EN71-3	ND	ND	ND	ND	ND
2492	EN71-3	----	5.07	----	----	4.10
2497	EN71-3	0.033	1.29	1.62	0.282	21.29
2500	EN71-3	ND	ND	ND	ND	ND
2504	EN71-3	<2.0	0.326	<1.0	<2.0	3.365
2532	EN71-3	Not Detect.	Not Detect.	Not Detect.	Not Detect.	Not Detect.
2553	EN71-3	ND	ND	ND	ND	ND
2589	EN71-3	<5	<5	<10	<2.5	<50
2590	EN71-3	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q	2.703



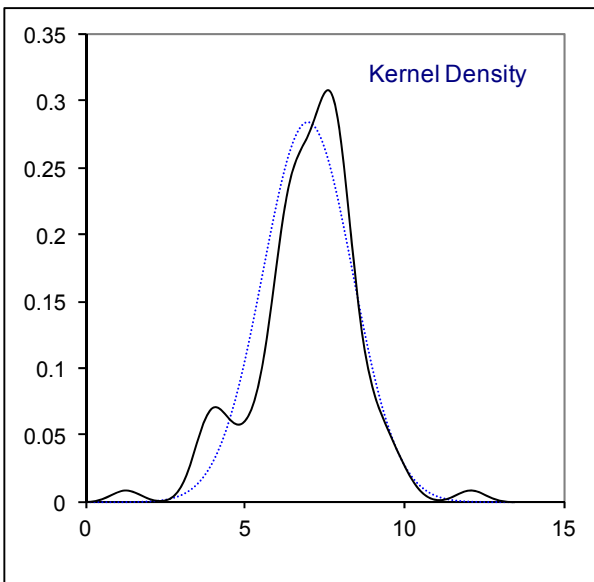
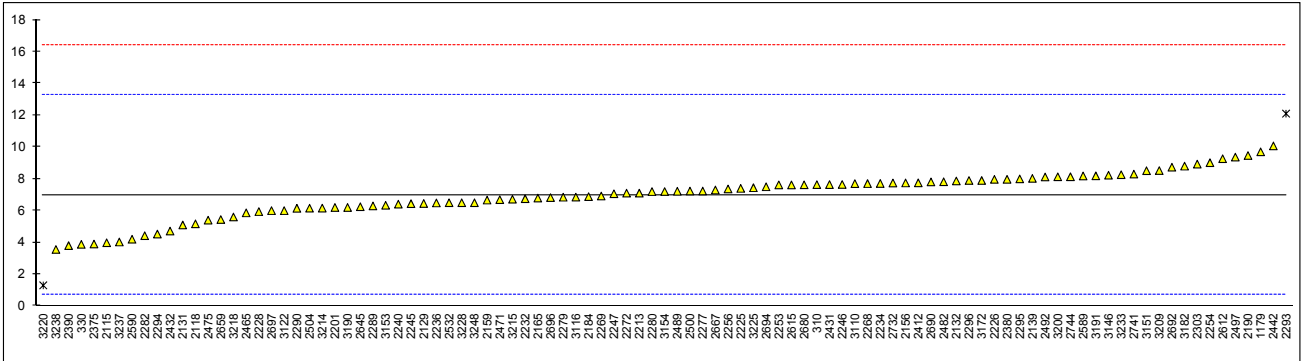
2612	EN71-3	1.585	0.9197	0.5107	< 0,05	10.42
2615		----	----	----	----	----
2645	EN71-12	<5	<5	<5	<5	<5
2659	ISO8124-3	0.000	----	0.000	----	----
2667	EN71-3	<5	<5	<5	<2.5	<50
2669	EN71-3	<5	<5	<5	<2	7.3
2680	EN71-3	<5	<5	<5	<5	<5
2684	EN71-3	<5	<5	<5	<5	<5
2690		----	----	----	----	----
2691		----	----	----	----	----
2692		----	----	----	----	----
2694		----	----	----	----	----
2696		----	----	----	----	----
2697	EN71-3	ND	ND	ND	ND	9
2732		----	----	----	----	----
2739		----	----	----	----	----
2741	EN71-3	<0.1	<10	1.9	<10	<50
2742		----	----	----	----	----
2744	EN71-3					7.1502
3110	EN71-3	<0.2	<5	<5	<0.25	<100
3116		----	----	----	----	----
3122	EN71-3	<0.05	< 1	<1	< 0.9	3
3124	EN71-3	0.004143	0.6566	0.3208	0.04222	5.233
3146	EN71-3	n.d.	n.d.	n.d.	n.d.	n.d.
3151	EN71-3	<0,1	0.80033	<1	<0,1	5.9400
3153	EN71-3	<1	<10	<5	<10	<100
3154	EN71-3	----	----	----	310.3	20.80
3172	EN71-3	< 1	< 5	< 5	< 50	< 50
3176	EN71-3	----	0.828	0.558	----	4.825
3182	EN71-3	<1	<5	<5	<5	<5
3190	EN71-3	<1.0	<10	<5	<10	<100
3191	EN71-3	<1	0.9943	<1	<1	<5
3197		----	----	----	----	----
3200	EN71-3	<5.0	<10.0	<10.0	<10.0	<10.0
3209	EN71-3	<10.0	<10.0	<10.0	<10.0	<10.0
3214	EN71-3	<1	<10	<5	<10	<100
3215	EN71-3	<0.1	<0.5	<0.1	<0.1	8.45
3218	EN71-3	<10	<10	<10	<10	<100
3220	EN71-3	Not detect.	Not detect.	Not detect.	1.5	Not detect.
3225	EN71-3	<0.25	<5.0	<5.0	<0.05	<5.0
3228	EN71-3	<0.5	<2.5	<2.5	<0.2	<10
3233	EN71-3	0.0173	0.6034	0.4685	0.0690	8.7406
3237	EN71-3	ND	ND	ND	ND	2.727
3238	EN71-3	<0.01	0.3700	0.1900	<0.5	3.2300
3248	EN71-3	<1	<10	<10	<0.8	<10
	normality	n.a.	n.a.	n.a.	n.a.	n.a.
	n	89	87	90	86	91
	outliers	n.a.	n.a.	n.a.	n.a.	n.a.
	mean (n)	<10	<10	<10	<10	<100
	st.dev. (n)	n.a.	n.a.	n.a.	n.a.	n.a.
	R(calc.)	n.a.	n.a.	n.a.	n.a.	n.a.

Lab 622 first reported for Tin: 545.7482  
 Lab 2129 first reported for Zinc: 107.13  
 Lab 2156 first reported for Nickel: 0.711, for Tin: 4.705 and for Zinc: 19.20  
 Lab 2413 first reported for Tin: 224.86  
 Lab 2497 first reported for Nickel: 17.16

## Determination of migration of Arsenic as As on paper sample #16556; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	7.638		0.21	2459		----		----
330	EN71-3	3.879		-0.99	2465	EN71-3	5.860		-0.36
551	EN71-3	ND		----	2468		----		----
622		----		----	2471	EN71-3	6.692		-0.10
1179	EN71-3	9.699		0.86	2475	EN71-3	5.4		-0.51
2115	EN71-3	3.98		-0.96	2482	EN71-3	7.82		0.26
2118	EN71-3	5.1719		-0.58	2489	EN71-3	7.22		0.07
2129	EN71-3	6.452		-0.17	2492	EN71-3	8.12		0.36
2131	EN71-3	5.10		-0.60	2497	EN71-3	9.37		0.76
2132	EN71-3	7.867	C	0.28	2500	EN71-3	7.234		0.08
2139	EN71-3	8.0308	C	0.33	2504	EN71-3	6.155		-0.27
2156	EN71-3	7.743		0.24	2532	EN71-3	6.5		-0.16
2159	EN71-3	6.665		-0.10	2553		----		----
2165	EN71-3	6.79		-0.06	2589	EN71-3	8.183		0.38
2184	EN71-3	6.88		-0.04	2590	EN71-3	4.201		-0.89
2190	EN71-3	9.47		0.79	2612	EN71-3	9.268		0.72
2201	EN71-3	6.20		-0.25	2615	EN71-3	7.62		0.20
2213	EN71-3	7.1		0.03	2645	EN71-3	6.25		-0.24
2225	EN71-3	7.4		0.13	2659	ISO8124-3	5.441		-0.49
2226	EN71-3	7.967		0.31	2667	EN71-3	7.3		0.10
2228	EN71-3	5.9400		-0.33	2669		----		----
2232	EN71-3	6.7513		-0.08	2680	EN71-3	7.6230		0.20
2234	EN71-3	7.71		0.23	2684		----		----
2236	EN71-3	6.483		-0.16	2690	EN71-3	7.809		0.26
2240	EN71-3	6.408		-0.19	2691		----		----
2243		----		----	2692	EN71-3	8.736		0.55
2245	EN71-3	6.440		-0.18	2694	EN71-3	7.5000		0.16
2246	EN71-3	7.645		0.21	2696	EN71-3	6.82		-0.05
2247	EN71-3	7.06		0.02	2697	EN71-3	6		-0.32
2253	EN71-3	7.62		0.20	2732	EN71-3	7.74		0.24
2254	EN71-3	9.018		0.64	2739		----		----
2256	EN71-3	7.3622		0.12	2741	EN71-3	8.3		0.42
2268	EN71-3	7.7019		0.23	2742		----		----
2269	EN71-3	6.922		-0.02	2744	EN71-3	8.1325		0.36
2272	EN71-3	7.1		0.03	3110	EN71-3	7.70		0.23
2277	EN71-3	7.2354		0.08	3116	EN71-3	6.85		-0.05
2279	EN71-3	6.8459		-0.05	3122	EN71-3	6	C	-0.32
2280	EN71-3	7.2		0.07	3124	EN71-3	<5	C	----
2282	EN71-3	4.428		-0.81	3146	EN71-3	8.23		0.39
2289	EN71-3	6.3		-0.22	3151	EN71-3	8.5140		0.48
2290	EN71-3	6.15		-0.27	3153	EN71-3	6.34		-0.21
2293	EN71-3	12.10	R(0.05)	1.62	3154	EN71-3	7.202		0.07
2294	EN71-3	4.529		-0.78	3172	EN71-3	7.9		0.29
2295	EN71-3	8		0.32	3176		----		----
2296	EN71-3	7.8979		0.29	3182	EN71-3	8.8		0.57
2303	EN71-3	8.928476		0.62	3190	EN71-3	6.2		-0.25
2370	EN71-3	<10		----	3191	EN71-3	8.1889	C	0.38
2372	EN71-3	<10		----	3197		----		----
2375	In house	3.90		-0.98	3200	EN71-3	8.13		0.36
2380	EN71-3	7.9713	C	0.31	3209	EN71-3	8.52		0.49
2385		----		----	3214	EN71-3	6.16		-0.26
2390	EN71-3	3.8	C	-1.01	3215	EN71-3	6.72		-0.09
2401	EN71-3	ND		----	3218	EN71-3	5.6		-0.44
2412	EN71-3	7.75		0.24	3220	EN71-3	1.3	R(0.05)	-1.81
2413		----		----	3225	EN71-3	7.440		0.14
2429	EN71-3	<5		----	3228	EN71-3	6.50		-0.16
2431	EN71-3	7.64		0.21	3233	EN71-3	8.2625		0.40
2432	EN71-3	4.7150		-0.72	3237	EN71-3	4.028		-0.94
2433	EN71-3	<10		----	3238	EN71-3	3.5600		-1.09
2442	EN71-3	10.074		0.98	3248	EN71-3	6.5		-0.16
normality		OK							
n		97							
outliers		2							
mean (n)		6.99							
st.dev. (n)		1.402							
R(calc.)		3.93							
R(RR prEN71-3:13)		8.81							

Lab 2132 first reported: 7.645  
 Lab 2139 first reported: 3.1867  
 Lab 2380 first reported: ND (detection limit CAT III is 10 mg/kg)  
 Lab 2390 first reported: 3.1 (reported as CAT III it should be ND)  
 Lab 3122 first reported: <1  
 Lab 3124 first reported: 3.343  
 Lab 3191 first reported: 10.8057



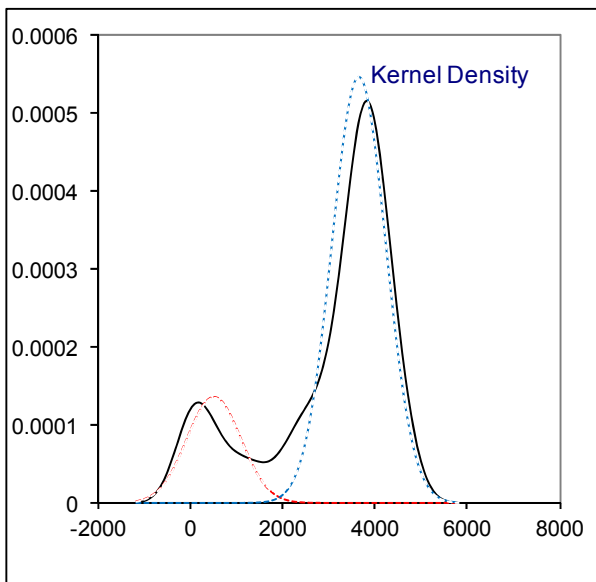
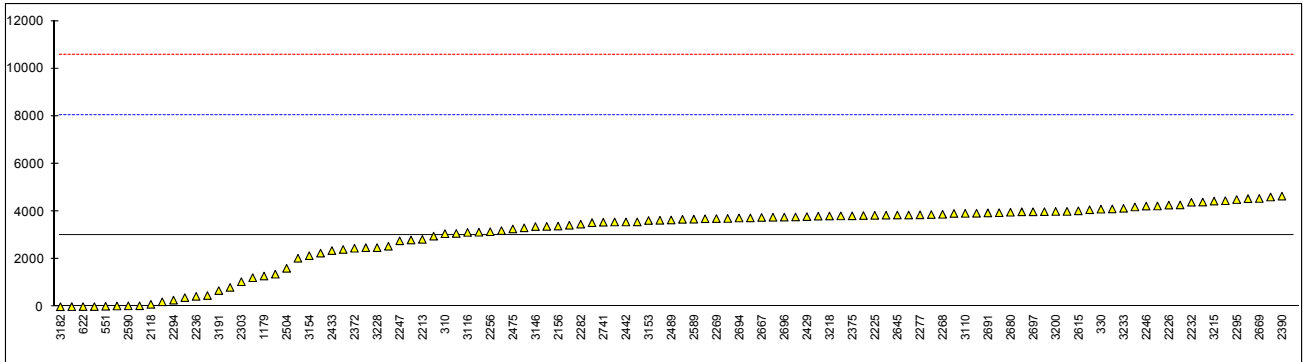
Determination of migration of Aluminium as Al on dried paint sample #16557; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	3070	C	-0.23	2459		-----		-----
330	EN71-3	4097.279		0.18	2465	EN71-3	3130		-0.20
551	EN71-3	27.53	ex,C	-1.44	2468	EN71-3	45.9	ex	-1.43
622	EN71-3	9.952	ex,C	-1.45	2471	EN71-3	3844.62		0.08
1179	EN71-3	1292.6	ex	-0.93	2475	EN71-3	3266.3		-0.15
2115	EN71-3	473.39	ex,C	-1.26	2482	EN71-3	4452.42		0.32
2118	EN71-3	104.9417	ex	-1.41	2489	EN71-3	3644.66		0.00
2129	EN71-3	<10	C	<-1.45	2492		-----		-----
2131	EN71-3	36.45	ex	-1.43	2497	EN71-3	3992.81		0.14
2132	EN71-3	4539	C	0.36	2500	EN71-3	3560.212		-0.03
2139	EN71-3	817.3759	ex,C	-1.12	2504	EN71-3	1614.261	ex	-0.81
2156	EN71-3	3387	C	-0.10	2532	EN71-3	2967	C	-0.27
2159	EN71-3	387.160	ex	-1.30	2553	EN71-3	4395		0.30
2165	EN71-3	2406.98		-0.49	2589	EN71-3	3680		0.02
2184	EN71-3	2542		-0.44	2590	EN71-3	43.101	ex,C	-1.43
2190	EN71-3	4608.42		0.39	2612	EN71-3	4003.7		0.15
2201	EN71-3	3854		0.09	2615	EN71-3	4029.11		0.16
2213	EN71-3	2832	C	-0.32	2645	EN71-3	3851.48		0.08
2225	EN71-3	3841.0		0.08	2659		-----		-----
2226	EN71-3	4266.371		0.25	2667	EN71-3	3750.3		0.04
2228		-----		-----	2669	EN71-3	4547		0.36
2232	EN71-3	4389.6266		0.30	2680	EN71-3	3970.17		0.13
2234	EN71-3	3772.7		0.05	2684	EN71-3	4072.38		0.17
2236	EN71-3	441.6	ex	-1.27	2690	EN71-3	4109.1		0.19
2240	EN71-3	2253		-0.55	2691	EN71-3	3942		0.12
2243	EN71-3	4231.58		0.24	2692	EN71-3	3918.38		0.11
2245	EN71-3	3816.191		0.07	2694	EN71-3	3728.3135		0.04
2246	EN71-3	4226	C	0.23	2696	EN71-3	3762.82		0.05
2247	EN71-3	2771.24	C	-0.35	2697	EN71-3	3989		0.14
2253	EN71-3	3760.36		0.05	2732	EN71-3	3732.8		0.04
2254	EN71-3	8.593	ex	-1.45	2739	EN71-3	3987.49		0.14
2256	EN71-3	3151.4715		-0.19	2741	EN71-3	3550.35		-0.04
2268	EN71-3	3882.6		0.10	2742	EN71-3	3805.3		0.07
2269	EN71-3	3702.447		0.03	2744	EN71-3	3532.0012		-0.04
2272	EN71-3	2038.2		-0.64	3110	EN71-3	3922.67		0.11
2277	EN71-3	3859.6619		0.09	3116	EN71-3	3123.68		-0.21
2279	EN71-3	4191.47		0.22	3122	EN71-3	4274		0.25
2280	EN71-3	3697.8		0.02	3124	EN71-3	<50	C	<-1.43
2282	EN71-3	3470.3		-0.07	3146	EN71-3	3370		-0.11
2289	EN71-3	3708.5		0.03	3151	EN71-3	3948.98		0.12
2290	EN71-3	3377.1		-0.10	3153	EN71-3	3622.2		-0.01
2293		-----		-----	3154	EN71-3	2146		-0.59
2294	EN71-3	283.111	ex,C	-1.34	3172		-----		-----
2295	EN71-3	4501	C	0.34	3176	EN71-3	1223.37	ex,C	-0.96
2296	EN71-3	3316.7787		-0.13	3182	EN71-3	7.96	ex,C	-1.45
2303	EN71-3	1055.754	ex	-1.03	3190	EN71-3	3425		-0.09
2370	EN71-3	<50		<-1.43	3191	EN71-3	682.6089	ex	-1.18
2372	EN71-3	2460		-0.47	3197		-----		-----
2375	In house	3818.52		0.07	3200	EN71-3	4003.23		0.15
2380	EN71-3	2484.3903		-0.46	3209	EN71-3	3925.5		0.11
2385	EN71-3	3082		-0.22	3214	EN71-3	3832.2		0.08
2390	EN71-3	4645.32		0.40	3215	EN71-3	4435.23		0.32
2401	EN71-3	3673		0.01	3218	EN71-3	3811.3		0.07
2412	EN71-3	3871		0.09	3220	EN71-3	127422.9	R(0.01)	49.31
2413	In house	210.39	ex,C	-1.37	3225	EN71-3	3564.166		-0.03
2429	EN71-3	3785.22		0.06	3228	EN71-3	2485.0		-0.46
2431	EN71-3	3633.27		0.00	3233	EN71-3	4134.3871		0.20
2432	EN71-3	2806.2327	C	-0.33	3237	EN71-3	1371.767	ex,C	-0.90
2433	EN71-3	2363.08		-0.51	3238	EN71-3	<20		<-1.44
2442	EN71-3	3560.31		-0.03	3248	EN71-3	3200		-0.17

normality OK  
n 88  
outliers 1 (+21ex)  
mean (n) 3638.44  
st.dev. (n) 598.563  
R(calc.) 1675.98  
R(RR prEN71-3:13) 7029.46

All test results  
normality OK  
n 109  
outliers 1  
mean (n) 3030.55  
st.dev. (n) 1379.967  
R(calc.) 3863.91  
R(RR prEN71-3:13) 5855.03

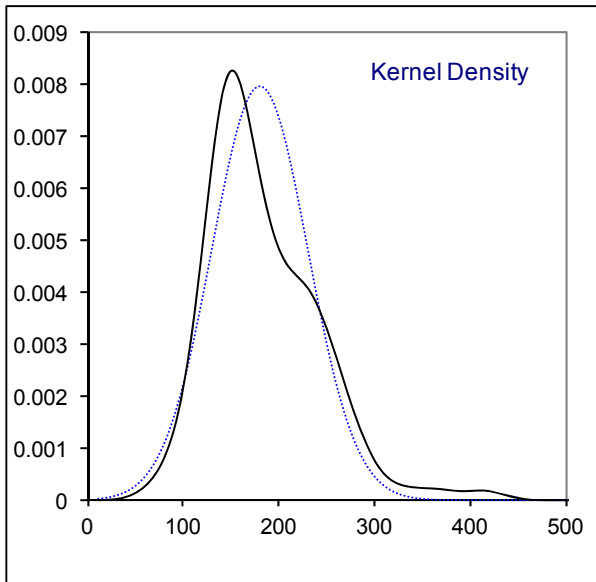
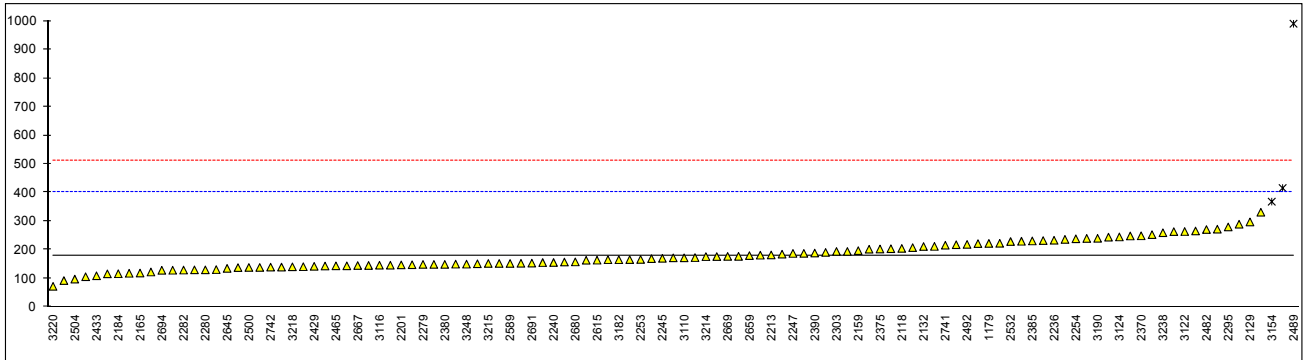
Lab 310 first reported: 0.979	Lab 2294 first reported: 197.507
Lab 551 first reported: 22.4	Lab 2295 first reported: 516
Lab 622 first reported: 0.000	Lab 2413 first reported: <10
Lab 2115 first reported: 10.27	Lab 2432 first reported: 2.03
Lab 2129 first reported: <100	Lab 2532 first reported: n.d.
Lab 2132 first reported: 422.60	Lab 2590 first reported: 169.501
Lab 2139 first reported: <5	Lab 3124 first reported: 1.213
Lab 2156 first reported: 3.185	Lab 3176 first reported: 1433.87
Lab 2213 first reported: <5	Lab 3182 first reported: <5
Lab 2246 first reported: 422.6	Lab 3237 first reported: 1401.061
Lab 2247 first reported: ND	



## Determination of migration of Antimony as Sb on dried paint sample #16557; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	263.6		0.75	2459		----		----
330	EN71-3	415.769	R(0.01)	2.13	2465	EN71-3	144		-0.33
551	EN71-3	212.1		0.29	2468	EN71-3	207.7	C	0.25
622	EN71-3	236.5595		0.51	2471	EN71-3	172.83		-0.07
1179	EN71-3	222.53		0.38	2475	EN71-3	165.9		-0.13
2115	EN71-3	229.9		0.45	2482	EN71-3	270.90		0.82
2118	EN71-3	204.9128		0.22	2489	EN71-3	990	C,R(0.01)	7.34
2129	EN71-3	297.50		1.06	2492	EN71-3	219.04		0.35
2131	EN71-3	289.6		0.99	2497	EN71-3	221.78		0.37
2132	EN71-3	211.6	C	0.28	2500	EN71-3	138.365		-0.38
2139	EN71-3	194.3706	C	0.12	2504	EN71-3	97.752		-0.75
2156	EN71-3	92.63	C	-0.80	2532	EN71-3	229	C	0.44
2159	EN71-3	197.35		0.15	2553	EN71-3	130		-0.46
2165	EN71-3	118.98		-0.56	2589	EN71-3	152.6		-0.25
2184	EN71-3	116.4		-0.58	2590		----		----
2190	EN71-3	265.95		0.77	2612	EN71-3	155.5		-0.23
2201	EN71-3	147.3		-0.30	2615	EN71-3	163.94		-0.15
2213	EN71-3	182.2	C	0.01	2645	EN71-3	135.29		-0.41
2225	EN71-3	145.4		-0.32	2659	ISO8124-3	179.951	C	-0.01
2226	EN71-3	184.745		0.04	2667	EN71-3	145.3		-0.32
2228	EN71-3	118.0500		-0.57	2669	EN71-3	177		-0.03
2232	EN71-3	130.91		-0.45	2680	EN71-3	157.839		-0.21
2234	EN71-3	147.9		-0.30	2684	EN71-3	169.24		-0.10
2236	EN71-3	233.4		0.48	2690	EN71-3	138.4		-0.38
2240	EN71-3	155.9		-0.22	2691	EN71-3	153.5		-0.25
2243	EN71-3	176.626		-0.04	2692	EN71-3	152.560		-0.26
2245	EN71-3	170.264		-0.09	2694	EN71-3	128.6059		-0.47
2246	EN71-3	202.20		0.20	2696	EN71-3	128.68		-0.47
2247	EN71-3	187.47		0.06	2697	EN71-3	172		-0.08
2253	EN71-3	166.32		-0.13	2732	EN71-3	149.17		-0.29
2254	EN71-3	238.691		0.53	2739	EN71-3	157.33		-0.21
2256	EN71-3	143.3679		-0.34	2741	EN71-3	216.27		0.32
2268	EN71-3	138.02		-0.39	2742	EN71-3	139.6		-0.37
2269	EN71-3	139.764		-0.37	2744	EN71-3	252.9750		0.66
2272		----		----	3110	EN71-3	172.19		-0.08
2277	EN71-3	232.5483		0.47	3116	EN71-3	146.33		-0.31
2279	EN71-3	148.92		-0.29	3122	EN71-3	264		0.76
2280	EN71-3	130.1		-0.46	3124	EN71-3	245		0.58
2282	EN71-3	129.3		-0.47	3146	EN71-3	204		0.21
2289	EN71-3	141		-0.36	3151	EN71-3	163.75		-0.15
2290	EN71-3	181.3		0.01	3153	EN71-3	153.1		-0.25
2293	EN71-3	165.60		-0.14	3154	EN71-3	368.4	R(0.05)	1.70
2294	EN71-3	222.812		0.38	3172		----		----
2295	EN71-3	280	C	0.90	3176	EN71-3	244.39		0.58
2296	EN71-3	331.3778		1.37	3182	EN71-3	165.6		-0.14
2303	EN71-3	194.2931		0.12	3190	EN71-3	240.4		0.54
2370	EN71-3	249.0		0.62	3191	EN71-3	146.4206		-0.31
2372	EN71-3	218		0.34	3197		----		----
2375	In house	203	C	0.20	3200	EN71-3	144.22		-0.33
2380	EN71-3	149.2606		-0.29	3209	EN71-3	150.0		-0.28
2385	EN71-3	231		0.46	3214	EN71-3	176.3		-0.04
2390	EN71-3	188.73		0.07	3215	EN71-3	152.42		-0.26
2401	EN71-3	122.5		-0.53	3218	EN71-3	140.7		-0.36
2412	EN71-3	151.2		-0.27	3220	EN71-3	72.39		-0.98
2413	In house	272.24		0.83	3225	EN71-3	191.017		0.09
2429	EN71-3	142.36		-0.35	3228	EN71-3	116.0		-0.59
2431	EN71-3	177.29		-0.03	3233	EN71-3	105.9352		-0.68
2432	EN71-3	239.8800		0.54	3237	EN71-3	187.643		0.06
2433	EN71-3	109.29		-0.65	3238	EN71-3	259.8000		0.72
2442	EN71-3	248.39		0.61	3248	EN71-3	150		-0.28
	normality	OK							
	n	112							
	outliers	3							
	mean (n)	180.68							
	st.dev. (n)	50.0974							
	R(calc.)	140.27							
	R(RR prEN71-3:13)	308.61							

Lab 2132 first reported: 202.20	Lab 2375 first reported: 345.94
Lab 2139 first reported: 252.8809	Lab 2468 first reported: 212.8
Lab 2159 first reported: 278.0	Lab 2489 first reported: 816
Lab 2213 first reported: 411	Lab 2532 first reported: 255
Lab 2295 first reported: 143.4	Lab 2659 first reported: 71.981



## Determination of migration of Cadmium as Cd on dried paint sample #16557; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	218.5	C	-0.31	2459		-----		-----
330	EN71-3	282.236		0.12	2465	EN71-3	233.7		-0.21
551	EN71-3	145.3	ex,C	-0.81	2468	EN71-3	168.7	ex	-0.65
622	EN71-3	136.382	ex,C	-0.87	2471	EN71-3	271.739		0.05
1179	EN71-3	260.52		-0.03	2475	EN71-3	242.0		-0.15
2115	EN71-3	172.5		-0.62	2482	EN71-3	305.22		0.27
2118	EN71-3	177.8995		-0.59	2489	EN71-3	314.18		0.33
2129	EN71-3	156.5	ex,C	-0.73	2492	EN71-3	201.128		-0.43
2131	EN71-3	182.0		-0.56	2497	EN71-3	331.59		0.45
2132	EN71-3	295.9	C	0.21	2500	EN71-3	245.335		-0.13
2139	EN71-3	246.3652	C	-0.13	2504	EN71-3	225.462	C	-0.27
2156	EN71-3	258	C	-0.05	2532	EN71-3	362	C	0.65
2159	EN71-3	320.375		0.37	2553	EN71-3	270		0.03
2165	EN71-3	251.96		-0.09	2589	EN71-3	270.6		0.04
2184	EN71-3	242.7		-0.15	2590	EN71-3	124.502	ex	-0.95
2190	EN71-3	331.65		0.45	2612	EN71-3	570.0	R(0.01)	2.06
2201	EN71-3	251.3		-0.09	2615	EN71-3	250.20		-0.10
2213	EN71-3	198.2	C	-0.45	2645	EN71-3	281.49		0.11
2225	EN71-3	282.4		0.12	2659	ISO8124-3	131.456	ex,C	-0.90
2226	EN71-3	265.213		0.00	2667	EN71-3	282.3		0.12
2228	EN71-3	209.3500		-0.37	2669	EN71-3	241		-0.16
2232	EN71-3	276.8642		0.08	2680	EN71-3	251.652		-0.09
2234	EN71-3	272.1		0.05	2684	EN71-3	244.18		-0.14
2236	EN71-3	303.3		0.26	2690	EN71-3	280.9		0.11
2240	EN71-3	238.0	C	-0.18	2691	EN71-3	258.1		-0.05
2243	EN71-3	246.560		-0.12	2692	EN71-3	275.872		0.07
2245	EN71-3	268.236		0.02	2694	EN71-3	261.500		-0.02
2246	EN71-3	270.00		0.03	2696	EN71-3	256.95		-0.05
2247	EN71-3	196.5		-0.46	2697	EN71-3	282		0.12
2253	EN71-3	255.83		-0.06	2732	EN71-3	272.83		0.05
2254	EN71-3	125.561	ex,C	-0.94	2739	EN71-3	265.42		0.00
2256	EN71-3	235.5120		-0.20	2741	EN71-3	272.66		0.05
2268	EN71-3	280.80		0.11	2742	EN71-3	262.9		-0.01
2269	EN71-3	281.852		0.11	2744	EN71-3	319.0925		0.37
2272	EN71-3	194		-0.48	3110	EN71-3	297.31		0.22
2277	EN71-3	259.1325		-0.04	3116	EN71-3	252.73		-0.08
2279	EN71-3	267.31		0.02	3122	EN71-3	270.4		0.04
2280	EN71-3	278.7		0.09	3124	EN71-3	176.5		-0.60
2282	EN71-3	260.95		-0.03	3146	EN71-3	300		0.24
2289	EN71-3	242		-0.15	3151	EN71-3	291.90		0.18
2290	EN71-3	291.5		0.18	3153	EN71-3	265.6		0.00
2293	EN71-3	269.30		0.03	3154	EN71-3	262.6		-0.02
2294	EN71-3	293.795		0.19	3172		-----		-----
2295	EN71-3	269	C	0.03	3176	EN71-3	276.83		0.08
2296	EN71-3	344.4912		0.54	3182	EN71-3	149.24	ex,C	-0.78
2303	EN71-3	225.8599		-0.26	3190	EN71-3	253.8		-0.07
2370	EN71-3	163.0	ex	-0.69	3191	EN71-3	246.6937		-0.12
2372	EN71-3	283		0.12	3197		-----		-----
2375	In house	292.23		0.18	3200	EN71-3	281.00		0.11
2380	EN71-3	291.3221		0.18	3209	EN71-3	279.0		0.09
2385	EN71-3	314		0.33	3214	EN71-3	293.0		0.19
2390	EN71-3	238	C	-0.18	3215	EN71-3	335.52		0.48
2401	EN71-3	223.1		-0.28	3218	EN71-3	266.8		0.01
2412	EN71-3	267.2		0.02	3220	EN71-3	35.37	ex	-1.55
2413	In house	138.40	ex	-0.85	3225	EN71-3	273.741		0.06
2429	EN71-3	254.18		-0.07	3228	EN71-3	246.0		-0.13
2431	EN71-3	289.84		0.17	3233	EN71-3	290.4205		0.17
2432	EN71-3	303.2742	C	0.26	3237	EN71-3	260.556		-0.03
2433	EN71-3	237.53		-0.18	3238	EN71-3	151.0000	ex	-0.77
2442	EN71-3	277.11		0.08	3248	EN71-3	260		-0.03

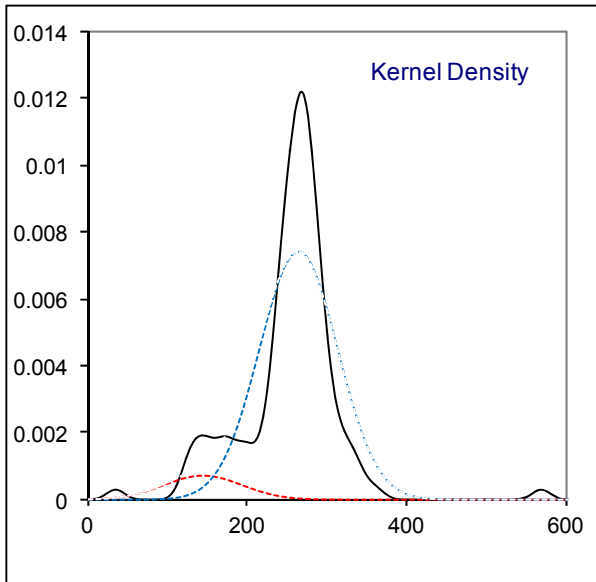
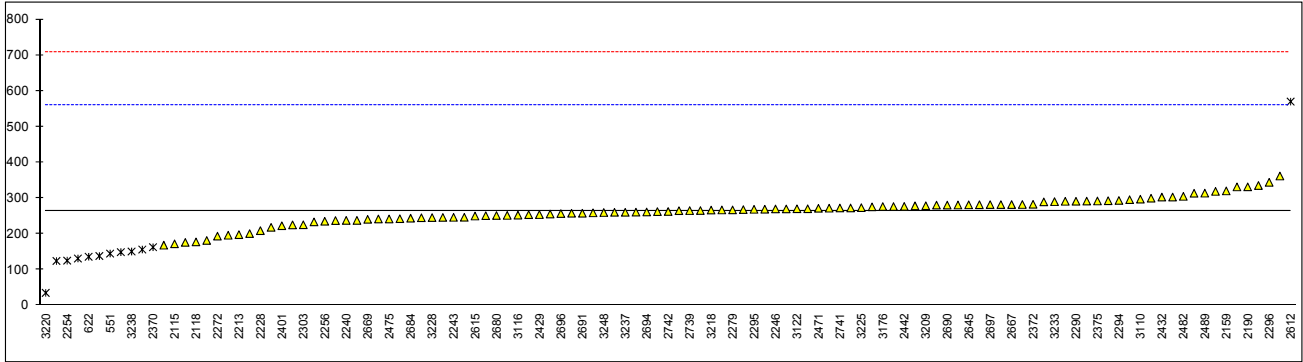
All test results

normality OK  
n 104  
outliers 1 (+12ex)  
mean (n) 264.92  
st.dev. (n) 35.155  
R(calc.) 98.43  
R(RR prEN71-3:13) 415.40

normality OK  
n 115  
outliers 2  
mean (n) 253.41  
st.dev. (n) 48.990  
R(calc.) 137.17  
R(RR prEN71-3:13) 397.34



Lab 310 first reported: 159.8	Lab 2240 first reported: 139.8
Lab 551 first reported: 132.22	Lab 2295 first reported: 146
Lab 622 first reported: 138.784	Lab 2390 first reported: 356.54
Lab 2129 first reported: 139.79	Lab 2432 first reported: 157.0433
Lab 2132 first reported: 270.00	Lab 2504 first reported: 121.988
Lab 2139 first reported: 145.9716	Lab 2532 first reported: 157
Lab 2156 first reported: 259.8	Lab 2659 first reported: 92.019
Lab 2213 first reported: 199	Lab 3182 first reported: 117.0



## Determination of migration of Chromium as Cr on dried paint sample #16557; results in mg/kg

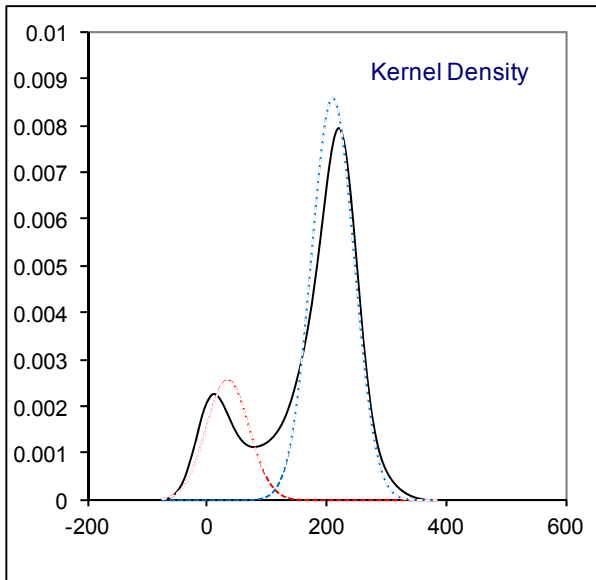
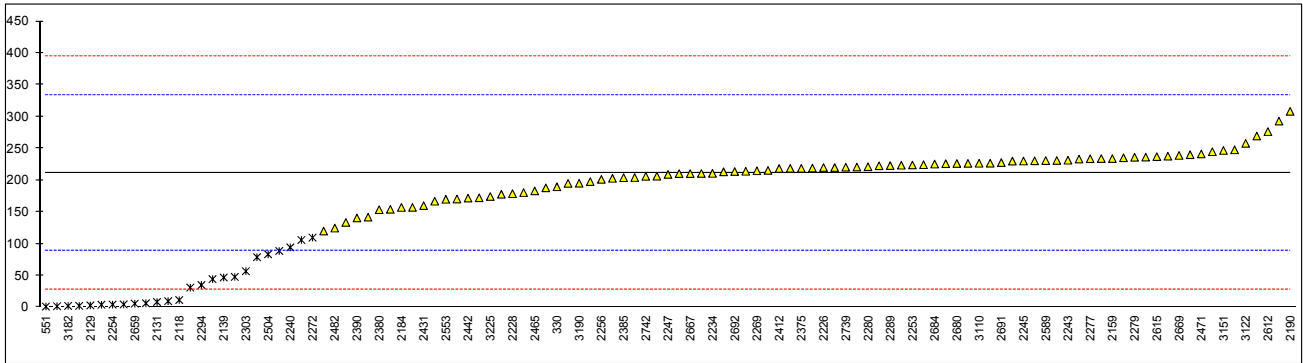
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	203	C	-0.13	2459		-----		-----
330	EN71-3	189.641		-0.35	2465	EN71-3	183.3		-0.45
551	EN71-3	1.31	ex,C	-3.43	2468	EN71-3	6.5	ex,C	-3.34
622	EN71-3	9.7281	ex,C	-3.29	2471	EN71-3	241.386		0.50
1179	EN71-3	78.857	ex	-2.16	2475	EN71-3	133.57		-1.26
2115	EN71-3	31.04	ex,C	-2.94	2482	EN71-3	124.73	C	-1.41
2118	EN71-3	11.4628	ex	-3.26	2489	EN71-3	226.57		0.26
2129	EN71-3	3.13	ex,C	-3.40	2492		-----		-----
2131	EN71-3	8.45	ex	-3.31	2497	EN71-3	154.19		-0.93
2132	EN71-3	237.8	C	0.44	2500	EN71-3	204.227		-0.11
2139	EN71-3	47.0745	ex,C	-2.68	2504	EN71-3	83.471	ex	-2.08
2156	EN71-3	177.9	C	-0.54	2532	EN71-3	195	C	-0.26
2159	EN71-3	234.140		0.38	2553	EN71-3	170		-0.67
2165	EN71-3	106.03	ex	-1.71	2589	EN71-3	230.9		0.33
2184	EN71-3	157.2		-0.88	2590	EN71-3	4.622	ex,C	-3.37
2190	EN71-3	308.27		1.59	2612	EN71-3	276.5		1.07
2201	EN71-3	224.4		0.22	2615	EN71-3	237.11		0.43
2213	EN71-3	188	C	-0.37	2645	EN71-3	219.14		0.14
2225	EN71-3	214.1		0.05	2659	ISO8124-3	5.850	ex	-3.35
2226	EN71-3	219.927		0.15	2667	EN71-3	210.4		-0.01
2228	EN71-3	178.8500		-0.52	2669	EN71-3	239		0.46
2232	EN71-3	172.37		-0.63	2680	EN71-3	226.354		0.25
2234	EN71-3	210.8		0.00	2684	EN71-3	225.43		0.24
2236	EN71-3	44.4	ex	-2.72	2690	EN71-3	231.1		0.33
2240	EN71-3	94.35	ex	-1.91	2691	EN71-3	227.7		0.28
2243	EN71-3	231.459		0.34	2692	EN71-3	213.762		0.05
2245	EN71-3	230.215		0.32	2694	EN71-3	226.0703		0.25
2246	EN71-3	233.30		0.37	2696	EN71-3	220.75		0.16
2247	EN71-3	209.15	C	-0.03	2697	EN71-3	234		0.38
2253	EN71-3	224.01		0.22	2732	EN71-3	210.37		-0.01
2254	EN71-3	4.390	ex	-3.38	2739	EN71-3	220.52		0.16
2256	EN71-3	201.3072		-0.16	2741	EN71-3	210.61		0.00
2268	EN71-3	213.27		0.04	2742	EN71-3	206.2		-0.08
2269	EN71-3	214.814		0.07	2744	EN71-3	206.4124		-0.07
2272	EN71-3	109.8	ex	-1.65	3110	EN71-3	226.68		0.26
2277	EN71-3	233.8544		0.38	3116	EN71-3	222.75		0.20
2279	EN71-3	236.18		0.41	3122	EN71-3	258		0.77
2280	EN71-3	221.2		0.17	3124	EN71-3	<4	C	<-3.38
2282	EN71-3	218.65		0.13	3146	EN71-3	167		-0.72
2289	EN71-3	223		0.20	3151	EN71-3	246.82		0.59
2290	EN71-3	244.8		0.56	3153	EN71-3	236.4		0.42
2293	EN71-3	240.20		0.48	3154	EN71-3	235.4		0.40
2294	EN71-3	35.155	ex,C	-2.87	3172		-----		-----
2295	EN71-3	293	C	1.34	3176	EN71-3	88.756	ex	-2.00
2296	EN71-3	157.2693		-0.88	3182	EN71-3	2.30	ex,C	-3.41
2303	EN71-3	56.91254	ex	-2.52	3190	EN71-3	195.3		-0.25
2370	EN71-3	4.1	ex	-3.38	3191	EN71-3	47.8908	ex	-2.66
2372	EN71-3	142		-1.13	3197		-----		-----
2375	In house	218.72		0.13	3200	EN71-3	230.13		0.32
2380	EN71-3	153.6680		-0.93	3209	EN71-3	215.5		0.08
2385	EN71-3	204		-0.11	3214	EN71-3	247.8		0.60
2390	EN71-3	140.67		-1.15	3215	EN71-3	226.81		0.26
2401	EN71-3	197.8		-0.21	3218	EN71-3	230.5		0.32
2412	EN71-3	218.5		0.13	3220	EN71-3	1.8	ex	-3.42
2413	In house	<10		<-3.28	3225	EN71-3	174.383		-0.60
2429	EN71-3	223.63		0.21	3228	EN71-3	120.0		-1.49
2431	EN71-3	160.12		-0.83	3233	EN71-3	170.4814		-0.66
2432	EN71-3	269.5937	C	0.96	3237		-----		-----
2433	EN71-3	180.58		-0.49	3238	EN71-3	2.3500	ex	-3.41
2442	EN71-3	171.9		-0.64	3248	EN71-3	220		0.15

All test results

normality OK  
n 88  
outliers 0 (+25ex)  
mean (n) 210.82  
st.dev. (n) 34.756  
R(calc.) 97.32  
R(RR prEN71-3:13) 171.19

normality OK  
n 113  
outliers 0  
mean (n) 172.06  
st.dev. (n) 81.114  
R(calc.) 227.12  
R(RR prEN71-3:13) 139.71

Lab 310 first reported: 2.598	Lab 2294 first reported: 26.968
Lab 551 first reported: ND	Lab 2295 first reported: 76.8
Lab 622 first reported: 2.0092	Lab 2432 first reported: 3.4
Lab 2115 first reported: 5.62	Lab 2468 first reported: 14.4
Lab 2129 first reported: 2.02	Lab 2782 first reported: 322.88
Lab 2132 first reported: 233.30	Lab 2532 first reported: not detected
Lab 2139 first reported: <5	Lab 2590 first reported: 10.32
Lab 2156 first reported: 19.95	Lab 3124 first reported: 2.207
Lab 2213 first reported: <1	Lab 3182 first reported: 2.6
Lab 2247 first reported: ND	



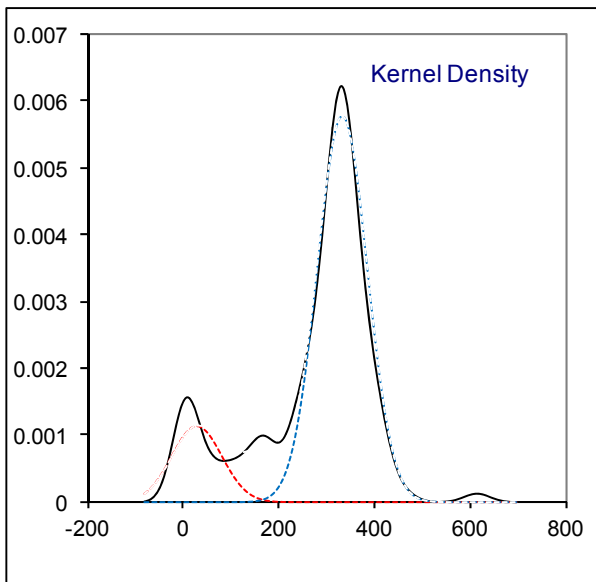
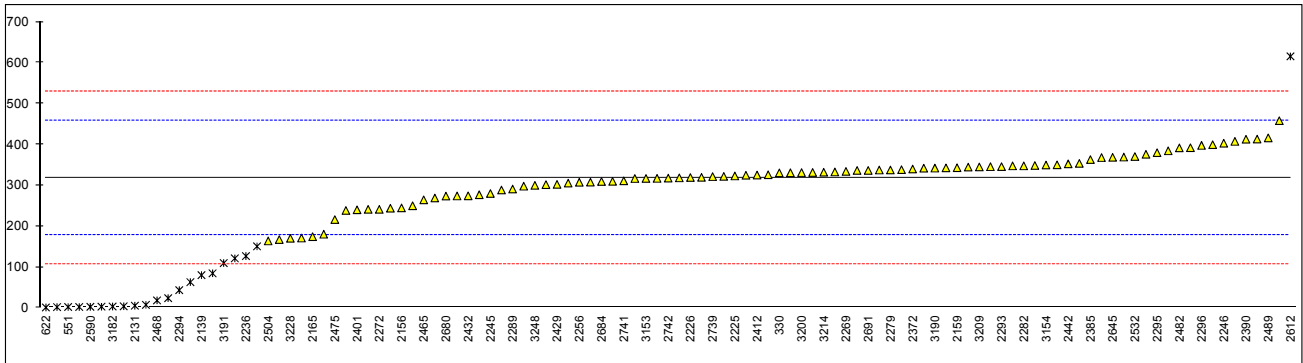
## Determination of migration of Lead as Pb on dried paint sample #16557; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	348	C	0.42	2459		-----		-----
330	EN71-3	330.659		0.17	2465	EN71-3	264.6		-0.77
551	EN71-3	2.48	ex,C	-4.51	2468	EN71-3	18.7	ex	-4.28
622	EN71-3	1.4127	ex,C	-4.53	2471	EN71-3	274.119		-0.64
1179	EN71-3	167.36		-2.16	2475	EN71-3	216.2		-1.46
2115	EN71-3	84.96	ex,C	-3.34	2482	EN71-3	391.75		1.04
2118	EN71-3	24.1919	ex	-4.20	2489	EN71-3	416.09		1.39
2129	EN71-3	2.3	ex,C	-4.52	2492	EN71-3	63.41	ex	-3.64
2131	EN71-3	5.73	ex	-4.47	2497	EN71-3	369.19		0.72
2132	EN71-3	407.6	C	1.27	2500	EN71-3	309.876		-0.12
2139	EN71-3	80.4965	ex,C	-3.40	2504	EN71-3	164.054		-2.21
2156	EN71-3	244.8	C	-1.05	2532	EN71-3	370.5	C	0.74
2159	EN71-3	343.24		0.35	2553	EN71-3	250.12		-0.98
2165	EN71-3	174.59		-2.06	2589	EN71-3	308		-0.15
2184	EN71-3	180.5		-1.97	2590	EN71-3	2.931	ex,C	-4.51
2190	EN71-3	458.12		1.99	2612	EN71-3	615.5	R(0.01)	4.24
2201	EN71-3	305.6		-0.19	2615	EN71-3	331.54		0.18
2213	EN71-3	298	C	-0.29	2645	EN71-3	368.57		0.71
2225	EN71-3	323.0		0.06	2659	ISO8124-3	7.791	ex	-4.44
2226	EN71-3	319.275		0.01	2667	EN71-3	318.3		0.00
2228	EN71-3	241.3000		-1.10	2669	EN71-3	326		0.11
2232	EN71-3	244.04		-1.07	2680	EN71-3	273.847		-0.64
2234	EN71-3	317.1		-0.02	2684	EN71-3	309.38		-0.13
2236	EN71-3	127.0	ex	-2.74	2690	EN71-3	342.8		0.35
2240	EN71-3	150.8	ex	-2.40	2691	EN71-3	336.6		0.26
2243	EN71-3	337.509		0.27	2692	EN71-3	347.645		0.41
2245	EN71-3	280.143		-0.55	2694	EN71-3	336.5613		0.26
2246	EN71-3	403.20		1.21	2696	EN71-3	324.65		0.09
2247	EN71-3	277.12	C	-0.59	2697	EN71-3	376		0.82
2253	EN71-3	288.64		-0.43	2732	EN71-3	322.04		0.05
2254	EN71-3	4.319	ex	-4.49	2739	EN71-3	321.46		0.04
2256	EN71-3	307.6535		-0.16	2741	EN71-3	310.99		-0.11
2268	EN71-3	330.82		0.17	2742	EN71-3	317.8		-0.01
2269	EN71-3	334.262		0.22	2744	EN71-3	384.4350		0.94
2272	EN71-3	241.3		-1.10	3110	EN71-3	342.13		0.34
2277	EN71-3	345.6683		0.39	3116	EN71-3	338.38		0.28
2279	EN71-3	337.63		0.27	3122	EN71-3	344.7		0.37
2280	EN71-3	353.8		0.50	3124	EN71-3	<2	C	<-4.52
2282	EN71-3	347.68		0.41	3146	EN71-3	368		0.71
2289	EN71-3	291		-0.39	3151	EN71-3	392.11		1.05
2290	EN71-3	348.6		0.43	3153	EN71-3	317.0		-0.02
2293	EN71-3	345.80		0.39	3154	EN71-3	349.8		0.45
2294	EN71-3	43.645	ex,C	-3.93	3172		-----		-----
2295	EN71-3	380	C	0.88	3176	EN71-3	238.74		-1.14
2296	EN71-3	397.7533		1.13	3182	EN71-3	3.71	ex,C	-4.50
2303	EN71-3	121.4452	ex	-2.82	3190	EN71-3	342.2		0.34
2370	EN71-3	<10		<-4.41	3191	EN71-3	109.9603	ex	-2.98
2372	EN71-3	340		0.31	3197		-----		-----
2375	In house	399.51		1.16	3200	EN71-3	331.24		0.18
2380	EN71-3	269.1995		-0.71	3209	EN71-3	345.0		0.38
2385	EN71-3	363		0.63	3214	EN71-3	332.2		0.19
2390	EN71-3	412.77		1.34	3215	EN71-3	413.23		1.35
2401	EN71-3	240.2		-1.12	3218	EN71-3	301.8		-0.24
2412	EN71-3	325.3		0.10	3220	EN71-3	Not detect.		-----
2413	In house	<10		<-4.41	3225	EN71-3	316.782		-0.03
2429	EN71-3	302.44		-0.23	3228	EN71-3	170.5		-2.12
2431	EN71-3	319.6		0.01	3233	EN71-3	350.1077		0.45
2432	EN71-3	274.3984	C	-0.63	3237	EN71-3	171.151		-2.11
2433	EN71-3	332.84		0.20	3238	EN71-3	3.2700	ex	-4.50
2442	EN71-3	352.65		0.49	3248	EN71-3	300		-0.27

normality OK  
n 93  
outliers 1 (+19ex)  
mean (n) 318.62  
st.dev. (n) 59.400  
R(calc.) 166.32  
R(RR prEN71-3:13) 196.27

All test results  
normality OK  
n 112  
outliers 1  
mean (n) 272.24  
st.dev. (n) 118.239  
R(calc.) 331.07  
R(RR prEN71-3:13) 167.70

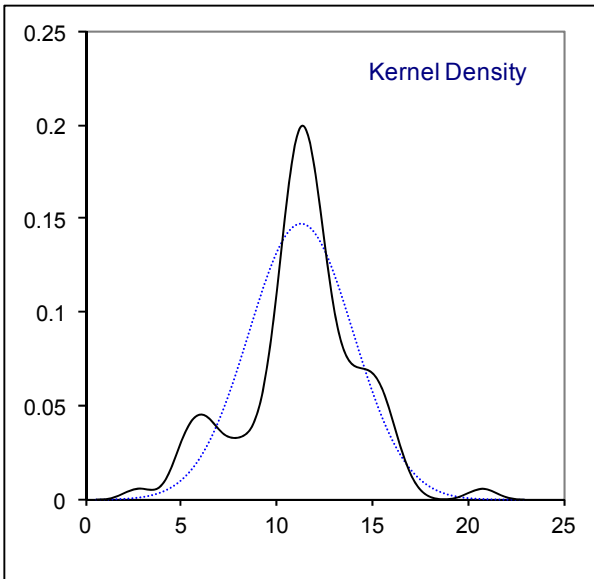
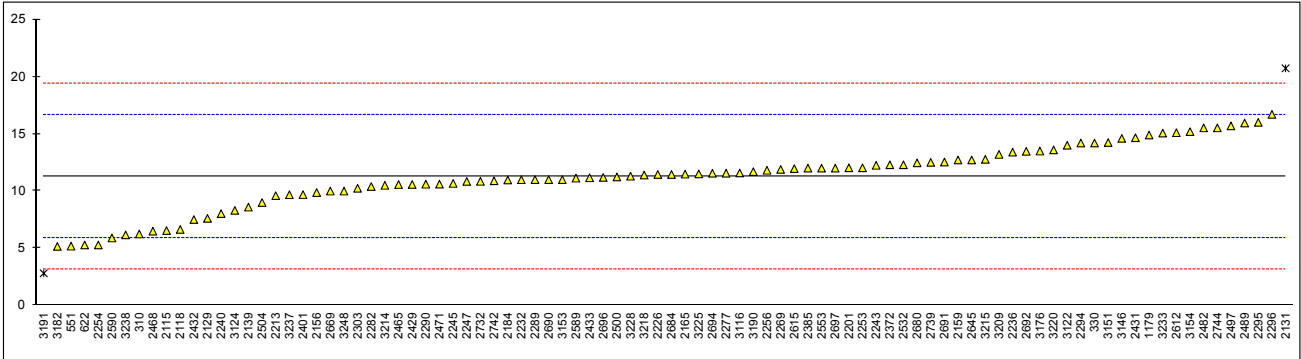
Lab 310 first reported: 1.546	Lab 2247 first reported: ND
Lab 551 first reported: ND	Lab 2294 first reported: 18.684
Lab 622 first reported: 2.0043	Lab 2295 first reported: 115
Lab 2115 first reported: 3.81	Lab 2432 first reported: 1.94
Lab 2129 first reported: 2.80	Lab 2532 first reported: not detected
Lab 2132 first reported: 403.20	Lab 2590 first reported: 17.302
Lab 2139 first reported: <5	Lab 3124 first reported: 1.403
Lab 2156 first reported: 2.907	Lab 3182 first reported: <5
Lab 2213 first reported: <1	



## Determination of migration of Manganese as Mn on dried paint sample #16557; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	6.25		-1.86	2459		----		----
330	EN71-3	14.197		1.08	2465	EN71-3	10.57		-0.26
551	EN71-3	5.19	C	-2.25	2468	EN71-3	6.5	C	-1.77
622	EN71-3	5.2939	C	-2.21	2471	EN71-3	10.6086		-0.25
1179	EN71-3	14.90		1.34	2475	EN71-3	<500		----
2115	EN71-3	6.55		-1.75	2482	EN71-3	15.52		1.57
2118	EN71-3	6.6472		-1.71	2489	EN71-3	15.95		1.72
2129	EN71-3	7.61		-1.36	2492		----		----
2131	EN71-3	20.72	R(0.05)	3.49	2497	EN71-3	15.69	C	1.63
2132	EN71-3	ND		----	2500	EN71-3	11.234		-0.02
2139	EN71-3	8.5993	C	-0.99	2504	EN71-3	8.996		-0.84
2156	EN71-3	9.87	C	-0.52	2532	EN71-3	12.3	C	0.38
2159	EN71-3	12.715		0.53	2553	EN71-3	12		0.27
2165	EN71-3	11.48		0.07	2589	EN71-3	11.13		-0.06
2184	EN71-3	10.97		-0.11	2590	EN71-3	5.902		-1.99
2190	EN71-3	<50		----	2612	EN71-3	15.10		1.41
2201	EN71-3	12.03		0.28	2615	EN71-3	11.96		0.25
2213	EN71-3	9.6	C	-0.62	2645	EN71-3	12.72		0.53
2225	EN71-3	<25		----	2659		----		----
2226	EN71-3	11.449		0.06	2667	EN71-3	<10		----
2228		----		----	2669	EN71-3	10.0		-0.47
2232	EN71-3	10.99		-0.11	2680	EN71-3	12.4639		0.44
2234		----		----	2684	EN71-3	11.45		0.06
2236	EN71-3	13.4		0.78	2690	EN71-3	11.0		-0.10
2240	EN71-3	8.029		-1.20	2691	EN71-3	12.54		0.47
2243	EN71-3	12.250		0.36	2692	EN71-3	13.473		0.81
2245	EN71-3	10.670		-0.23	2694	EN71-3	11.56		0.10
2246	EN71-3	<25		----	2696	EN71-3	11.19		-0.03
2247	EN71-3	10.84		-0.16	2697	EN71-3	12		0.27
2253	EN71-3	12.03		0.28	2732	EN71-3	10.85		-0.16
2254	EN71-3	5.297		-2.21	2739	EN71-3	12.51		0.45
2256	EN71-3	11.8165		0.20	2741	EN71-3	<25		----
2268	EN71-3	<25		----	2742	EN71-3	10.9		-0.14
2269	EN71-3	11.894	C	0.23	2744	EN71-3	15.5205		1.57
2272		----		----	3110	EN71-3	<100		----
2277	EN71-3	11.5611		0.10	3116	EN71-3	11.58		0.11
2279	EN71-3	<25.0		----	3122	EN71-3	14		1.00
2280	EN71-3	<25	C	----	3124	EN71-3	8.311		-1.10
2282	EN71-3	10.4		-0.33	3146	EN71-3	14.6		1.23
2289	EN71-3	11		-0.10	3151	EN71-3	14.242		1.09
2290	EN71-3	10.6		-0.25	3153	EN71-3	11.0		-0.10
2293		----		----	3154	EN71-3	15.19		1.44
2294	EN71-3	14.196		1.08	3172		----		----
2295	EN71-3	16		1.74	3176	EN71-3	13.495		0.82
2296	EN71-3	16.6976		2.00	3182	EN71-3	5.17	C	-2.26
2303	EN71-3	10.24797		-0.38	3190	EN71-3	11.7		0.15
2370	EN71-3	<50		----	3191	EN71-3	2.8150	R(0.01)	-3.13
2372	EN71-3	12.3		0.38	3197		----		----
2375		----		----	3200	EN71-3	12.33		----
2380		----		----	3209	EN71-3	13.2		0.71
2385	EN71-3	12		0.27	3214	EN71-3	10.5		-0.29
2390	EN71-3	ND		----	3215	EN71-3	12.77		0.55
2401	EN71-3	9.691		-0.59	3218	EN71-3	11.4		0.04
2412	EN71-3	<25		----	3220	EN71-3	13.6	C	0.86
2413	In house	<10		----	3225	EN71-3	11.500		0.08
2429	EN71-3	10.58		-0.26	3228	EN71-3	11.30		0.01
2431	EN71-3	14.66		1.25	3233	EN71-3	15.0665		1.40
2432	EN71-3	7.5167		-1.39	3237	EN71-3	9.677		-0.59
2433	EN71-3	11.16		-0.04	3238	EN71-3	6.1700		-1.89
2442		----		----	3248	EN71-3	10		-0.47
	normality	OK							
	n	90							
	outliers	2							
	mean (n)	11.28							
	st.dev. (n)	2.712							
	R(calc.)	7.59							
	R(RR prEN71-3:13)	7.58							

Lab 551 first reported: 4.39	Lab 2280 first reported: ND
Lab 622 first reported: 5.4833	Lab 2468 first reported: 7.8
Lab 2139 first reported: <5	Lab 2497 first reported: 19.41
Lab 2156 first reported: 11.75	Lab 2532 first reported: 5.3
Lab 2213 first reported: 8.3	Lab 3182 first reported: <5
Lab 2269 first reported: <5	Lab 3220 first reported: 1.36



## Determination of migration of Strontium as Sr on dried paint sample #16557; results in mg/kg

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
310	EN71-3	164	C	0.54	2459		----		----
330	EN71-3	154.638		0.15	2465	EN71-3	135.1		-0.65
551	EN71-3	NA*		----	2468	EN71-3	95.3	ex	-2.30
622	EN71-3	72.9605	exC	-3.23	2471	EN71-3	145.514		-0.22
1179	EN71-3	167		0.67	2475	EN71-3	<500		----
2115	EN71-3	84.53	ex	-2.75	2482	EN71-3	174.36		0.97
2118	EN71-3	85.9061	ex	-2.69	2489	EN71-3	175.79		1.03
2129	EN71-3	97.62	ex	-2.21	2492	EN71-3	109.5		-1.71
2131	EN71-3	86.42	ex	-2.67	2497	EN71-3	186.62	C	1.48
2132	EN71-3	169.0	C	0.75	2500	EN71-3	138.368		-0.52
2139	EN71-3	110.6383	C	-1.67	2504	EN71-3	118.963		-1.32
2156	EN71-3	159.5	C	0.36	2532	EN71-3	145	C	-0.24
2159	EN71-3	158.445		0.31	2553	EN71-3	125		-1.07
2165	EN71-3	146.61		-0.18	2589	EN71-3	150.4		-0.02
2184	EN71-3	140.9		-0.41	2590	EN71-3	84.302	ex	-2.76
2190	EN71-3	199.45		2.01	2612	EN71-3	172.0		0.87
2201	EN71-3	137.1		-0.57	2615	EN71-3	132.13		-0.78
2213	EN71-3	128.6	C	-0.92	2645	EN71-3	174.75		0.99
2225	EN71-3	154.4		0.14	2659		----		----
2226	EN71-3	162.683		0.49	2667	EN71-3	146.3		-0.19
2228		----		----	2669	EN71-3	127		-0.99
2232	EN71-3	121.0018		-1.24	2680	EN71-3	131.678		-0.80
2234	EN71-3	150.5		-0.02	2684	EN71-3	130.61		-0.84
2236	EN71-3	135.4		-0.64	2690	EN71-3	158.2		0.30
2240	EN71-3	89.64	ex	-2.54	2691	EN71-3	144.1		-0.28
2243	EN71-3	137.074		-0.57	2692	EN71-3	158.629		0.32
2245	EN71-3	145.717		-0.21	2694	EN71-3	133.9913		-0.70
2246	EN71-3	167.10		0.67	2696	EN71-3	167.55		0.69
2247	EN71-3	135.57		-0.64	2697	EN71-3	136		-0.62
2253	EN71-3	134.63		-0.67	2732	EN71-3	129.38		-0.89
2254	EN71-3	93.871	ex	-2.36	2739	EN71-3	131.32		-0.81
2256	EN71-3	147.3030		-0.15	2741	EN71-3	138.22		-0.53
2268	EN71-3	142.22		-0.36	2742	EN71-3	128.1		-0.94
2269	EN71-3	160.829		0.41	2744	EN71-3	192.6500		1.73
2272	EN71-3	122.5		-1.18	3110	EN71-3	158.05		0.30
2277	EN71-3	164.8664		0.58	3116	EN71-3	140.97		-0.41
2279	EN71-3	149.24		-0.07	3122	EN71-3	191		1.66
2280	EN71-3	157.1		0.26	3124	EN71-3	105.1	ex	-1.90
2282	EN71-3	141.91		-0.37	3146	EN71-3	172		0.87
2289	EN71-3	147		-0.16	3151	EN71-3	161.79		0.45
2290	EN71-3	147.3		-0.15	3153	EN71-3	146.5		-0.18
2293		----		----	3154	EN71-3	157.6		0.28
2294	EN71-3	166.673		0.65	3172		----		----
2295	EN71-3	176.4		1.06	3176	EN71-3	195.93		1.86
2296	EN71-3	181.5302		1.27	3182	EN71-3	76.7	ex	-3.07
2303	EN71-3	132.8363		-0.75	3190	EN71-3	152		0.05
2370	EN71-3	91.7	ex	-2.45	3191	EN71-3	159.6382		0.36
2372	EN71-3	162		0.46	3197		----		----
2375	In house	171.11		0.84	3200	EN71-3	158.42		0.31
2380	EN71-3	130.5425		-0.84	3209	EN71-3	160.0		0.38
2385	EN71-3	179		1.16	3214	EN71-3	138.4		-0.52
2390	EN71-3	150.17		-0.03	3215	EN71-3	184.23		1.38
2401	EN71-3	112.1		-1.61	3218	EN71-3	137.2		-0.57
2412	EN71-3	145.1		-0.24	3220	EN71-3	84.0	ex	-2.77
2413	In house	73.08	ex	-3.22	3225	EN71-3	163.179		0.51
2429	EN71-3	137.86		-0.54	3228	EN71-3	136.0		-0.62
2431	EN71-3	165.35		0.60	3233	EN71-3	197.3566		1.92
2432	EN71-3	87.9167	ex	-2.61	3237	EN71-3	147.741		-0.13
2433	EN71-3	168.16		0.71	3238	EN71-3	85.200	ex	-2.72
2442	EN71-3	112.59		-1.59	3248	EN71-3	140		-0.45

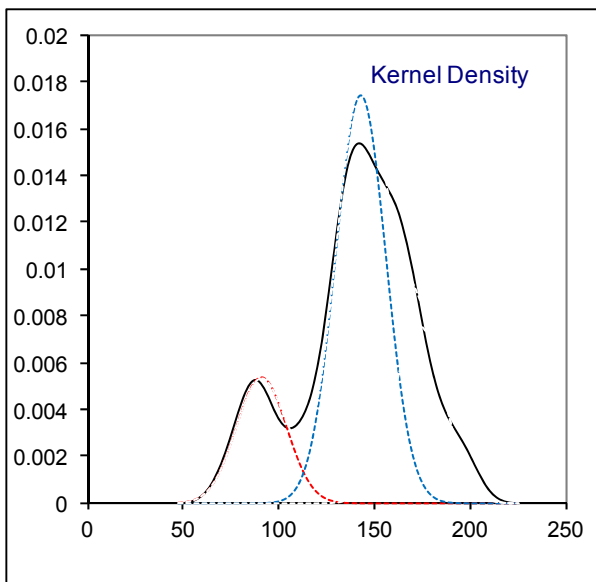
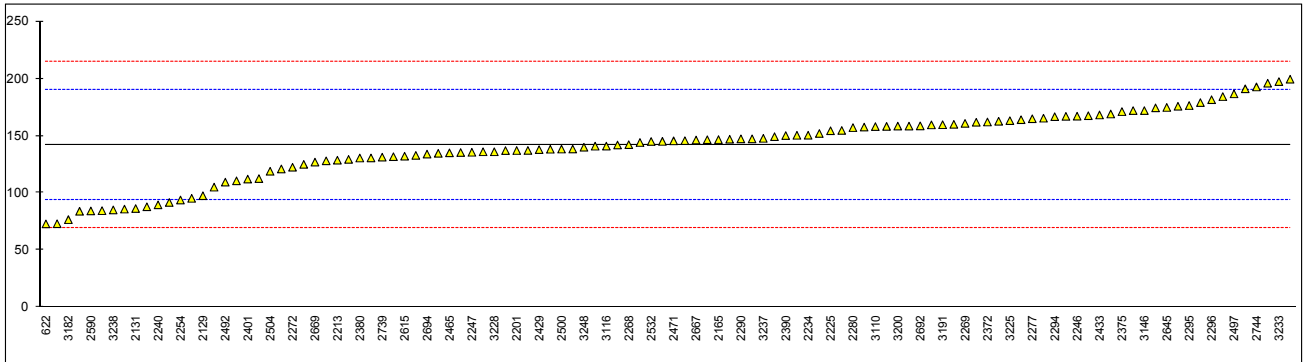
All test results

normality OK  
n 96  
outliers 0 (+16ex)  
mean (n) 150.91  
st.dev. (n) 20.234  
R(calc.) 56.66  
R(RR prEN71-3:13) 67.61

normality OK  
n 112  
outliers 0  
mean (n) 141.80  
st.dev. (n) 29.373  
R(calc.) 82.24  
R(RR prEN71-3:13) 63.52



Lab 310 first reported: 88.3  
 Lab 622 first reported: 32.0847  
 Lab 2132 first reported: 167.10  
 Lab 2139 first reported: 72.9317  
 Lab 2156 first reported: 119.2  
 Lab 2213 first reported: 121.5  
 Lab 2497 first reported: 261.91  
 Lab 2532 first reported: 89.5



Determination of migration of Arsenic, Barium, Boron, Cobalt and Copper on dried paint sample #16557; results in mg/kg

lab	method	As	Ba	B	Co	Cu
310	EN71-3	0.035	0.442	0	0.011	0.536
330	EN71-3	< 0.5	< 15	< 15	< 2	2.056
551	EN71-3	ND	ND	ND	ND	ND
622	EN71-3	0.000	0.5346	1.349	0.0875	0.7808
1179	EN71-3	0	2.96	----	0.031	2.058
2115	EN71-3	----	1.04	----	----	----
2118	EN71-3	0	1.2291	0.1592	0.0376	1.0281
2129	EN71-3	<0,1	<10	<10	<0,1	<10
2131	EN71-3	0.04	1.29	<0.01	0.02	1.39
2132	EN71-3	ND	ND	ND	ND	ND
2139	EN71-3	< 5	< 5	----	< 5	< 5
2156	EN71-3	0.1	5.933	0.954	0.1	1.349
2159	EN71-3	0.160	5.805	0.64	0.0353	1.845
2165	EN71-3	n.d.	3.04	n.d.	n.d.	n.d.
2184	EN71-3	< 1	< 2.5	< 10	< 2.5	< 2.5
2190	EN71-3	<2	<50	<50	<2	<50
2201	EN71-3	<1.0	<10	<50	<10	<10
2213	EN71-3	<0.5	<5	<5	<1	<5
2225	EN71-3	<5.0	9.47	<25	<25	<25
2226	EN71-3	<5	7.739	<5	<5	<5
2228	EN71-3	0.0000	6.2350	----	----	----
2232	EN71-3	8.5367	6.2	ND	0.7362	31.0134
2234		----	----	----	----	----
2236	EN71-3	<2.5	<2.5	<2.5	<2.5	<2.5
2240	EN71-3	<5	10.20	<5	<5	<5
2243	EN71-3	<5	8.042	<5	<5	<5
2245	EN71-3	<5	6.653	<5	<5	<5
2246	EN71-3	<10	<25	<25	<10	<15
2247	EN71-3	ND	ND	ND	ND	ND
2253	EN71-3	ND	ND	ND	ND	ND
2254	EN71-3	<0.2	0.914	1.445	<0.2	0.390
2256		----	----	----	----	----
2268		<2.5	<10	<10	<5	<5
2269	EN71-3	<2	<5	<5	<5	<5
2272		----	----	----	----	----
2277	EN71-3	<1	8.6576	<3	<1	1.7048
2279		<5.0	<25.0	<25.0	<25.0	<25.0
2280	EN71-3	ND	ND	ND	ND	ND
2282	EN71-3	<5	6.285	<5	<5	<5
2289	EN71-3	<1	<10	<50	<10	<10
2290	EN71-3	<10	<10	<50	<10	<10
2293	EN71-3	n.d.	8.66	----	----	----
2294	EN71-3	0.419	1.928	1.130	ND	ND
2295	EN71-3	<1	3.2	<1	<1	<1
2296	EN71-3	0.0000	11.5414	30.2286	0.0000	6.0753
2303	EN71-3	0.104452	2.36981	1.027198	0.044509	1.670387
2370	EN71-3	<10	<50	<50	<10	<50
2372	EN71-3	<10	<10	<10	<10	<10
2375		----	----	----	----	----
2380		----	----	----	----	----
2385	EN71-3	<1	5.3	<10	<1	1.9
2390	EN71-3	ND	ND	ND	ND	ND
2401	EN71-3	ND	5.505	ND	ND	ND
2412	EN71-3	less than 10	less than 10	less than 10	less than 10	less than 10
2413	In house	<10	<10	21.05	<10	<10
2429	EN71-3	<10	<10	<50	<10	<10
2431	EN71-3	----	5.48	----	----	----
2432	EN71-3	----	----	----	----	1.8667
2433	EN71-3	<10	<10	<50	<10	<10
2442		----	----	----	----	----
2459		----	----	----	----	----
2465	EN71-3	<5	6.436	5.306	<5	<5
2468		----	----	----	----	----
2471	EN71-3	<5	7.0201	<5	<5	<5
2475	EN71-3	<1	<500	<50	<50	<50
2482	EN71-3	<0,1	10.42	<10	<0,1	<10
2489	EN71-3	ND	8.86	ND	ND	ND
2492	EN71-3	1.79	2.15	----	----	----
2497	EN71-3	0.243	11.81	0.01	0.208	8.632
2500	EN71-3	ND	ND	ND	ND	ND
2504	EN71-3	<2.0	4.227	1.454	<0.2	1.077
2532	EN71-3	Not Detect.	Not Detect.	Not Detect.	Not Detect,	Not Detect.
2553	EN71-3	8.62	6.51	ND	ND	32
2589	EN71-3	<5	<10	<50	<5	<5
2590	EN71-3	< L.O.Q	1.603	3.523	< L.O.Q	< L.O.Q

2612	EN71-3	0.2075	9.420	< 0,05	0.0544	3.330
2615	EN71-3	<5	7.38	<10	<5	<10
2645	EN71-3	<5	7.39	<5	<5	<5
2659	ISO8124-3	0.146	0.437	----	----	----
2667	EN71-3	<5	<5	<5	<5	<5
2669	EN71-3	<5	6.6	<5	<5	<5
2680	EN71-3	<5	7.9531	<5	<5	<5
2684	EN71-3	<5	7.32	<5	<5	<5
2690	EN71-3	<5	6.8	<5	<5	<5
2691	EN71-3	ND	7.351	ND	ND	ND
2692		----	----	----	----	----
2694	EN71-3	<10	<10	<10	<10	<10
2696	EN71-3	<5	6.35	<5	<5	<5
2697	EN71-3	ND	7	ND	ND	ND
2732	EN71-3	<5	7.38	<5	<5	<5
2739	EN71-3	ND	ND	ND	ND	ND
2741	EN71-3	<0.05	<25	<25	<0.1	<15
2742	EN71-3	----	6.4	----	----	----
2744		----	----	----	----	----
3110	EN71-3	<5	<20	<100	<5	<5
3116		----	----	----	----	----
3122	EN71-3	<1	9	1	<1	2
3124	EN71-3	0.07708	0.7123	0.05853	0.01978	1.032
3146	EN71-3	n.d.	n.d.	n.d.	n.d.	n.d.
3151	EN71-3	0.22700	8.7687	<1	<0.1	2.184
3153	EN71-3	<10	<10	<50	<10	<10
3154	EN71-3	----	9.754	----	----	3.171
3172		----	----	----	----	----
3176	EN71-3	0.335	4.676	----	----	2.541
3182	EN71-3	<1	<5	<5	<5	<5
3190	EN71-3	<10	<10	<50	<10	<10
3191	EN71-3	8.1482	9.3994	<5	<5	<5
3197		----	----	----	----	----
3200	EN71-3	<2.5	<10.0	<10.0	<10.0	<10.0
3209	EN71-3	<5.0	<10.0	<10.0	<10.0	<10.0
3214	EN71-3	<10	<10	<50	<10	<10
3215	EN71-3	<0.1	9.02	<5	<1	<5
3218	EN71-3	<1	<10	<50	<1	<10
3220	EN71-3	Not detected	Not detected	16.89	Not detected	Not detected
3225	EN71-3	<5	<5	<5	<5	<5
3228	EN71-3	<0.5	4.90	<10	<0.5	<2.5
3233	EN71-3	0.3039	8.2807	0.5642	0.0485	1.8642
3237	EN71-3	0.129	2.727	ND	ND	ND
3238	EN71-3	<0.06	<2	<1	<0.04	<3
3248	EN71-3	<10	<10	<100	<10	<10
	normality	n.a.	n.a.	n.a.	n.a.	n.a.
	n	102	105	93	94	100
	outliers	n.a.	n.a.	n.a.	n.a.	n.a.
	mean (n)	<10	<50	<50	<10	<50
	st.dev. (n)	n.a.	n.a.	n.a.	n.a.	n.a.
	R(calc.)	n.a.	n.a.	n.a.	n.a.	n.a.

Lab 2156 first reported for Barium: 1.643, for Boron: 0.536, for Cobalt: 0.072 and for Copper: 0.501

Determination of migration of Mercury, Nickel, Selenium, Tin and Zinc on dried paint sample #16557; results in mg/kg

lab	method	Hg	Ni	Se	Sn	Zn
310	EN71-3	0	0.395	0.019	0	0.163
330	EN71-3	< 0.5	< 2	< 2	< 0.2	< 15
551	EN71-3	ND	ND	7.53	ND	ND
622	EN71-3	0.0038	0.6408	0.0062	8.4141	1.0722
1179	EN71-3	0.016	0.613	0.0536	0.0208	3.74
2115	EN71-3	----	----	----	----	3.06
2118	EN71-3	0	0.5845	0	0	1.2878
2129	EN71-3	<0,1	<1	<1	<3	<10
2131	EN71-3	0.11	0.57	0.02	0.03	3.06
2132	EN71-3	ND	ND	ND	ND	ND
2139	EN71-3	< 5	< 5	< 5	< 5	< 5
2156	EN71-3	0.1	0.673	0.1	0.1	2.836
2159	EN71-3	Not Determ.	0.60	0.0342	Not Determ.	2.430
2165	EN71-3	n.d.	n.d.	n.d.	n.d.	n.d.
2184	EN71-3	< 1	< 2.5	< 2.5	< 1	< 10
2190	EN71-3	<5	<50	<50	<4	<50
2201	EN71-3	<10	<10	<10	<10	<100
2213	EN71-3	<1	<5	<5	<1	<5
2225	EN71-3	<5.0	<25	<5.0	<2.5	<25
2226	EN71-3	<5	<5	<5	<5	<5
2228	EN71-3	0.0000	----	0.0000	----	----
2232	EN71-3	ND	1.3458	ND	ND	ND
2234		----	----	----	----	----
2236	EN71-3	<2.5	<2.5	<2.5	<2.5	<5.0
2240	EN71-3	<2	<5	<5	<2.5	<5
2243	EN71-3	<2	<5	<5	<2.5	<5
2245	EN71-3	<2	<5	<5	<2.5	<10
2246	EN71-3	<10	<10	<10	<10	<50
2247	EN71-3	ND	ND	ND	ND	ND
2253	EN71-3	ND	ND	ND	ND	ND
2254	EN71-3	<0.2	0.284	<0.2	<0.2	<0.2
2256		----	----	----	----	----
2268	EN71-3	<5	<10	<5	<5	<10
2269	EN71-3	<2	<5	<5	<2.5	<5
2272	EN71-3	----	----	----	<10	----
2277	EN71-3	<1	<1	<1	<1	<1
2279	EN71-3	<5.0	<25.0	<25.0	<12.0	<25.0
2280	EN71-3	ND	ND	ND	ND	ND
2282	EN71-3	<5	<5	<5	<2.5	<5
2289	EN71-3	<10	<10	<10	<10	<100
2290	EN71-3	<10	<10	<10	<10	<100
2293	EN71-3	n.d.	----	n.d.	----	----
2294	EN71-3	ND	1.078	<0.5	11.890	3.035
2295	EN71-3	<1	<1	<1	<1	2.1
2296	EN71-3	0.0000	0.0000	0.0000	0.0000	16.8200
2303	EN71-3	0.02027	0.867285	0.160568	0.034937	1.990965
2370	EN71-3	<10	<10	<10	<4.9	<50
2372	EN71-3	<10	<10	<10	<10	<10
2375		----	----	----	----	----
2380		----	----	----	----	----
2385	EN71-3	<0,5	<1	1.1	<1	3.0
2390	EN71-3	ND	ND	ND	ND	ND
2401	EN71-3	ND	ND	ND	ND	ND
2412	EN71-3	less than 10	less than 10	less than 10	less than 10	less than 10
2413	In house	<10	<10	<10	<10	<10
2429	EN71-3	<10	<10	<10	<10	<10
2431		----	----	----	----	----
2432		----	----	----	----	----
2433	EN71-3	<10	<10	<10	<10	<100
2442	EN71-3	----	----	----	----	ND
2459		----	----	----	----	----
2465	EN71-3	<2	<5	<5	<2.5	27.77
2468		----	----	----	----	----
2471	EN71-3	<2	<5	<5	<2.5	8.9874
2475	EN71-3	<1	<50	<1	<1	<500
2482	EN71-3	<0,1	1.16	<1	<10	<10
2489	EN71-3	ND	ND	ND	ND	ND
2492	EN71-3	----	5.44	----	----	1.18
2497	EN71-3	0.059	22.91	0.318	0.074	19.82
2500	EN71-3	ND	ND	ND	ND	ND
2504	EN71-3	<2.0	0.556	<1.0	<2.0	2.048
2532	EN71-3	Not Detect.	Not Detect.	Not Detect.	Not Detect.	Not Detect.
2553	EN71-3	ND	ND	ND	ND	ND
2589	EN71-3	<5	<5	<10	<2.5	<50
2590	EN71-3	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q	< L.O.Q

2612	EN71-3	1.255	1.215	< 0,05	< 0,05	4.165
2615	EN71-3	<2	<10	<5	<2.5	<10
2645	EN71-12	<5	<5	<5	<5	<5
2659	ISO8124-3	0.000	----	0.073	----	----
2667	EN71-3	<10	<5	<10	<2.5	<50
2669	EN71-3	<5	<5	<5	<2	6.0
2680	EN71-3	<5	<5	<5	<5	<5
2684	EN71-3	<5	<5	<5	<5	<5
2690	EN71-3	<5	<5	<5	<5	<5
2691	EN71-3	ND	ND	ND	ND	ND
2692		----	----	----	----	----
2694	EN71-3	<10	<10	<10	<10	<10
2696	EN71-3	<2	<5	<5	<2.5	<5
2697	EN71-3	ND	ND	ND	ND	ND
2732	EN71-3	<5	<5	<5	<5	<5
2739	EN71-3	ND	ND	ND	ND	ND
2741	EN71-3	<0.1	<1	<1	<10	<50
2742		----	----	----	----	----
2744		----	----	----	----	----
3110	EN71-3	<5	<5	<5	<2.5	<100
3116		----	----	----	----	----
3122	EN71-3	0.1	<1	<1	<0.9	3
3124	EN71-3	0.001388	0.534	0.02508	0.04805	0.1412
3146	EN71-3	n.d.	n.d.	n.d.	n.d.	n.d.
3151	EN71-3	<0,1	0.99717	<1	<0,1	3.2058
3153	EN71-3	<10	<10	<10	<10	<100
3154	EN71-3	----	----	----	106.6	20.71
3172	EN71-3	----	----	----	----	----
3176	EN71-3	----	1.222	----	----	2.233
3182	EN71-3	<1	<5	<5	<5	<5
3190	EN71-3	<10	<10	<10	<10	<100
3191	EN71-3	<1	0.9969	<5	<1	<5
3197		----	----	----	----	----
3200	EN71-3	<5.0	<10.0	<10.0	<10.0	<10.0
3209	EN71-3	<10.0	<10.0	<10.0	<10.0	<10.0
3214	EN71-3	<10	<10	<10	<10	<100
3215	EN71-3	<0.1	<1	<0.1	<1	<5
3218	EN71-3	<1	<10	<5	<10	<100
3220	EN71-3	Not detected	Not detect.	Not detected	Not detected	Not detected
3225	EN71-3	<5	<5	<5	<5	<5
3228	EN71-3	<0.5	<2.5	<2.5	<0.2	<10
3233	EN71-3	0.0158	0.9427	0.0100	0.1314	8.5896
3237	EN71-3	ND	ND	ND	ND	2.921
3238	EN71-3	<0.01	0.5300	<0.1	<0.5	<7
3248	EN71-3	<10	<10	<10	<0.8	<10
normality		n.a.	n.a.	n.a.	n.a.	n.a.
n		99	99	98	97	101
outliers		n.a.	n.a.	n.a.	n.a.	n.a.
mean (n)		<10	<50	<10	<10	<100
st.dev. (n)		n.a.	n.a.	n.a.	n.a.	n.a.
R(calc.)		n.a.	n.a.	n.a.	n.a.	n.a.

Lab 2156 first reported for Nickel: 0.730 and for Zinc: 4.784

Lab 2272 first reported for Tin: 42.8

Lab 2442 first reported for Zinc: 388.8

## APPENDIX 2

## Details as reported by the participants

lab	mg dried paint	ml 0.07 M HCl	pH adjusted	pore size filter	centrifuge used	remarks
310	246.1	12.5	YES	0.45	YES	
330						
551	400	20	NO	.45	NO	
622	493.3	25	NO	Whatmann	NO	Whatmann filter paper #41
1179						
2115	200	10	NO	0.45	NO	
2118	200	10	NO	0.45	NO	initial pH<1.3
2129	200	10	NO	0.2	NO	
2131	100	5	NO		NO	no membrane filter
2132	100	5	NO	0.45	NO	
2139	225.6	10	YES	0.45	NO	
2156	150	5	YES	0.2	NO	
2159	100	5	YES	0.45	NO	
2165	100	5	YES	0.45	NO	
2184	300	15	NO	0.45	NO	
2190						
2201						
2213	200	10	YES	0.22	NO	
2225	200	10	YES	0.45	NO	
2226	100	5	YES	0.45	NO	
2228	200.8	10	YES	0.45	NO	
2232	202	10.1	NO	0.45	NO	
2234	100	5	YES	0.45	NO	
2236	299.4	15.5	NO	0.22	NO	pH adjusted prior to shaking
2240	200	10	YES	0.45	NO	
2243	250	12.5	YES	0.45	YES	
2245	156.2	7.8	YES	0.45	NO	
2246						
2247	102.9	5	YES	0.2	NO	
2253	100	5	NO	0.45	NO	
2254	100	5	NO	0.45	NO	
2256						
2268	101.6	5.1	NO	0.45	NO	
2269	100	5	YES	0.45	NO	
2272						
2277	100	5	YES	0.45	NO	
2279	100	5	YES	0.45	NO	
2280	200	10	YES	0.45	NO	
2282	100	5	NO	0.22	NO	
2289	200	10	YES	0.45	NO	
2290	100	5	YES	0.45	NO	
2293	200.4	10	YES	0.45	NO	
2294	501.88	25	YES	20-25µm	NO	initial pH 2.94
2295	20	5	YES	0.45	NO	
2296						
2303	100	5	NO	0.45	NO	pH adjusted prior to shaking
2370	200	10	YES	0.45	NO	
2372	200	10	NO	0.45	NO	
2375	50	20	NO	0.45	NO	initial pH 1.27
2380	161.1	8	YES	0.2	NO	
2385	202	10	YES	.45	NO	
2390	237.4	12	NO	0.45	NO	pH adjusted prior to shaking
2401	200	10	YES	0.45	NO	
2412	157	7.891	YES	0.45	NO	
2413	200	10	NO	1.6	NO	
2429	200	10	NO	0.45	NO	
2431	100	5	NO	0.45	NO	pH adjusted prior to shaking
2432	100	20	NO	0.45	NO	initial pH<1.3
2433	250	12.5	YES	Whatmann	NO	Whatmann filter paper #41
2442	100	10	NO	0.45	NO	pH adjusted prior to shaking
2459						
2465	101.8	5	YES	0.45	NO	
2468	300	15	NO	0.45 + 0.02	NO	
2471						
2475	110	5.5	NO	0.45	NO	pH adjusted prior to shaking
2482	100	5	NO	0.45	NO	pH adjusted prior to shaking
2489	51.5	20	NO	0.2	NO	
2492	100	5	YES	0.45	YES	
2497						
2500	99.5	5	YES	0.45	YES	
2504	100	5	NO	0.45	NO	pH adjusted prior to shaking
2532	150	7.5	NO	0.2	NO	
2553	200	10	YES	0.22	NO	

2589	100	5	YES	0.45	NO	
2590	200	10	NO	45µm	NO	paper filter 45µm; initial pH 1.3
2612	200.6	10		0.45	NO	
2615	140	7	YES	0.45	NO	
2645	100	5	YES	0.45	NO	
2659	30.9	15	NO	0.45	NO	
2667						
2669	200.2	10	NO	0.45	NO	initial pH 1 - 1.3
2680	200	10	YES	0.22	NO	
2684	200	10	YES	2.5	NO	
2690	200	10	YES	Whatmann	NO	Whatmann filter paper #41
2691						
2692	200	10	NO	0.45	NO	pH adjusted prior to shaking
2694	102.7	5.1	YES	0.45	NO	
2696	117.4	5.9	NO	0.45	NO	pH adjusted prior to shaking
2697	100	5	YES	0.22	NO	
2732	101	5	YES	0.45	NO	
2739	198.2	9.9	YES	0.45	NO	
2741	200	10	???	0.45	NO	
2742	200	10	NO	0.45	NO	pH adjusted prior to shaking
2744	100	5	YES	0.45	NO	initial pH 2.5
3110	100	5	YES	0.45	NO	
3116	150	7.5	YES	0.22	NO	
3122	316.4	16	unknown	0.22	NO	
3124						
3146	250	12.5	YES	0.45	NO	
3151	133.97	6.5	YES	0.2	NO	
3153	100	5	YES	0.45	NO	
3154						
3172						
3176	250	12.5	YES	0.45	NO	
3182	200	10	YES	0.45	NO	
3190	130	6.5	YES	15-20µm	NO	
3191	100	5	NO	0.22	NO	pH adjusted prior to shaking
3197	205.3	10.3	NO	0.45	NO	initial pH=1.2+/-0.1
3200	100	5	NO	0.22	NO	pH adjusted prior to shaking
3209	100.5	5	NO	20-25µm	NO	pH adjusted prior to shaking
3214	300	15	YES	0.45	NO	
3215	200	10	YES		NO	
3218	200	10	YES	0.45	NO	
3220	376	20	YES	0.02	YES	
3225	100	5	YES	.02	NO	
3228	100	5	NO	0.45	YES	pH adjusted prior to shaking
3233	102.19	5.1	YES	0.45	NO	initial pH 5.61
3237	100	10	NO	0.45	NO	
3238	194.6	9.75	YES	0.45	NO	
3248						

## APPENDIX 3

### Number of participants per country

2 labs in BANGLADESH  
1 lab in BELGIUM  
1 lab in BRAZIL  
1 lab in DENMARK  
5 labs in FRANCE  
7 labs in GERMANY  
1 lab in GUATEMALA  
10 labs in HONG KONG  
5 labs in INDIA  
3 labs in INDONESIA  
4 labs in ITALY  
1 lab in KOREA  
3 labs in MALAYSIA  
4 labs in MEXICO  
42 labs in P.R. of CHINA  
2 labs in PAKISTAN  
1 lab in PHILIPPINES  
1 lab in SINGAPORE  
1 lab in SPAIN  
1 lab in SRI LANKA  
1 lab in SWITZERLAND  
3 labs in TAIWAN R.O.C.  
3 labs in THAILAND  
2 labs in THE NETHERLANDS  
7 labs in TURKEY  
3 labs in U.S.A.  
3 labs in UNITED KINGDOM  
2 labs in VIETNAM



## APPENDIX 4

### Abbreviations:

C	= final result after checking of first reported suspect 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' outlier test
R(0.05)	= straggler in Rosner' outlier test
n.a.	= not applicable
n.d.	= not detected
fr.	= first reported result

### Literature:

- 1 iis Interlaboratory Studies, Protocol for the Organisation, Statistics & Evaluation, April 2014
- 2 Council Directive 88/378/EEC
- 3 Council Directive 2009/48/EC
- 4 EN71-3:1994 + A1:2000, Safety of Toys - Migration of certain elements
- 5 Horwitz. Journal of AOAC International Vol. 79 No.3. 1996
- 6 P.L. Davies. Fr Z. Anal. Chem. 351. 513. (1988)
- 7 W.J. Conover. Practical; Nonparametric Statistics. J. Wiley&Sons. NY. p.302. (1971)
- 8 ISO 5725 (1986)
- 9 ISO 5725 parts 1-6. (1994)
- 10 ISC7/GF/csteoop/toysinorg/220604 D(04) Assessment of bioavailability of certain elements in toys
- 11 ISO13528:2005 Statistical methods for use in proficiency testing by interlaboratory comparisons
- 12 M. Thompson and R. Wood. J. AOAC Int. 76. 926. (1993)
- 13 Analytical Methods Committee Technical brief, No4 January 2001.
- 14 The Royal Society of Chemistry 2002, Analyst 2002, 127 page 1359-1364, P.J. Lowthian and M. Thompson (see <http://www.rsc.org/suppdata/an/b2/b205600n/>).
- 15 EN71-3:2013, Safety of Toys - Migration of certain elements
- 16 CEN/TC 52/WG 5 N 905, Statistical evaluation of results from Round Robin on EN71-3:2013, Migration of compounds in dried paint, finger paint, plaster and PVC, Quo Data, 15 Oct 2012.
- 17 Bernard Rosner, Percentage Points for a Generalized ESD Many-Outlier Procedure, *Technometrics*, 25(2), pp. 165-172, (1983).