Results of Proficiency Test
Free and Released
Formaldehyde in textile
November 2020

Organized by: Institute for Interlaboratory Studies
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1 INTRODUCTION

Since 2008 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for Free Formaldehyde in textile every year. This proficiency scheme was extended with Released Formaldehyde in 2013. During the annual proficiency testing program 2020/2021 it was decided to continue the proficiency test for the analysis of Free and Released Formaldehyde in textile.
In this interlaboratory study 179 laboratories in 37 different countries registered for participation. See appendix 3 for the number of participating laboratories per country.
In this report the results of this proficiency test are presented and discussed. This report is also electronically available through the iis website www.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organizer of this proficiency test (PT). Sample analyzes for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory. It was decided to send three different textile samples labelled #20705, #20706 (both contain 5 grams each) and #20707 (containing 3 grams). All samples are positive on Formaldehyde.
The participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for the statistical evaluation.

2.1 QUALITY SYSTEM

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, has implemented a quality system based on ISO/IEC17043:2010. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

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

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

For the first sample a batch of green cotton was selected. After cutting and homogenization 200 bags were filled with approximately 5 grams and labelled #20705. Each subsample was wrapped in aluminum foil and packed again in a bag.
The homogeneity of the subsamples was checked by the determination of Free Formaldehyde according to an in house method on 5 stratified randomly selected subsamples.

	Free Formaldehyde in mg/kg
Sample #20705-1	135.0
Sample #20705-2	137.8
Sample #20705-3	136.2
Sample #20705-4	135.2
Sample #20705-5	138.3

Table 1: homogeneity test results of subsamples #20705

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

	Free Formaldehyde in mg/kg
r (observed)	4.3
reference method	Horwitz
0.3 x R (reference method)	8.8

Table 2: evaluation of the repeatability of subsamples #20705

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

For the second sample a batch of yellow cotton was selected. After cutting and homogenization 200 bags were filled with approximately 5 grams and labelled #20706. Each subsample was wrapped in aluminum foil and packed again in a bag.
The homogeneity of the subsamples was checked by the determination of Free Formaldehyde according to an in house method on 5 stratified randomly selected subsamples.

	Free Formaldehyde in mg/kg
Sample #20706-1	86.7
Sample #20706-2	89.3
Sample #20706-3	87.7
Sample #20706-4	89.3
Sample #20706-5	92.4

Table 3: homogeneity test results of subsamples #20706

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

	Free Formaldehyde in mg/kg
r (observed)	6.1
reference method	Horwitz
0.3 x R (reference method)	6.1

Table 4: evaluation of the repeatability of subsamples #20706

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

For the third sample a batch of pink cotton was selected. After cutting and homogenization 200 bags were filled each with approximately 3 grams and labelled #20707. Each subsample was wrapped in aluminum foil and packed again in a bag. The homogeneity of the subsamples was checked by the determination of Free Formaldehyde according to an in house method on 5 stratified randomly selected subsamples.

	Free Formaldehyde in mg/kg
Sample #20707-1	41.3
Sample #20707-2	38.5
Sample #20707-3	38.3
Sample #20707-4	39.5
Sample #20707-5	39.0

Table 5: homogeneity test results of subsamples #20707

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

	Free Formaldehyde in mg/kg
r (observed)	3.4
reference method	Horwitz
0.3 x R (reference method)	3.1

Table 6: evaluation of the repeatability of subsamples #20707

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

To each of the participating laboratories one set of three samples was sent at October 7, 2020.

2.5 ANALYZES

The participants were requested to determine Free Formaldehyde and the Released Formaldehyde on samples #20705, #20706 and #20707.
It was also requested to report if the laboratory was accredited for the requested components that were determined and to report some analytical details.

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

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

3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal www.kpmd.co.uk/sgs-iis-cts/. The reported test results are tabulated per determination in 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 reanalyzes). Additional or corrected test results are used for data analysis and the original test results are placed under 'Remarks' in the result tables in appendix 1. Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1 STATISTICS

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

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

According to ISO5725 the original test results per determination were submitted to Dixon’s, Grubbs’ 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 averages and standard deviations.

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

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

3.2 GRAPHICS

In order to visualize the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported test results are plotted. The corresponding laboratory numbers are on the X-axis.

The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.
Furthermore, Kernel Density Graphs were made. The Kernel Density Graph is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also, a normal Gauss curve was projected over the Kernel Density Graph for reference.

3.3 Z-SCORES

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

The target standard deviation was calculated from the literature reproducibility by division with 2.8. In case no literature reproducibility was available, other target values were used. In some cases, a reproducibility based on former iis proficiency tests could be used.

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

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

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

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

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

4 EVALUATION

In this interlaboratory study some problems were encountered with the dispatch of the samples due to the COVID-19 pandemic. Therefore, the reporting time on the data entry portal was extended with one week. After this period five participants did not report any test results and six participants reported after the extended reporting date. Not all participants were able to report all parameters requested.
Finally, the 174 reporting laboratories reported 705 numerical test results. Observed were 15 outlying results, which is 2.1% of all reported numerical test results. 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 as “not OK” or “suspect”. The statistical evaluation of these data should be used with due care, see also paragraph 3.1.

4.1 EVALUATION PER SAMPLE AND PER TEST

In this paragraph the test results are discussed per sample and per test. The test methods, which were used by the various laboratories, were taken into account for explaining the observed differences when possible and applicable. These methods are also in the table together with the original data in appendix 1. The abbreviations, used in these tables, are explained in appendix 4.

The method for determination of the Free Formaldehyde is specified in the Standards of the Ecolabelling Institutes. It should be noticed that ISO14184-1 corresponds to the Japanese method specified in the Japanese Law 112 and is described in the Japanese Standard JIS L1096. In test methods ISO14184-1:11 and ISO14184-2:11 some information on precision data is given. In table B.1 of ISO14184-1 and table C.2 of ISO14184-2 precision values are mentioned, but they were obtained using slightly different methods than mentioned in both ISO14184 methods. Therefore, it was concluded that reliable reproducibility data cannot be obtained from the ISO14184 test methods. Therefore, the target reproducibilities were calculated from the Horwitz equation and used for the statistical evaluations.

Sample #20705

Free Formaldehyde: This determination was not problematic. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in good agreement with the estimated reproducibility calculated from the Horwitz equation.

Released Formaldehyde: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility calculated from the Horwitz equation.

Sample #20706

Free Formaldehyde: This determination was not problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in full agreement with the estimated reproducibility calculated from the Horwitz equation.

Released Formaldehyde: This determination may be problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not in agreement with the estimated reproducibility calculated from the Horwitz equation.

Sample #20707

Free Formaldehyde: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in full agreement with the estimated reproducibility calculated from the Horwitz equation.

Released Formaldehyde: This determination was not problematic. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in full agreement with the estimated reproducibility calculated from the Horwitz equation.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

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

Component	unit	n	average	2.8 * sd	R(target)
Free Formaldehyde	mg/kg	168	94.3	15.7	21.3
Released Formaldehyde	mg/kg	62	103.9	27.7	23.1

Table 7: reproducibilities of components on sample #20705

Component	unit	n	average	2.8 * sd	R(target)
Free Formaldehyde	mg/kg	167	51.1	13.1	12.7
Released Formaldehyde	mg/kg	62	87.2	23.8	19.9

Table 8: reproducibilities of components on sample #20706

Component	unit	n	average	2.8 * sd	R(target)
Free Formaldehyde	mg/kg	172	83.8	20.1	19.3
Released Formaldehyde	mg/kg	59	133.8	30.2	28.7

Table 9: reproducibilities of components on sample #20707

Without further statistical calculations, the group of participating laboratories have only some difficulties with the analysis of Released Formaldehyde.
See also the discussions in paragraphs 4.1 and 5.

4.3 COMPARISON OF THE PROFICIENCY TEST OF NOVEMBER 2020 WITH PREVIOUS PTS

	November 2020	November 2019	November 2018	November 2017	November 2016
Number of reporting laboratories	174	183	185	184	192
Number of test results	705	489	512	511	452
Number of statistical outliers	15	11	11	15	26
Percentage of statistical outliers	2.1%	2.2%	2.1%	2.9%	5.8%

Table 10: Comparison with previous PTs

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

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

	November 2020	November 2019	November 2018	November 2017	2009 - 2016
Free Formaldehyde	6-9%	7-9%	12-13%	9-10%	7-15%
Released Formaldehyde	8-10%	8-9%	11%	7-8%	9-10%

Table 11: Comparison of the uncertainties over the years

Some of the uncertainties observed in this PT for Free and Released Formaldehyde are smaller compared to the uncertainties observed in previous PTs.

4.4 EVALUATION OF ANALYTICAL DETAILS

The reported analytical details that were reported by the participants are listed in appendix 2. About 85% of the participating laboratories reported to be accredited for the determination of Free and Released Formaldehyde in textile.

For this PT the intake for all samples was requested. It appeared that no effect was observed for different sample intake on the reported test results for Free and Released Formaldehyde. It was also requested to mention if the Dimedone confirmation test was performed. About 83% reported to have done the Dimedone test to verify the positive test results of the Formaldehyde determination especially for sample #20706.
Remarkably, some participants mentioned to have corrected for Dimedone, which is not mentioned of ISO14184-1.

5 DISCUSSION

In this PT the average of the homogeneity test results is not in line with the average (consensus value) from the PT results. There are several reasons for this. First, the goal of the homogeneity testing is different from the goal of the evaluation of the reported PT results. In order to prove the homogeneity of the PT samples, a test method is selected with a high precision (smallest variation). The accuracy (trueness) of the test method is less relevant. Secondly, the homogeneity testing is done by one laboratory only. The test results of this ISO/IEC17025 accredited laboratory will have a bias (systematic deviation) depending on the test method used. The desire to detect small variations between the PT samples leads to the use of a sensitive test method with high precision, which may be a test method with significant bias.
Also, each test result reported by the laboratories that participate in the PT will have a bias. However, some will have a positive bias and others a negative bias. These different biases compensate each other in the PT average (consensus value). Therefore, the PT consensus value may deviate from the average of the homogeneity test. At the same time the accuracy of the PT consensus value is more reliable than the accuracy of the average of the homogeneity test.

When the results of this interlaboratory study were compared to the Ecolabelling Standards and Requirements for Textiles in EU and with the similar Bluesign® BSSL, it was noticed that not all participants would make identical decisions about the acceptability of the textiles for the determined parameters.

Ecolabel	baby clothes	Oeko-Tex 103 in direct skin contact	Oeko-Tex 103 no direct skin contact
Bluesign® BSSL	next to skin use	occasional skin contact	no skin contact
Free Formaldehyde extractable (mg/kg)	<16	75	300
Released Formaldehyde (mg/m^3)	0.1	0.1	0.1

Table 12: Bluesign® BSSL and Ecolabelling Standards and Requirements for Textiles in EU

Extractable Free Formaldehyde

For sample #20705 all reporting laboratories would have rejected the sample for the category: “in direct skin contact” (<75 mg/kg), except for four laboratories. All reporting laboratories would have rejected the sample for the category: “baby clothes” (<16 mg/kg).

For sample #20706 all reporting laboratories would have accepted the sample for the category: “in direct skin contact” (<75 mg/kg), except for three laboratories that would have rejected the sample. All reporting laboratories would have rejected the sample for the category: “baby clothes” (<16 mg/kg).

For sample #20707 most of the group of reporting laboratories would have rejected the sample for the category: “in direct skin contact” (<75 mg/kg), except for sixteen laboratories that would have accepted the sample. All reporting laboratories would have rejected the sample for the category: “baby clothes” (<16 mg/kg).

Released Formaldehyde

No conclusions can be drawn, as the limits mentioned in the Ecolabel Standard have a different unit compared with test method ISO14184-2:11 (mg/m^3 vs mg/kg).

6 CONCLUSION

In this proficiency test Free Formaldehyde and the Released Formaldehyde were determined. The variation observed for Free Formaldehyde and Released Formaldehyde in this interlaboratory study are in line with observations in the previous proficiency tests. A possible explanation for the variation could be the preparation or the conditioning of the sample and/or by the performance of the analysis by the laboratory (e.g. incorrect correction for Dimedone).

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

APPENDIX 1

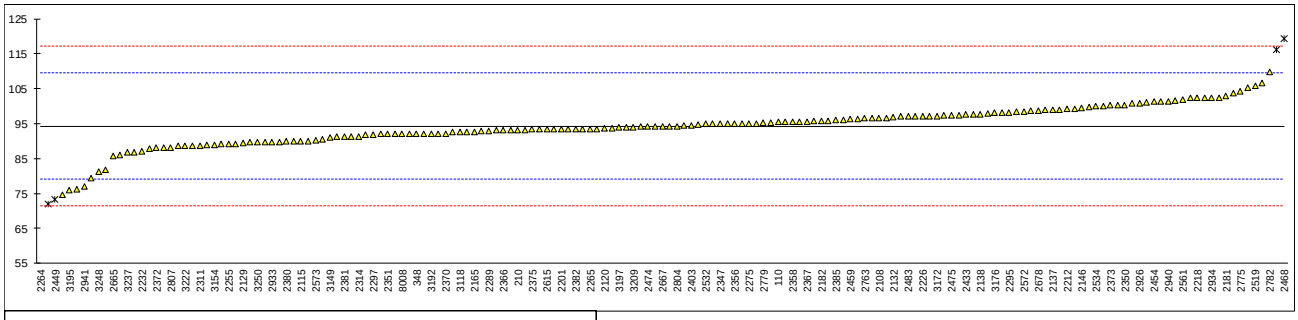
Determination of Free Formaldehyde on sample #20705; results in mg/kg

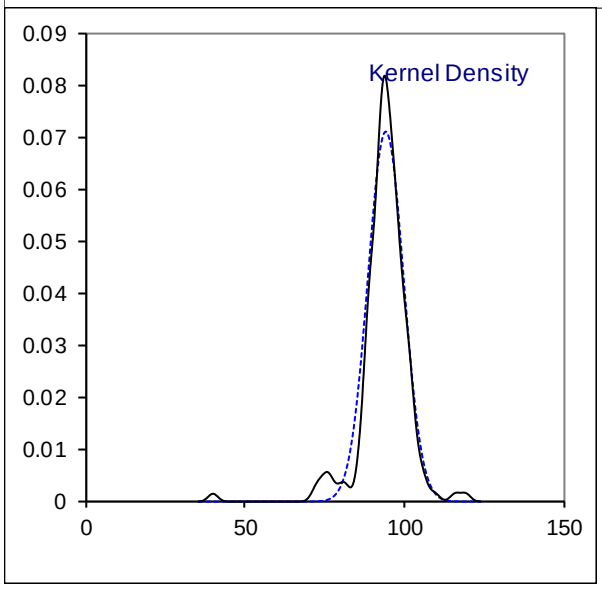
lab	method	value	mark	z(targ)	remarks
110	ISO14184-1	95.385		0.15	
210	ISO14184-1	93.21		-0.14	
230		-----		-----	
339	ISO14184-1	89.6	C	-0.61	First reported 84.4
348	In house	92.1		-0.28	
362	ISO14184-1	101.3		0.93	
551	ISO14184-1	116.1191	C,R(0.05)	2.87	First reported 124.026
623	ISO14184-1	91.85		-0.32	
840	ISO14184-1	97.6		0.44	
841	ISO14184-1	92.6		-0.22	
2102	ISO14184-1	89.95		-0.57	
2108	ISO14184-1	96.64		0.31	
2115	ISO14184-1	90.0		-0.56	
2120	ISO14184-1	93.6		-0.09	
2129	ISO14184-1	89.4		-0.64	
2132	ISO14184-1	96.8903		0.35	
2137	ISO14184-1	98.97		0.62	
2138	ISO14184-1	97.71		0.45	
2146	ISO14184-1	99.59		0.70	
2165	ISO14184-1	92.7		-0.20	
2170	ISO14184-1	99.33		0.67	
2181	ISO14184-1	102.82		1.13	
2182	Japan ST clause 1.6	95.80		0.20	
2184	ISO14184-1	92.9		-0.18	
2201	ISO14184-1	93.36		-0.12	
2212	JIS L1041 B	99.1		0.64	
2213	ISO14184-1	101.7		0.98	
2218	ISO14184-1	102.3		1.06	
2220	JIS L1041L	93.4		-0.11	
2225	ISO14184-1	96.07		0.24	
2226	ISO14184-1	97.08		0.37	
2229	ISO14184-1	102.42		1.07	
2232	ISO14184-1	87.02		-0.95	
2236	JIS L1041	72.0	R(0.05)	-2.93	
2238	ISO14184-1	94.40		0.02	
2255	ISO14184-1	89.23		-0.66	
2256	ISO14184-1	88.99		-0.69	
2261	ISO14184-1	102.263		1.05	
2264	JIS L1041	39.9	R(0.01)	-7.14	
2265	ISO14184-1	93.46		-0.10	
2269	ISO14184-1	94.979		0.09	
2275	ISO14184-1	95.1		0.11	
2279	ISO14184-1	97.9		0.48	
2289	GB/T2912	92.93		-0.17	
2290	ISO14184-1	95.9		0.22	
2293	ISO14184-1	94.11		-0.02	
2295	ISO14184-1	98.2		0.52	
2297	ISO14184-1	91.9		-0.31	
2301	ISO14184-1	89.27		-0.66	
2310	ISO14184-1	90		-0.56	
2311	ISO14184-1	88.7		-0.73	
2313	ISO14184-1	92.54		-0.23	
2314	ISO14184-1	91.41		-0.37	
2330	ISO14184-1	76.10		-2.39	
2347	ISO14184-1	95		0.10	
2350	ISO14184-1	100.31		0.80	
2351	ISO14184-1	92		-0.30	
2356	ISO14184-1	95.0		0.10	
2358	ISO14184-1	95.50		0.16	
2363	ISO14184-1	95.8		0.20	
2364	ISO14184-1	100.0		0.75	
2365	ISO14184-1	92.1		-0.28	
2366	ISO14184-1	93.1		-0.15	
2367	ISO14184-1	95.6		0.18	
2370	ISO14184-1	92.20		-0.27	
2372	ISO14184-1	88.0235		-0.82	
2373	ISO14184-1	100.2		0.78	
2375	ISO14184-1	93.3		-0.13	
2378	GB/T2912	97.0		0.36	
2379	ISO14184-1	88.07		-0.81	
2380	ISO14184-1	89.9		-0.57	
2381	ISO14184-1	91.20		-0.40	
2382	ISO14184-1	93.4		-0.11	
2383	GB/T2912	100.7		0.85	

lab	method	value	mark	z(targ)	remarks
2385	ISO14184-1	96		0.23	
2390	ISO14184-1	97.20	C	0.39	First reported 65.04
2401	GB/T2912	92		-0.30	
2403	ISO14184-1	94.5		0.03	
2404	ISO14184-1	95.0		0.10	
2406	ISO14184-1	95.54		0.17	
2410	ISO14184-1	99		0.62	
2426	ISO14184-1	88.6		-0.74	
2429		-----		-----	
2433	ISO14184-1	97.56		0.43	
2442		-----		-----	
2446	In house	95.10		0.11	
2449	ISO14184-1	73.27	R(0.05)	-2.76	
2453	ISO14184-1	98.2		0.52	
2454	ISO14184-1	101.21		0.91	
2456	ISO14184-1	105.4		1.46	
2459	ISO14184-1	96.3		0.27	
2468	ISO14184-1	119.4	R(0.05)	3.30	
2471	ISO14184-1	96.33		0.27	
2474	ISO14184-1	94.13		-0.02	
2475	ISO14184-1	97.40		0.41	
2476	ISO14184-1	93.86		-0.05	
2483	ISO14184-1	97.0		0.36	
2489	ISO14184-1	97.4		0.41	
2495	ISO14184-1	93.32		-0.12	
2506	ISO14184-1	103.75		1.25	
2511	ISO14184-1	99.65		0.71	
2514	ISO14184-1	89.12		-0.68	
2519	ISO14184-1	105.7		1.50	
2532	ISO14184-1	94.9		0.08	
2534	ISO14184-1	99.96		0.75	
2538	ASU B82.02-1	106.65		1.63	
2560	ISO14184-1	74.54		-2.59	
2561	ISO14184-1	101.8		0.99	
2567	ISO14184-1	89.67		-0.60	
2572	ISO14184-1	98.5		0.56	
2573	ISO14184-1	90.1		-0.55	
2582	ISO14184-1	86.00		-1.09	
2589	ISO14184-1	95.45		0.16	
2590	ISO14184-1	93.38		-0.12	
2591	ISO14184-1	87.92		-0.83	
2605	GB/T2912	88.65		-0.74	
2609	GB/T2912	90.43		-0.50	
2615	ISO14184-1	93.31		-0.12	
2625	ISO14184-1	79.37		-1.96	
2638	ISO14184-1	100.94		0.88	
2644	ISO14184-1	93.53		-0.10	
2648	GB/T2912	95.1		0.11	
2665	In house	85.65		-1.13	
2667	ISO14184-1	94.231		0.00	
2674	ISO14184-1	93.3		-0.13	
2678	ISO14184-1	98.65		0.58	
2726	ISO14184-1	86.833		-0.98	
2728	ISO14184-1	96.70		0.32	
2741	ISO14184-1	92.1		-0.28	
2763	ISO14184-1	96.5		0.29	
2773		-----		-----	
2775	ISO14184-1	104.17		1.30	
2779	ISO14184-1	95.2		0.12	
2782	GB/T2912	109.7		2.03	
2789	ISO14184-1	81.8		-1.64	
2804	JIS L1041 B	94.3		0.01	
2807	JIS L1041	88.1		-0.81	
2810	ISO14184-1	94.75		0.06	
2826	ISO14184-1	97.02		0.36	
2864	ISO14184-1	98.86		0.60	
2921	JIS L1041	102.38		1.07	
2926	ISO14184-1	100.7		0.85	
2933	CNS15580-1	89.76		-0.59	
2934	ISO14184-1	102.4		1.07	
2940	GB/T2912	101.37		0.93	
2941	ISO14184-1	77.03		-2.26	
3110	In house	93.13		-0.15	
3116	ISO14184-1	98.36		0.54	
3118	ISO14184-1	92.56		-0.22	
3149	ISO14184-1	91.1		-0.41	
3153	ISO14184-1	91.25		-0.40	
3154	ISO14184-1	88.99		-0.69	

lab	method	value	mark	z(targ)	remarks
3166	In house	91.18		-0.40	
3172	ISO14184-1	97.22		0.39	
3176	ISO14184-1	98.07		0.50	
3182	ISO14184-1	94.2		-0.01	
3183		-----		-----	
3185	ISO14184-1	89.82		-0.58	
3186	ISO14184-1	98.57		0.57	
3190		-----		-----	
3192	§64 LFGB B82-02-1	92.12		-0.28	
3195	ISO14184-1	76		-2.40	
3197	ISO14184-1	93.8		-0.06	
3200	ISO14184-1	93.02		-0.16	
3207		92		-0.30	
3209	ISO14184-1	93.91		-0.05	
3210	In house	93.23		-0.14	
3214	ISO14184-1	92.16		-0.28	
3216	ISO14184-1	94.25		0.00	
3218	ISO14184-1	100.25		0.79	
3222	ISO14184-1	88.6		-0.74	
3225	ISO14184-1	95.28		0.13	
3228	ISO14184-1	93.6		-0.09	
3237	ISO14184-1	86.67		-1.00	
3248	ISO14184-1	81.15		-1.72	
3250	ISO14184-1	89.64		-0.61	
6191	ISO14184-1	97.3		0.40	
8005	JIS L1041	96.62		0.31	
8008	ISO14184-1	92		-0.30	

normality	suspect	
n	168	
outliers	5	
mean (n)	94.257	
st.dev. (n)	5.6155	RSD = 6%
R(calc.)	15.723	
st.dev.(Horwitz)	7.6080	
R(Horwitz)	21.302	





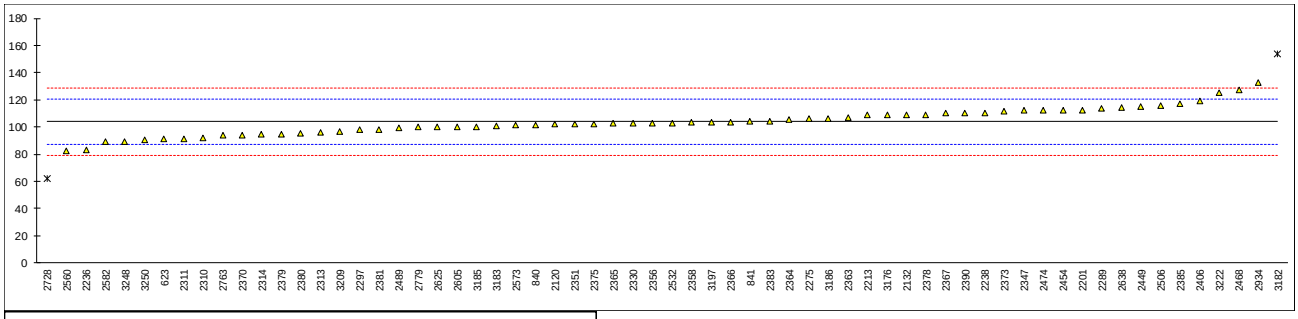
Determination of Released Formaldehyde on sample #20705; results in mg/kg

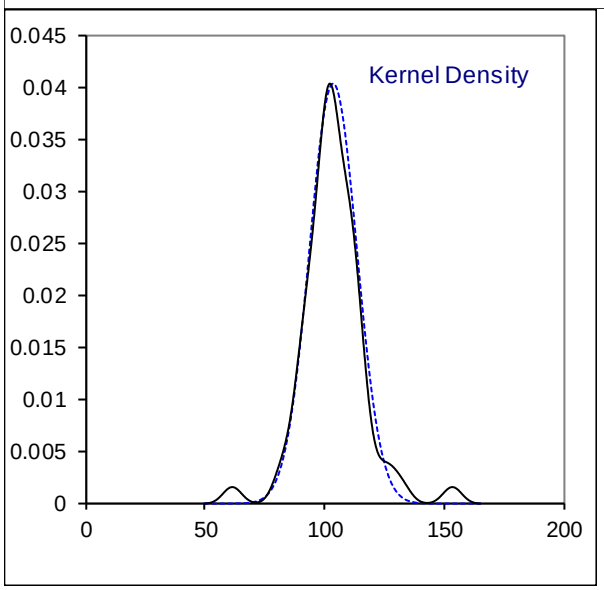
lab	method	value	mark	z(targ)	remarks
110		-----		-----	
210		-----		-----	
230		-----		-----	
339		-----		-----	
348		-----		-----	
362		-----		-----	
551		-----		-----	
623	ISO14184-2	91.00		-1.56	
840	ISO14184-2	101.5		-0.29	
841	ISO14184-2	104		0.01	
2102		-----		-----	
2108		-----		-----	
2115		-----		-----	
2120	ISO14184-2	101.8		-0.25	
2129	ISO14184-2	-----		-----	
2132	ISO14184-2	108.7140		0.58	
2137		-----		-----	
2138		-----		-----	
2146		-----		-----	
2165		-----		-----	
2170		-----		-----	
2181		-----		-----	
2182		-----		-----	
2184		-----		-----	
2201	ISO14184-2	112.42		1.03	
2212		-----		-----	
2213	ISO14184-2	108.6		0.57	
2218		-----		-----	
2220		-----		-----	
2225		-----		-----	
2226		-----		-----	
2229		-----		-----	
2232		-----		-----	
2236	AATCC112-14	83.4		-2.48	
2238	ISO14184-2	110.49		0.80	
2255		-----		-----	
2256		-----		-----	
2261		-----		-----	
2264		-----		-----	
2265		-----		-----	
2269		-----		-----	
2275	ISO14184-2	106.1		0.27	
2279		-----		-----	
2289	GB/T2912	113.76		1.20	
2290		-----		-----	
2293		-----		-----	
2295		-----		-----	
2297	ISO14184-2	98.1		-0.70	
2301		-----		-----	
2310	ISO14184-2	91.7		-1.47	
2311	ISO14184-2	91.3		-1.52	
2313	ISO14184-2	95.82		-0.98	
2314	ISO14184-2	94.41		-1.15	
2330	ISO14184-2	102.94		-0.11	
2347	ISO14184-2	112		0.98	
2350		-----		-----	
2351	ISO14184-2	102		-0.23	
2356	ISO14184-2	103.0		-0.11	
2358	ISO14184-2	103.33		-0.07	
2363	ISO14184-2	107.0		0.38	
2364	ISO14184-2	105.2		0.16	
2365	ISO14184-2	102.5		-0.17	
2366	ISO14184-2	103.8		-0.01	
2367	ISO14184-2	110.2		0.76	
2370	ISO14184-2	94.26		-1.16	
2372		-----		-----	
2373	ISO14184-2	111.7		0.95	
2375	ISO14184-2	102.1		-0.22	
2378	GB/T2912	109.1		0.63	
2379	ISO14184-2	94.97		-1.08	
2380	ISO14184-2	95.6		-1.00	
2381	ISO14184-2	98.20		-0.69	
2382		-----		-----	
2383	GB/T2912	104.5		0.07	

lab	method	value	mark	z(targ)	remarks
2385	ISO14184-2	116.8		1.56	
2390	ISO14184-2	110.30	C	0.78	First reported 106.56
2401		-----		-----	
2403		-----		-----	
2404		-----		-----	
2406	ISO14184-2	118.86		1.81	
2410		-----		-----	
2426		-----		-----	
2429		-----		-----	
2433		-----		-----	
2442		-----		-----	
2446		-----		-----	
2449	ISO14184-2	114.87		1.33	
2453		-----		-----	
2454	ISO14184-2	112.28		1.02	
2456		-----		-----	
2459		-----		-----	
2468	ISO14184-2	127.1		2.81	
2471		-----		-----	
2474	ISO14184-2	112.13		1.00	
2475		-----		-----	
2476		-----		-----	
2483		-----		-----	
2489	ISO14184-2	99.4		-0.54	
2495		-----		-----	
2506	ISO14184-2	115.85		1.45	
2511		-----		-----	
2514		-----		-----	
2519		-----		-----	
2532	ISO14184-2	103		-0.11	
2534		-----		-----	
2538		-----		-----	
2560	ISO14184-2	82.20		-2.62	
2561		-----		-----	
2567		-----		-----	
2572		-----		-----	
2573	ISO14184-2	101.3		-0.31	
2582	ISO14184-2	88.95		-1.81	
2589		-----		-----	
2590		-----		-----	
2591		-----		-----	
2605	ISO14184-2	100.18		-0.45	
2609		-----		-----	
2615		-----		-----	
2625	ISO14184-2	100.17		-0.45	
2638	ISO14184-2	114.21		1.25	
2644		-----		-----	
2648		-----		-----	
2665		-----		-----	
2667		-----		-----	
2674		-----		-----	
2678		-----		-----	
2726		-----		-----	
2728	ISO14184-2	61.81	R(0.01)	-5.09	
2741		-----		-----	
2763	ISO14184-2	94.2		-1.17	
2773		-----		-----	
2775		-----		-----	
2779	ISO14184-2	99.8		-0.49	
2782		-----		-----	
2789		-----		-----	
2804		-----		-----	
2807		-----		-----	
2810		-----		-----	
2826		-----		-----	
2864		-----		-----	
2921		-----		-----	
2926		-----		-----	
2933		-----		-----	
2934	ISO14184-2	132.5	C	3.46	First reported 70.7
2940		-----		-----	
2941		-----		-----	
3110		-----		-----	
3116		-----		-----	
3118		-----		-----	
3149		-----		-----	
3153		-----		-----	
3154		-----		-----	

lab	method	value	mark	z(targ)	remarks
3166		-----		-----	
3172		-----		-----	
3176	ISO14184-2	108.67		0.58	
3182	ISO14184-2	153.6	R(0.01)	6.02	
3183	In house	100.89		-0.36	
3185	ISO14184-2	100.38		-0.42	
3186	ISO14184-2	106.46		0.31	
3190		-----		-----	
3192		-----		-----	
3195		-----		-----	
3197	ISO14184-2	103.7		-0.02	
3200		-----		-----	
3207		-----		-----	
3209	ISO14184-2	96.82		-0.85	
3210		-----		-----	
3214		-----		-----	
3216		-----		-----	
3218		-----		-----	
3222	ISO14184-2	125.0		2.56	
3225		-----		-----	
3228		-----		-----	
3237		-----		-----	
3248	ISO14184-2	88.99		-1.80	
3250	ISO14184-2	90.31		-1.64	
6191		-----		-----	
8005		-----		-----	
8008		-----		-----	

normality	OK	
n	62	
outliers	2	
mean (n)	103.884	
st.dev. (n)	9.8807	RSD = 10%
R(calc.)	27.666	
st.dev.(Horwitz)	8.2632	
R(Horwitz)	23.137	



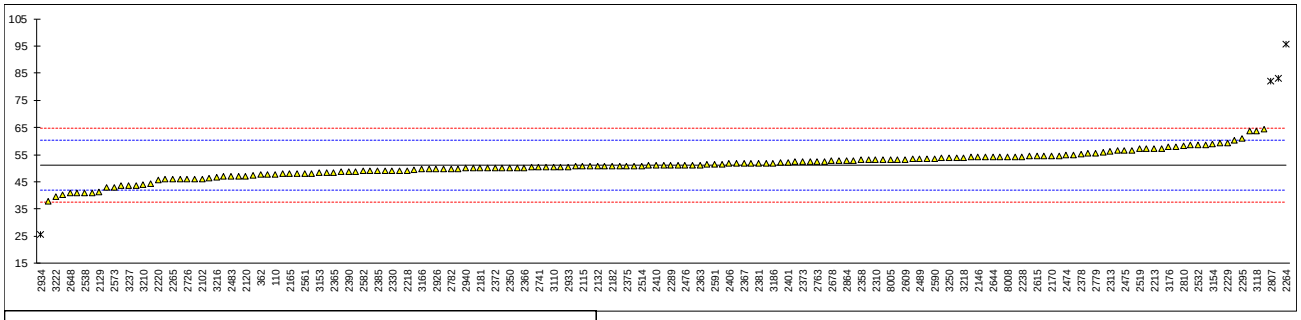


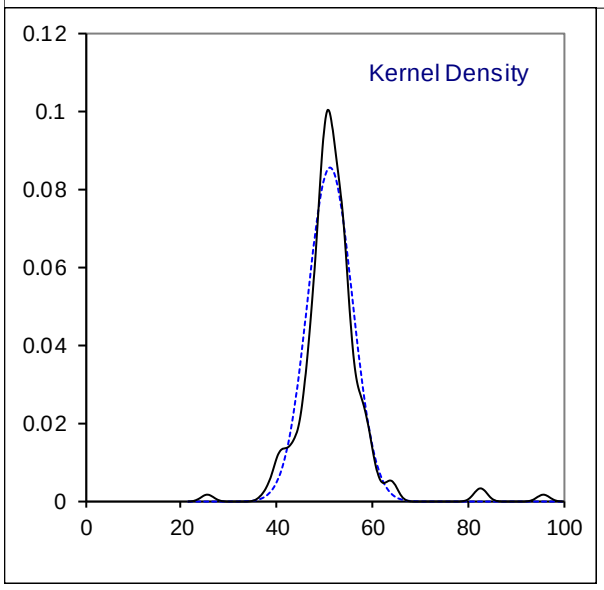
Determination of Free Formaldehyde on sample #20706; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	ISO14184-1	47.84		-0.73	
210	ISO14184-1	55.80		1.03	
230		-----		-----	
339	ISO14184-1	46.1	C	-1.11	First reported 38.2
348	In house	47.1		-0.89	
362	ISO14184-1	47.6		-0.78	
551	ISO14184-1	82.9435	C,R(0.01)	7.03	First reported 70.4182
623	ISO14184-1	46.90		-0.94	
840	ISO14184-1	56.4		1.16	
841	ISO14184-1	54.1		0.65	
2102	ISO14184-1	46.15		-1.10	
2108	ISO14184-1	46.36		-1.06	
2115	ISO14184-1	50.6		-0.12	
2120	ISO14184-1	47.1		-0.89	
2129	ISO14184-1	41.1		-2.22	
2132	ISO14184-1	50.67625		-0.10	
2137	ISO14184-1	47.52		-0.80	
2138	ISO14184-1	53.72		0.57	
2146	ISO14184-1	54.11		0.66	
2165	ISO14184-1	48.1		-0.67	
2170	ISO14184-1	54.57		0.76	
2181	ISO14184-1	49.99		-0.25	
2182	ISO14184-1	50.7		-0.10	
2184	ISO14184-1	48.6		-0.56	
2201	ISO14184-1	54.24		0.69	
2212	JIS L1041 A	50.1	C	-0.23	First reported 70.8
2213	GB/T2912	57.2	C	1.34	First reported 72.4
2218	ISO14184-1	49.2		-0.43	
2220	JIS L1041 L	45.8		-1.18	
2225	ISO14184-1	52.30		0.26	
2226	ISO14184-1	57.19		1.34	
2229	ISO14184-1	59.43		1.83	
2232	ISO14184-1	54.79		0.81	
2236	JIS L1041	37.8		-2.95	
2238	ISO14184-1	54.32		0.70	
2255	ISO14184-1	51.98		0.19	
2256	ISO14184-1	49.15		-0.44	
2261	ISO14184-1	51.874		0.16	
2264	GB2912.1	95.7	R(0.01)	9.85	
2265	ISO14184-1	45.99		-1.14	
2269	ISO14184-1	53.340		0.49	
2275	ISO14184-1	50.8		-0.07	
2279	ISO14184-1	55.4		0.94	
2289	GB/T2912	51.00		-0.03	
2290	ISO14184-1	52.4		0.28	
2293	ISO14184-1	54.11		0.66	
2295	ISO14184-1	61.0		2.18	
2297	ISO14184-1	42.9		-1.82	
2301	ISO14184-1	54.42		0.73	
2310	ISO14184-1	53.1		0.43	
2311	ISO14184-1	53.2		0.46	
2313	ISO14184-1	56.28		1.14	
2314	ISO14184-1	52.92		0.39	
2330	ISO14184-1	49.10		-0.45	
2347	ISO14184-1	51		-0.03	
2350	ISO14184-1	50.14		-0.22	
2351	ISO14184-1	46		-1.13	
2356	ISO14184-1	50.2		-0.21	
2358	ISO14184-1	53.00		0.41	
2363	ISO14184-1	51.2		0.01	
2364	ISO14184-1	53.0		0.41	
2365	ISO14184-1	48.5		-0.58	
2366	ISO14184-1	50.2		-0.21	
2367	ISO14184-1	51.8		0.15	
2370	ISO14184-1	50.48		-0.15	
2372	ISO14184-1	50.0792		-0.23	
2373	ISO14184-1	52.3		0.26	
2375	ISO14184-1	50.8		-0.07	
2378	GB/T2912	55.2		0.90	
2379	ISO14184-1	49.80		-0.30	
2380	ISO14184-1	49.4		-0.38	
2381	ISO14184-1	51.90		0.17	
2382	ISO14184-1	50.3		-0.18	
2383	GB/T2912	57.3		1.36	

lab	method	value	mark	z(targ)	remarks
2385	ISO14184-1	49		-0.47	
2390	ISO14184-1	48.60	C	-0.56	First reported 19.86
2401	GB/T2912	52		0.19	
2403	ISO14184-1	52.5		0.30	
2404	ISO14184-1	51.0		-0.03	
2406	ISO14184-1	51.63		0.11	
2410	ISO14184-1	51		-0.03	
2426	ISO14184-1	50.6		-0.12	
2429		-----		-----	
2433	ISO14184-1	64.33		2.92	
2442		-----		-----	
2446	In house	58.74		1.68	
2449	ISO14184-1	40.07		-2.45	
2453	ISO14184-1	43.5		-1.69	
2454	ISO14184-1	51.11		-0.01	
2456	ISO14184-1	44.3		-1.51	
2459	ISO14184-1	51.7		0.12	
2468	ISO14184-1	56.7		1.23	
2471	ISO14184-1	54.60		0.77	
2474	ISO14184-1	54.75		0.80	
2475	ISO14184-1	56.56		1.20	
2476	ISO14184-1	51.11		-0.01	
2483	ISO14184-1	47.0		-0.91	
2489	ISO14184-1	53.4		0.50	
2495	ISO14184-1	48.93		-0.49	
2506	ISO14184-1	not detected		-----	
2511	ISO14184-1	50.68		-0.10	
2514	ISO14184-1	50.81		-0.07	
2519	ISO14184-1	57.1		1.32	
2532	ISO14184-1	58.6		1.65	
2534	ISO14184-1	47.6		-0.78	
2538	ASU B82.02-1	40.93	C	-2.26	First reported 75.82
2560	ISO14184-1	43.77		-1.63	
2561	ISO14184-1	48.2		-0.65	
2567	ISO14184-1	53.43		0.51	
2572	ISO14184-1	50.6		-0.12	
2573	ISO14184-1	42.9		-1.82	
2582	ISO14184-1	48.9		-0.49	
2589	ISO14184-1	53.89		0.61	
2590	ISO14184-1	53.61		0.55	
2591	ISO14184-1	51.47		0.07	
2605	GB/T2912	50.40		-0.16	
2609	GB/T2912	53.28		0.47	
2615	ISO14184-1	54.42		0.73	
2625	ISO14184-1	60.23		2.01	
2638	ISO14184-1	48.77		-0.52	
2644	ISO14184-1	54.18		0.67	
2648	GB/T2912	40.8		-2.28	
2665	In house	54.54		0.75	
2667	ISO14184-1	53.149		0.44	
2674	ISO14184-1	49.0		-0.47	
2678	ISO14184-1	52.80		0.37	
2726	ISO14184-1	46		-1.13	
2728	ISO14184-1	59.23		1.79	
2741	ISO14184-1	50.3		-0.18	
2763	ISO14184-1	52.4		0.28	
2773		-----		-----	
2775	ISO14184-1	58.48		1.62	
2779	ISO14184-1	55.4		0.94	
2782	GB/T2912	49.8	C	-0.30	First reported 97.8
2789	ISO14184-1	41.0		-2.24	
2804	JIS L1041 B	51.5		0.08	
2807	JIS L1041	82.2	C,R(0.01)	6.86	First reported 19.3
2810	ISO14184-1	58.30		1.58	
2826	ISO14184-1	49.69		-0.32	
2864	ISO14184-1	52.91		0.39	
2921	JIS L1041	63.62		2.76	
2926	ISO14184-1	49.7		-0.32	
2933	CNS15580-1	50.54		-0.13	
2934	ISO14184-1	25.5	C,R(0.01)	-5.66	First reported 81.39
2940	GB/T2912	49.92		-0.27	
2941	ISO14184-1	not detected		-----	
3110	In house	50.43		-0.16	
3116	ISO14184-1	52.81		0.37	
3118	ISO14184-1	63.70		2.78	
3149	ISO14184-1	48.3		-0.63	
3153	ISO14184-1	48.22		-0.64	
3154	ISO14184-1	59.09	C	1.76	First reported 68.07

lab	method	value	mark	z(targ)	remarks
3166	In house	49.59		-0.34	
3172	ISO14184-1	57.97		1.51	
3176	ISO14184-1	57.85		1.48	
3182	ISO14184-1	48.1		-0.67	
3183		-----		-----	
3185	ISO14184-1	49.93		-0.27	
3186	GB/T2912	51.95		0.18	
3190		-----		-----	
3192	§64 LFGB B82-02-1	45.90		-1.16	
3195	ISO14184-1	50		-0.25	
3197	ISO14184-1	48.2		-0.65	
3200	ISO14184-1	51.15		0.00	
3207		48		-0.69	
3209	ISO14184-1	51.32		0.04	
3210	In house	43.80		-1.62	
3214	ISO14184-1	51.92		0.17	
3216	ISO14184-1	46.62		-1.00	
3218	ISO14184-1	53.95		0.62	
3222	ISO14184-1	39.4		-2.59	
3225	ISO14184-1	50.76		-0.08	
3228	ISO14184-1	49.9		-0.27	
3237	ISO14184-1	43.67		-1.65	
3248	ISO14184-1	40.85		-2.27	
3250	ISO14184-1	53.79		0.59	
6191	ISO14184-1	54.2		0.68	
8005	JIS L1041	53.15		0.44	
8008	ISO14184-1	54.2		0.68	
	normality	OK			
	n	167			
	outliers	4			
	mean (n)	51.136			
	st.dev. (n)	4.6760	RSD = 9%		
	R(calc.)	13.093			
	st.dev.(Horwitz)	4.5254			
	R(Horwitz)	12.671			





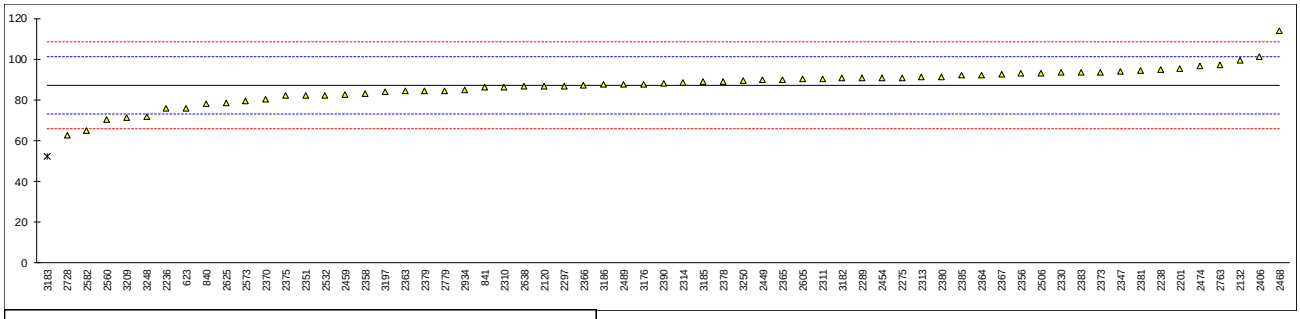
Determination of Released Formaldehyde on sample #20706; results in mg/kg

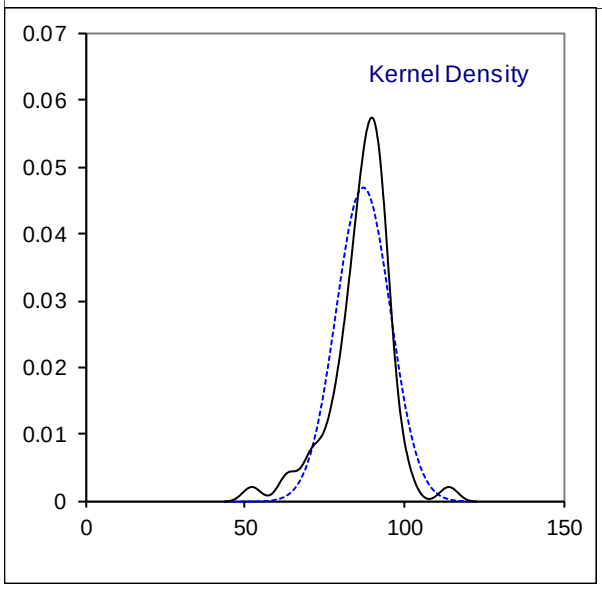
lab	method	value	mark	z(targ)	remarks
110		-----		-----	
210		-----		-----	
230		-----		-----	
339		-----		-----	
348		-----		-----	
362		-----		-----	
551		-----		-----	
623	ISO14184-2	76.00		-1.57	
840	ISO14184-2	78.1		-1.27	
841	ISO14184-2	86		-0.16	
2102		-----		-----	
2108		-----		-----	
2115		-----		-----	
2120	ISO14184-2	86.7		-0.06	
2129	ISO14184-2	-----		-----	
2132	ISO14184-2	99.1788		1.69	
2137		-----		-----	
2138		-----		-----	
2146		-----		-----	
2165		-----		-----	
2170		-----		-----	
2181		-----		-----	
2182		-----		-----	
2184		-----		-----	
2201	ISO14184-2	95.39		1.16	
2212		-----		-----	
2213		-----	W	-----	Test result withdrawn, reported 122.8
2218		-----		-----	
2220		-----		-----	
2225		-----		-----	
2226		-----		-----	
2229		-----		-----	
2232		-----		-----	
2236	AATCC112-14	75.7		-1.61	
2238	ISO14184-2	94.62		1.05	
2255		-----		-----	
2256		-----		-----	
2261		-----		-----	
2264		-----		-----	
2265		-----		-----	
2269		-----		-----	
2275	ISO14184-2	90.8		0.51	
2279		-----		-----	
2289	GB/T2912	90.64		0.49	
2290		-----		-----	
2293		-----		-----	
2295		-----		-----	
2297	ISO14184-2	86.9		-0.04	
2301		-----		-----	
2310	ISO14184-2	86.2		-0.13	
2311	ISO14184-2	90.5		0.47	
2313	ISO14184-2	91.28		0.58	
2314	ISO14184-2	88.41		0.18	
2330	ISO14184-2	93.37		0.87	
2347	ISO14184-2	94		0.96	
2350		-----		-----	
2351	ISO14184-2	82		-0.72	
2356	ISO14184-2	92.9		0.81	
2358	ISO14184-2	83.00		-0.58	
2363	ISO14184-2	84.4		-0.39	
2364	ISO14184-2	92.2		0.71	
2365	ISO14184-2	89.9		0.39	
2366	ISO14184-2	87.2		0.01	
2367	ISO14184-2	92.6		0.76	
2370	ISO14184-2	80.21		-0.98	
2372		-----		-----	
2373	ISO14184-2	93.7		0.92	
2375	ISO14184-2	82		-0.72	
2378	GB/T2912	89.1		0.27	
2379	ISO14184-2	84.48		-0.38	
2380	ISO14184-2	91.4		0.60	
2381	ISO14184-2	94.60		1.05	
2382		-----		-----	
2383	GB/T2912	93.4		0.88	

lab	method	value	mark	z(targ)	remarks
2385	ISO14184-2	92.1		0.69	
2390	ISO14184-2	87.90	C	0.10	First reported 115.33
2401		-----		-----	
2403		-----		-----	
2404		-----		-----	
2406	ISO14184-2	101.25		1.98	
2410		-----		-----	
2426		-----		-----	
2429		-----		-----	
2433		-----		-----	
2442		-----		-----	
2446		-----		-----	
2449	ISO14184-2	89.66		0.35	
2453		-----		-----	
2454	ISO14184-2	90.76		0.51	
2456		-----		-----	
2459	ISO14184-2	82.4		-0.67	
2468	ISO14184-2	113.9		3.76	
2471		-----		-----	
2474	ISO14184-2	96.56		1.32	
2475		-----		-----	
2476		-----		-----	
2483		-----		-----	
2489	ISO14184-2	87.5		0.05	
2495		-----		-----	
2506	ISO14184-2	93.15		0.84	
2511		-----		-----	
2514		-----		-----	
2519		-----		-----	
2532	ISO14184-2	82.0		-0.72	
2534		-----		-----	
2538		-----		-----	
2560	ISO14184-2	70.40		-2.35	
2561		-----		-----	
2567		-----		-----	
2572		-----		-----	
2573	ISO14184-2	79.3		-1.10	
2582	ISO14184-2	64.75		-3.15	
2589		-----		-----	
2590		-----		-----	
2591		-----		-----	
2605	ISO14184-2	90.10		0.41	
2609		-----		-----	
2615		-----		-----	
2625	ISO14184-2	78.74		-1.18	
2638	ISO14184-2	86.56		-0.08	
2644		-----		-----	
2648		-----		-----	
2665		-----		-----	
2667		-----		-----	
2674		-----		-----	
2678		-----		-----	
2726		-----		-----	
2728	ISO14184-2	62.72		-3.43	
2741		-----		-----	
2763	ISO14184-2	97.0		1.38	
2773		-----		-----	
2775		-----		-----	
2779	ISO14184-2	84.5		-0.37	
2782		-----		-----	
2789		-----		-----	
2804		-----		-----	
2807		-----		-----	
2810		-----		-----	
2826		-----		-----	
2864		-----		-----	
2921		-----		-----	
2926		-----		-----	
2933		-----		-----	
2934	ISO14184-2	84.8		-0.33	
2940		-----		-----	
2941		-----		-----	
3110		-----		-----	
3116		-----		-----	
3118		-----		-----	
3149		-----		-----	
3153		-----		-----	
3154		-----		-----	

lab	method	value	mark	z(targ)	remarks
3166		-----		-----	
3172		-----		-----	
3176	ISO14184-2	87.57		0.06	
3182	ISO14184-2	90.6		0.48	
3183	In house	52.29	R(0.01)	-4.90	
3185	ISO14184-2	88.86		0.24	
3186	ISO14184-2	87.39		0.03	
3190		-----		-----	
3192		-----		-----	
3195		-----		-----	
3197	ISO14184-2	83.9		-0.46	
3200		-----		-----	
3207		-----		-----	
3209	ISO14184-2	71.34		-2.22	
3210		-----		-----	
3214		-----		-----	
3216		-----		-----	
3218		-----		-----	
3222		-----	W	-----	Test result withdrawn, reported 141.9
3225		-----		-----	
3228		-----		-----	
3237		-----		-----	
3248	ISO14184-2	71.52		-2.20	
3250	ISO14184-2	89.49		0.33	
6191		-----		-----	
8005		-----		-----	
8008		-----		-----	

normality	suspect	
n	62	
outliers	1	
mean (n)	87.155	
st.dev. (n)	8.5176	RSD = 10%
R(calc.)	23.849	
st.dev.(Horwitz)	7.1182	
R(Horwitz)	19.931	





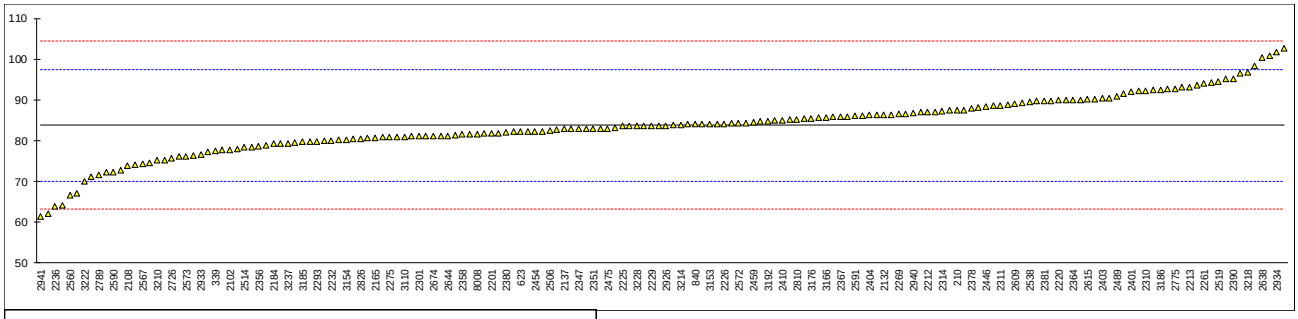
Determination of Free Formaldehyde on sample #20707; results in mg/kg

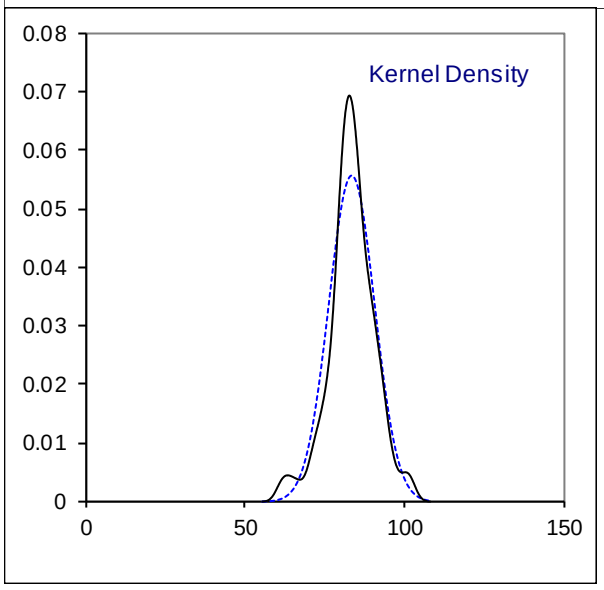
lab	method	value	mark	z(targ)	remarks
110	ISO14184-1	84.758		0.15	
210	ISO14184-1	87.37		0.52	
230		-----		-----	
339	ISO14184-1	77.5	C	-0.91	First reported 61.6
348	In house	80.2		-0.52	
362	ISO14184-1	86.5		0.40	
551	ISO14184-1	102.72	C	2.76	First reported 115.664
623	ISO14184-1	82.20		-0.23	
840	ISO14184-1	84.0		0.04	
841	ISO14184-1	83.8		0.01	
2102	ISO14184-1	77.78		-0.87	
2108	ISO14184-1	73.78		-1.45	
2115	ISO14184-1	76		-1.13	
2120	ISO14184-1	79.8		-0.58	
2129	ISO14184-1	72.6		-1.62	
2132	ISO14184-1	86.3313		0.37	
2137	ISO14184-1	82.93		-0.12	
2138	ISO14184-1	86.13		0.34	
2146	ISO14184-1	84.88		0.16	
2165	ISO14184-1	80.7		-0.44	
2170	ISO14184-1	87.36		0.52	
2181	ISO14184-1	90.50		0.98	
2182	ISO14184-1	81.2		-0.37	
2184	ISO14184-1	79.2		-0.66	
2201	ISO14184-1	81.80		-0.28	
2212	JIS L1041 B	87.0		0.47	
2213	GB/T2912	93.2		1.37	
2218	ISO14184-1	85.6		0.27	
2220	JIS L1041 L	89.9		0.89	
2225	ISO14184-1	83.50		-0.04	
2226	ISO14184-1	84.15		0.06	
2229	ISO14184-1	83.67		-0.01	
2232	ISO14184-1	80.00		-0.55	
2236	JIS L1041	63.9		-2.89	
2238	ISO14184-1	83.00		-0.11	
2255	ISO14184-1	79.24		-0.66	
2256	ISO14184-1	76.42		-1.07	
2261	ISO14184-1	93.952		1.48	
2264		-----		-----	
2265	ISO14184-1	83.64		-0.02	
2269	ISO14184-1	86.431		0.39	
2275	ISO14184-1	80.8		-0.43	
2279	ISO14184-1	86.9		0.46	
2289	GB/T2912	78.86		-0.71	
2290	ISO14184-1	85.4		0.24	
2293	ISO14184-1	79.83		-0.57	
2295	ISO14184-1	83.0		-0.11	
2297	ISO14184-1	77.7		-0.88	
2301	ISO14184-1	81.03		-0.40	
2310	ISO14184-1	92.3		1.24	
2311	ISO14184-1	88.6		0.70	
2313	ISO14184-1	93.48		1.41	
2314	ISO14184-1	87.21		0.50	
2330	ISO14184-1	72.16		-1.69	
2347	GB/T2912	83		-0.11	
2350	ISO14184-1	85.91		0.31	
2351	ISO14184-1	83		-0.11	
2356	ISO14184-1	78.7		-0.74	
2358	ISO14184-1	81.50		-0.33	
2363	ISO14184-1	83.2		-0.08	
2364	ISO14184-1	90.0		0.91	
2365	ISO14184-1	80.7		-0.44	
2366	ISO14184-1	81.5		-0.33	
2367	ISO14184-1	85.9		0.31	
2370	ISO14184-1	85.22		0.21	
2372	ISO14184-1	85.8753		0.31	
2373	ISO14184-1	89.8		0.88	
2375	ISO14184-1	83.5		-0.04	
2378	GB/T2912	88.0		0.62	
2379	ISO14184-1	77.99		-0.84	
2380	ISO14184-1	81.9		-0.27	
2381	ISO14184-1	89.70		0.86	
2382	ISO14184-1	81.3		-0.36	
2383	GB/T2912	92.6		1.28	

lab	method	value	mark	z(targ)	remarks
2385	ISO14184-1	84		0.04	
2390	ISO14184-1	95.20	C	1.66	First reported 51.61
2401	GB/T2912	92		1.20	
2403	ISO14184-1	90.3		0.95	
2404	ISO14184-1	86.2		0.35	
2406	ISO14184-1	71.13		-1.84	
2410	ISO14184-1	85		0.18	
2426	ISO14184-1	88.2		0.65	
2429		-----		-----	
2433	ISO14184-1	74.44		-1.35	
2442		-----		-----	
2446	In house	88.36		0.67	
2449	ISO14184-1	64.15		-2.85	
2453	ISO14184-1	83.7		-0.01	
2454	ISO14184-1	82.32		-0.21	
2456	ISO14184-1	92.4		1.26	
2459	ISO14184-1	84.4		0.09	
2468	ISO14184-1	100.9		2.49	
2471	ISO14184-1	94.25		1.52	
2474	ISO14184-1	82.13		-0.24	
2475	ISO14184-1	83.02		-0.11	
2476	ISO14184-1	78.43		-0.77	
2483	ISO14184-1	87.0		0.47	
2489	ISO14184-1	90.9		1.04	
2495	ISO14184-1	82.21		-0.23	
2506	ISO14184-1	82.39		-0.20	
2511	ISO14184-1	82.33		-0.21	
2514	ISO14184-1	78.38		-0.78	
2519	ISO14184-1	94.4		1.55	
2532	ISO14184-1	90.0		0.91	
2534	GB/T2912	91.5		1.12	
2538	ASU B82.02-1	89.59		0.85	
2560	ISO14184-1	66.64		-2.49	
2561	ISO14184-1	82.6		-0.17	
2567	ISO14184-1	74.40		-1.36	
2572	ISO14184-1	84.3		0.08	
2573	ISO14184-1	76.2		-1.10	
2582	ISO14184-1	80.78		-0.43	
2589	ISO14184-1	86.25		0.36	
2590	ISO14184-1	72.28		-1.67	
2591	ISO14184-1	86.00		0.33	
2605	GB/T2912	79.95		-0.55	
2609	GB/T2912	88.95		0.75	
2615	ISO14184-1	90.07		0.92	
2625	ISO14184-1	62.06		-3.15	
2638	ISO14184-1	100.36		2.41	
2644	ISO14184-1	81.2	C	-0.37	First reported 108.26
2648	GB/T2912	77.2		-0.95	
2665	In house	95.07		1.64	
2667	ISO14184-1	92.119		1.21	
2674	ISO14184-1	81.1		-0.39	
2678	ISO14184-1	98.30		2.11	
2726	ISO14184-1	75.75		-1.16	
2728	ISO14184-1	87.40		0.53	
2741	ISO14184-1	81.8		-0.28	
2763	ISO14184-1	88.5		0.69	
2773		-----		-----	
2775	ISO14184-1	92.62		1.29	
2779	ISO14184-1	90.2		0.94	
2782	GB/T2912	96.5		1.85	
2789	ISO14184-1	71.5		-1.78	
2804	JIS L1041 B	89.6		0.85	
2807	JISL1041	84.2		0.06	
2810	GB/T2912	85.25		0.22	
2826	ISO14184-1	80.41		-0.49	
2864	ISO14184-1	88.87		0.74	
2921	JIS L1041	93.17		1.37	
2926	ISO14184-1	83.7		-0.01	
2933	CNS15580-1	76.65		-1.03	
2934	ISO14184-1	101.75		2.61	
2940	GB/T2912	86.69		0.43	
2941	ISO14184-1	61.45		-3.24	
3110	In house	80.88		-0.42	
3116	ISO14184-1	80.85		-0.42	
3118	ISO14184-1	75.24		-1.24	
3149	ISO14184-1	79.4		-0.63	
3153	ISO14184-1	84.05		0.04	
3154	ISO14184-1	80.29		-0.50	

lab	method	value	mark	z(targ)	remarks
3166	In house	85.66		0.28	
3172	ISO14184-1	80.39		-0.49	
3176	ISO14184-1	85.47		0.25	
3182	ISO14184-1	84.1		0.05	
3183		-----		-----	
3185	ISO14184-1	79.67		-0.59	
3186	ISO14184-1	92.43		1.26	
3190		-----		-----	
3192	§64 LFGB B82-02-1	84.79		0.15	
3195	ISO14184-1	67		-2.44	
3197	ISO14184-1	83.0		-0.11	
3200	ISO14184-1	89.93		0.90	
3207		81		-0.40	
3209	ISO14184-1	84.32		0.08	
3210	In house	75.21		-1.24	
3214	ISO14184-1	83.82		0.01	
3216	ISO14184-1	86.40		0.38	
3218	ISO14184-1	96.80		1.90	
3222	ISO14184-1	70	C	-2.00	First reported 113.9
3225	ISO14184-1	83.94		0.03	
3228	ISO14184-1	83.6		-0.02	
3237	ISO14184-1	79.33		-0.64	
3248	ISO14184-1	74.05		-1.41	
3250	ISO14184-1	81.08		-0.39	
6191	ISO14184-1	89.2		0.79	
8005	JIS L1041	81.74		-0.29	
8008	ISO14184-1	81.6		-0.31	

normality	suspect	
n	172	
outliers	0	
mean (n)	83.759	
st.dev. (n)	7.1627	RSD = 9%
R(calc.)	20.055	
st.dev.(Horwitz)	6.8819	
R(Horwitz)	19.269	





Determination of Released Formaldehyde on sample #20707; results in mg/kg

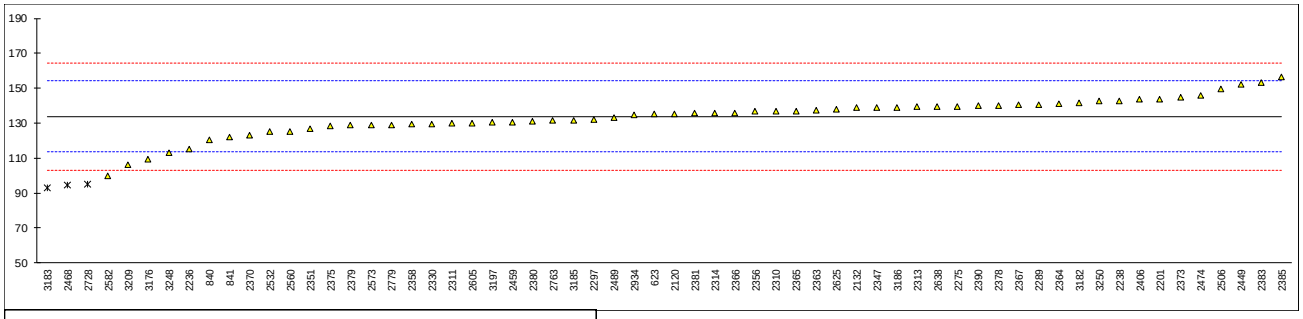
lab	method	value	mark	z(targ)	remarks
110		-----		-----	
210		-----		-----	
230		-----		-----	
339		-----		-----	
348		-----		-----	
362		-----		-----	
551		-----		-----	
623	ISO14184-2	135.15		0.13	
840	ISO14184-2	120.5		-1.30	
841	ISO14184-2	122.2		-1.13	
2102		-----		-----	
2108		-----		-----	
2115		-----		-----	
2120	ISO14184-2	135.4		0.15	
2129		-----		-----	
2132	ISO14184-2	138.73045		0.48	
2137		-----		-----	
2138		-----		-----	
2146		-----		-----	
2165		-----		-----	
2170		-----		-----	
2181		-----		-----	
2182		-----		-----	
2184		-----		-----	
2201	ISO14184-2	143.85		0.98	
2212		-----		-----	
2213		-----	W	-----	Test result withdrawn, reported 210.6
2218		-----		-----	
2220		-----		-----	
2225		-----		-----	
2226		-----		-----	
2229		-----		-----	
2232		-----		-----	
2236	AATCC112-14	115.3		-1.81	
2238	ISO14184-2	142.91		0.89	
2255		-----		-----	
2256		-----		-----	
2261		-----		-----	
2264		-----		-----	
2265		-----		-----	
2269		-----		-----	
2275	ISO14184-2	139.7		0.57	
2279		-----		-----	
2289	GB/T2912	140.65		0.67	
2290		-----		-----	
2293		-----		-----	
2295		-----		-----	
2297	ISO14184-2	132.2		-0.16	
2301		-----		-----	
2310	ISO14184-2	137		0.31	
2311	ISO14184-2	130		-0.37	
2313	ISO14184-2	139.4		0.54	
2314	ISO14184-2	135.73		0.19	
2330	ISO14184-2	129.40		-0.43	
2347	GB/T2912	139		0.51	
2350		-----		-----	
2351	ISO14184-2	127		-0.67	
2356	ISO14184-2	136.9		0.30	
2358	ISO14184-2	129.33		-0.44	
2363	ISO14184-2	137.5		0.36	
2364	ISO14184-2	141.0		0.70	
2365	ISO14184-2	137.1		0.32	
2366	ISO14184-2	136.0		0.21	
2367	ISO14184-2	140.4		0.64	
2370	ISO14184-2	123.3		-1.03	
2372		-----		-----	
2373	ISO14184-2	144.6		1.05	
2375	ISO14184-2	128.6		-0.51	
2378	GB/T2912	140.2		0.62	
2379	ISO14184-2	128.75		-0.50	
2380	ISO14184-2	131.2		-0.26	
2381	ISO14184-2	135.60		0.17	
2382		-----		-----	
2383	GB/T2912	153.2		1.89	

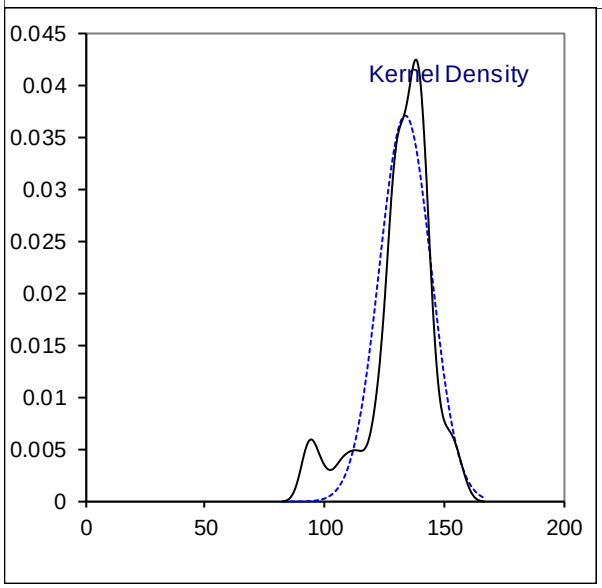
lab	method	value	mark	z(targ)	remarks
2385	ISO14184-2	156.6		2.22	
2390	ISO14184-2	140.1	C	0.61	First reported 196.24
2401		-----		-----	
2403		-----		-----	
2404		-----		-----	
2406	ISO14184-2	143.50		0.94	
2410		-----		-----	
2426		-----		-----	
2429		-----		-----	
2433		-----		-----	
2442		-----		-----	
2446		-----		-----	
2449	ISO14184-2	152.17	C	1.79	First reported 172.17
2453		-----		-----	
2454		-----		-----	
2456		-----		-----	
2459	ISO14184-2	130.7		-0.30	
2468	ISO14184-2	94.3	R(0.05)	-3.86	
2471		-----		-----	
2474	ISO14184-2	146.06		1.19	
2475		-----		-----	
2476		-----		-----	
2483		-----		-----	
2489	ISO14184-2	133.1		-0.07	
2495		-----		-----	
2506	ISO14184-2	149.8		1.56	
2511		-----		-----	
2514		-----		-----	
2519		-----		-----	
2532	ISO14184-2	125.0		-0.86	
2534		-----		-----	
2538		-----		-----	
2560	ISO14184-2	125.3		-0.83	
2561		-----		-----	
2567		-----		-----	
2572		-----		-----	
2573	ISO14184-2	128.9		-0.48	
2582	ISO14184-2	100.03		-3.30	
2589		-----		-----	
2590		-----		-----	
2591		-----		-----	
2605	ISO14184-2	130.20		-0.35	
2609		-----		-----	
2615		-----		-----	
2625	ISO14184-2	137.98		0.41	
2638	ISO14184-2	139.57		0.56	
2644		-----		-----	
2648		-----		-----	
2665		-----		-----	
2667		-----		-----	
2674		-----		-----	
2678		-----		-----	
2726		-----		-----	
2728	ISO14184-2	95.16	R(0.05)	-3.77	
2741		-----		-----	
2763	ISO14184-2	131.4		-0.24	
2773		-----		-----	
2775		-----		-----	
2779	ISO14184-2	129.1		-0.46	
2782		-----		-----	
2789		-----		-----	
2804		-----		-----	
2807		-----		-----	
2810		-----		-----	
2826		-----		-----	
2864		-----		-----	
2921		-----		-----	
2926		-----		-----	
2933		-----		-----	
2934	ISO14184-2	134.6		0.08	
2940		-----		-----	
2941		-----		-----	
3110		-----		-----	
3116		-----		-----	
3118		-----		-----	
3149		-----		-----	
3153		-----		-----	
3154		-----		-----	

lab	method	value	mark	z(targ)	remarks
3166		-----		-----	
3172		-----		-----	
3176	ISO14184-2	109.32	C	-2.39	First reported 173.68
3182	ISO14184-2	141.5		0.75	
3183	In house	92.84	R(0.05)	-4.00	
3185	ISO14184-2	131.60		-0.22	
3186	ISO14184-2	139.17		0.52	
3190		-----		-----	
3192		-----		-----	
3195		-----		-----	
3197	ISO14184-2	130.3		-0.34	
3200		-----		-----	
3207		-----		-----	
3209	ISO14184-2	106.22		-2.69	
3210		-----		-----	
3214		-----		-----	
3216		-----		-----	
3218		-----		-----	
3222		-----		-----	
3225		-----		-----	
3228		-----		-----	
3237		-----		-----	
3248	ISO14184-2	113.13		-2.02	
3250	ISO14184-2	142.50		0.85	
6191		-----		-----	
8005		-----		-----	
8008		-----		-----	

	normality	suspect
	n	59
	outliers	3
	mean (n)	133.825
	st.dev. (n)	10.7848
	R(calc.)	30.197
	st.dev.(Horwitz)	10.2466
	R(Horwitz)	28.691

RSD = 8%





APPENDIX 2 Analytical details

lab	ISO/IEC 17025 accredited	Sample Intake Free Form. (grams)	Sample Intake Released Form. (grams)	Dimedone confirmation test	Dimedone confirmation done because of
110	Yes	1.0		Yes	color interference from sample
210	Yes			---	
230	---			---	
339	No	2 x 2g		No	
348	Yes	1		No	
362	Yes	1.00g		No	
551	Yes	1g		Yes	
623	Yes	1 gram	1 gram	Yes	because the result is positive
840	Yes	0.5 grams	1.0 grams	No	
841	Yes	1.000	1.000	No	
2102	Yes	1 gram		No	
2108	Yes	1 g		Yes	Yes, because the extract #20706 was coloured
2115	Yes	1 g		Yes	
2120	Yes	0.5g	1g	Yes	We always do the test for confirmation.
2129	Yes	1g		No	
2132	Yes	1g, 0.5g	0.5g	Yes	confirmation carried out once the result is greater than reporting limit.
2137	Yes	1		Yes	#20706 : YELLOW DYE #20705,20707 : NO
2138	Yes	about 1.0 g		No	
2146	Yes	1.5 / 1 gram (#20707)		Yes	To confirm that the absorption is due to formaldehyde.
2165	Yes	1		Yes	Because of the coloring extracted agent, we did the dimedone confirmation.
2170	Yes	1.0 gram		No	
2181	Yes	3 grams		No	
2182	Yes	1g		Yes	Dimedone confirmation test was performed on all positive results.
2184	Yes	1		Yes	Check for interference
2201	Yes	1 g	1 g	Yes	to confirm that the absorption is due to formaldehyde not dye
2212	Yes	1 gram		Yes	We perform dimedone test in order to confirm that the absorption is caused by formaldehyde.
2213	Yes	1 gram	1 gram	No	
2218	No	1g		Yes	
2220	Yes	2.5g and 1.3g (#20707)		Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2225	Yes	5/3		Yes	some absorption of sample #20706 not be due to formaldehyde
2226	Yes	1.0		No	
2229	Yes	1 g		Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2232	Yes	2		Yes	color leaching
2236	Yes	1 g	1 g	Yes	Our lab automatically does dimedone confirmation test for any result greater than or equal to 13 mg/kg.
2238	Yes	1g and 0.75g (#20707)	1g and 0.8g (#20707)	No	
2255	Yes	1.0		Yes	
2256	Yes	1 g		Yes	
2261	Yes	1g*2		No	
2264	Yes			No	
2265	Yes	2,5		Yes	
2269	Yes	1.0 gr		Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2275	Yes	1.000g	1g and 0.5g (#20707)	Yes	Yes, it is some discoloration.
2279	Yes	0.5 or 1.0		Yes	Perform dimedone test for #20706
2289	Yes	1.00 gram.	1.00 gram	No	
2290	Yes			---	
2293	Yes	1.0 gm		Yes	for confirmation the positive result
2295	Yes	1 gram		No	
2297	Yes	1g	2g	No	
2301	Yes	1.0020 gram		Yes	To correction result abs formed from another substance
2310	Yes	1	1	No	
2311	Yes	0.5	0.5	No	
2313	Yes	0.5g	0.5g	No	

lab	ISO/IEC 17025 accredited	Sample Intake Free Form. (grams)	Sample Intake Released Form. (grams)	Dimedone confirmation test	Dimedone confirmation done because of
2314	Yes	0.5 gm	1.0 gm	No	
2330	Yes	1 gram	1 gram	No	
2347	Yes			---	
2350	Yes	1g		Yes	NA
2351	Yes	2g and 1g (#20707).	2g.	Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2356	Yes	1g / 0.5g (#20707)	1g / 0.5g (#20707)	Yes	
2358	Yes	1.0 g	1.0 g	No	
2363	Yes	1g	1g	No	
2364	Yes	1g	1g	Yes	there is a little color fading in extraction process, so we do the confirmation test.
2365	Yes	0.5g	0.5g	No	
2366	Yes	0.5 gram	0.5 gram	No	
2367	Yes	1g	1g	Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2370	Yes	1 g	1 g	Yes	dimedone confirmation test Exclude other compounds from interfering with color development
2372	Yes	1±0.05 g		---	
2373	Yes	1g	1g	Yes	
2375	Yes			---	
2378	Yes	1.007g	1.012g	Yes	In order to exclude the interference of other substances besides formaldehyde.
2379	Yes	0.5000 g/50 mL	0.5 g/25 mL	Yes	Because confirmation formaldehyde content.
2380	Yes	1 gm	1 gm	No	
2381	Yes	0.5 gm	0.5 gm	No	
2382	Yes	1g		No	
2383	Yes	1g	1g	Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2385	Yes	1,0 g	1,0 g	No	
2390	Yes	1g	1g	Yes	
2401	No	1.0g		No	
2403	Yes	1g		No	
2404	Yes	1g		---	
2406	No	1g	1g	Yes	There is discoloration in the sample solution.
2410	Yes	0.5 g		Yes	
2426	Yes	1.0 grams		No	
2429	---			---	
2433	Yes	1 g	NA	Yes	Because it was used to confirm the presence of formaldehyde.
2442	---			---	
2446	Yes	1 g		No	
2449	Yes	1g	1g	Yes	For confirmation
2453	Yes	1g		No	
2454	Yes	1g	1g	Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2456	Yes	4 g		Yes	Dimedone is used to confirm the actual presence of formaldehyde within a sample.
2459	Yes	1gm	1gm	No	Enough quantity of sample should be provided for replicate analysis. with provided material, only a single replicate could be performed. Please provide sample to perform ISO 14184-2
2468	Yes	1g	1g	Yes	only on sample 20706 due to sample changing colour of test solution
2471	Yes	1		No	
2474	---	1 gram	1 gram	No	
2475	Yes	1g		Yes	
2476	Yes	1	NA	No	Samples (#20705 / #20706) were found opened upon receipt.
2483	Yes	1.00		No	
2489	Yes	approx.1g	1g	No	
2495	Yes	1.0g		No	
2506	Yes	2g and 1g (#20707)	2g and 1g (#20707)	Yes	Colour yellow code # 20706: ISO 14181-1: Yes dimedone was used, because a yellow colouring agent was observed in the extract even after filtering the sample and the extracting solution.
2511	---			---	

lab	ISO/IEC 17025 accredited	Sample Intake Free Form. (grams)	Sample Intake Released Form. (grams)	Dimedone confirmation test	Dimedone confirmation done because of
2514	Yes	1 gm		Yes	
2519	No	1		Yes	Because of the colored extract.
2532	Yes	1g and 0.5g (#20707)	1g and 0.5g (#20707)	No	
2534	Yes	1 g		No	
2538	Yes	1g		No	
2560	Yes	1.0 grams	1.0 grams	No	
2561	Yes	2.5 g		No	
2567	Yes	1.0		Yes	confirmatory test
2572	Yes			---	
2573	Yes	1g	1g	No	
2582	Yes	1g	1g	Yes	
2589	Yes	1g		No	
2590	Yes	2 gr		No	
2591	Yes	2.5 grams		No	
2605	Yes	2 gr	2g and 1g (#20707)	Yes	
2609	Yes	1.00		No	
2615	Yes	1		Yes	#20706 was performed a dimedone confirmation
2625	No	1	1	No	
2638	No	0.5 gm	0.5 gm	No	
2644	Yes	1 g		Yes	To verify a positive test result
2648	---			---	
2665	Yes	0,5		No	
2667	---			---	
2674	Yes	1g		Yes	
2678	Yes	1g		Yes	dimedone confirmation was performed for #20706
2726	Yes	1 g		Yes	extracted colouring agent
2728	Yes	1 gram	1 gram	Yes	just for confirmation
2741	Yes	1g		Yes	an extracted colouring agent.
2763	Yes	1.0044 g	1.0031 g	Yes	for confirmation, the absorbance is for Formaldehyde or not
2773	---			---	
2775	Yes	3g		No	
2779	Yes	1 gram	1 gram	No	
2782	Yes	1 g and 0.6g (#20707)		Yes	
2789	---			---	
2804	Yes	1g		Yes	According to the standard method JIS 1041 B,
2807	No	1g		No	
2810	No	2 g		No	
2826	Yes	1g		No	
2864	Yes	1g		No	
2921	No	1 grams		No	
2926	Yes	1g		Yes	#20706 to confirm absorbance is due to formaldehyde.
2933	No	approximately 11 grams		No	laboratory uses the blank specimen to minimize effect of any impurities and discoloration in the test.
2934	Yes	1.0 gram	1.0 gram	Yes	#20706 Dimidone was used to confirm free formaldehyde.
2940	No	1g		Yes	#20706 faded, so we performed a dimedone confirmation test in acc with "GB/T2910.1-2009".
2941	No	2x1 g =2 g		Yes	Yes, because the extract was color.
3110	Yes			---	
3116	Yes	1g		Yes	amount of formaldehyde in the samples was higher than the laboratory reporting limit.
3118	No	1 gram		Yes	use dimedone to confirm that the absorption is due to formaldehyde
3149	Yes	1 g		No	
3153	Yes	1 gram		No	
3154	Yes			---	
3166	Yes	0.5		---	
3172	Yes			---	
3176	Yes	1	0,5	No	
3182	Yes	1.00	1.00	Yes	
3183	Yes	not derminated	1g	No	
3185	Yes	0.5g	1.0g	No	

lab	ISO/IEC 17025 accredited	Sample Intake Free Form. (grams)	Sample Intake Released Form. (grams)	Dimedone confirmation test	Dimedone confirmation done because of
3186	Yes	1 gm	1 gm	No	
3190	---			---	
3192	Yes	1 gram		No	
3195	Yes	appro 3,5g		Yes	Due to the coloration of the eluate
3197	Yes	0,5 g	1 g	Yes	20706: Sample solution was yellow.
3200	Yes	1 gram		No	
3207	Yes	1 gram		Yes	
3209	Yes	1g	1g	Yes	For confirmation
3210	Yes	1		No	
3214	Yes	1g		No	
3216	Yes	1 gram		Yes	Coloración en las soluciones de extracción de las muestras (#20705; #20706; #20707)
3218	Yes	1g		Yes	discoloration in the test specimen solution
3222	Yes	1,0 g	1,0 g	Yes	because the sample is positive
3225	Yes	1 g	Nil	Yes	Confirm the result to avoid false positive.
3228	Yes	1.0		No	
3237	Yes	1 gr	-	Yes	Sample 20706 is color
3248	Yes	1 g	1 g	Yes	to ensure there is no doubt that the absorption may not be due to formaldehyde.
3250	Yes	1g	1g	Yes	
6191	No	1 gram		Yes	Standard procedure is to perform a dimedone test for all results above LQ.
8005	Yes	1g		Yes	amount of formaldehyde determined in the samples was higher than the laboratory reporting limit.
8008	---			---	

APPENDIX 3

Number of participants per country

7 labs in BANGLADESH
1 lab in BRAZIL
2 labs in BULGARIA
3 labs in CAMBODIA
1 lab in EGYPT
1 lab in FINLAND
5 labs in FRANCE
11 labs in GERMANY
1 lab in GUATEMALA
18 labs in HONG KONG
11 labs in INDIA
5 labs in INDONESIA
9 labs in ITALY
1 lab in JAPAN
2 labs in MAURITIUS
2 labs in MEXICO
1 lab in MOROCCO
45 labs in P.R. of CHINA
5 labs in PAKISTAN
1 lab in PERU
1 lab in PHILIPPINES
1 lab in POLAND
2 labs in PORTUGAL
1 lab in ROMANIA
2 labs in SINGAPORE
1 lab in SLOVENIA
4 labs in SOUTH KOREA
4 labs in SPAIN
1 lab in SRI LANKA
6 labs in TAIWAN
3 labs in THAILAND
1 lab in THE NETHERLANDS
2 labs in TUNISIA
6 labs in TURKEY
5 labs in U.S.A.
2 labs in UNITED KINGDOM
5 labs in VIETNAM

APPENDIX 4

Abbreviations

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

Literature

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16. Bernard Rosner, Percentage Points for a Generalized ESD Many-Outlier Procedure, Technometrics, 25(2), 165-172, (1983)