Results of Proficiency Test
Fuel/Bio-ethanol
December 2010

Organised by: Institute for Interlaboratory Studies (iis)
Spijkenisse, the Netherlands

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Report: iis10C12a-*corrected*

February 2011

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1. INTRODUCTION

Since 1995, a proficiency test for Ethanol was organised every year by the Institute for Interlaboratory Studies. During the annual proficiency testing program 2010/2011, it was decided to continue the round robin for the analysis of Fuel/Bio-ethanol. In this interlaboratory study for Fuel/Bio-ethanol, 59 laboratories in 24 different countries have participated. See appendix 2 for the number of participants per country. In this report, the results of the proficiency test are presented and discussed.

2 SET-UP

The Institute for Interlaboratory Studies (i.i.s.) in Spijkenisse, The Netherlands, was the organiser of this proficiency test. Sample analyses for fit-for-use and homogeneity testing were subcontracted to an accredited laboratory. It was decided to send 2 samples of Ethanol (1* 1 L bottle of Fuel Ethanol labelled #1089 and 1* 0.25 L bottle of Fuel Ethanol labelled #1090, especially for Gas Chromatography purpose). Participants were requested to report rounded and unrounded results. The unrounded results were preferably used for statistical evaluation.

2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, has implemented a quality system based on ISO guide 43 and ILAC-G13:2007. This ensures 100% confidentially of participant's data. Also 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 'i.i.s. Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' (i.i.s.-protocol, version 3.2) of January 2010.

2.3 CONFIDENTIALITY STATEMENT

All data present 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

The necessary bulk material for the samples #1089 and #1090 was obtained from a local trader. The bulk material was split for preparation of both samples. Part of the bulk material was transferred into a precleaned drum and was homogenised.

After homogenisation, 92 subsamples were transferred to 1 litre amber glass bottles and labelled #1089. The homogeneity of the subsamples #1089 was checked by determination of Density in accordance with ASTM D4052 and Water in accordance with EN15489 on 8 stratified random selected samples.

	Density @ 15ºC in kg/L	*Water in %M/M*
#1089 -1	0.79420	0.148
#1089 -2	0.79420	0.144
#1089 -3	0.79421	0.146
#1089 -4	0.79421	0.146
#1089 -5	0.79420	0.147
#1089 -6	0.79420	0.147
#1089 -7	0.79420	0.146
#1089 -8	0.79421	0.149

Table 1: Homogeneity tests of subsamples #1089

From the test results of table 1, the repeatabilities were calculated and compared with 0.3 times the corresponding target reproducibility in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Density @ 15ºC in kg/L	*Water in %M/M*
r (Observed)	0.00001	0.0042
reference method	D4052:02e1	EN15489:07
0.3 * R (ref. method)	0.00015	0.0065

Table 2: Repeatability of subsamples #1089

The calculated repeatabilities for Density and Water were equal or less than 0.3 times the corresponding reproducibilities of respectively ASTM D4052:09 and EN15489:07. Therefore, homogeneity of the subsamples #1089 was assumed.

The other part of the bulk material was transferred into a precleaned can and was spiked with 16.88 mg/kg with Isopropanol. After thorough homogenisation, 96 subsamples were transferred to 0.25 litre brown glass bottles, and labelled #1090. The homogeneity of the subsamples #1090 was checked by determination of Density in accordance with ASTM D4052:02e1 and Isopropanol in accordance with in house test method on 6 stratified random selected samples.

Sample	*Density @ 15°C in kg/L*	*IPA in mg/kg*
#1090-1	0.79419	23
#1090-2	0.79419	21
#1090-3	0.79418	23
#1090-4	0.79419	21
#1090-5	0.79419	23
#1090-6	0.79418	23

Table 3: Homogeneity tests of subsamples #1090

From the test results of table 3, the repeatabilities were calculated and compared with 0.3 times the corresponding target reproducibility in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Density @ 15°C in kg/L	*IPA in mg/kg*
r (Observed)	0.00001	2.8
reference method	D4052:09	Horwitz
0.3 * R (ref. method)	0.00015	1.8

Table 4: Repeatability of subsamples #1090

The calculated repeatability for Density is in agreement with the 0.3 times the reproducibility of ASTM D4052:09. The calculated reproducibility of Isopropanol does not appear to be in agreement with 0.3 times the strict reproducibility requirements of the Horwitz equation but it is in agreement with the repeatability of the test method used by subcontracted laboratory. Therefore the homogeneity of the subsamples #1090 was assumed.

To each of the participating laboratories: 1 * 1 L bottle (labelled #1089) and 1 * 0.25 L bottle (labelled #1090) were sent on November 4, 2010.

2.5 STABILITY OF THE SAMPLES

The stability of Ethanol, packed in the amber glass bottles, was checked. The material was found sufficiently stable for the period of the proficiency test.

2.6 ANALYSES

The participants were asked to determine on sample #1089 : Acidity as Acetic Acid, Aldehydes as Acetaldehyde, Anorganic Chloride as Cl, Appearance, Density @20^{o}C, Nitrogen, Nonvolatile Matter, Organic Chloride, pHe, Sulphate, Total Sulphur, Water (coulometric and titrimetric), Copper and Phosphorous.

On sample #1090 was asked to determine: Purity on dry basis, Acetaldehyde, Acetal, Acetone, Benzene, Cyclohexane, Crotonaldehyde, DEG, Dioxane, Ethylacetate, Iso-Amylalcohol, iso-Butanol, iso-Propanol, MEG, Methanol, n-Amylalcohol, n-Butanol, n-Propanol, sec-Amylalcohol, sec-Butanol, tert-Amylalcohol, tert-Butanol and Total Impurities by GC.

To get comparable results a detailed report form, on which the units were printed, was sent together with each set of samples. In addition, a letter of instructions and a SDS were added to the package.

3 RESULTS

During four weeks after sample despatch, the results of the individual laboratories were received. The original reported results are tabulated per determination in appendix 1 of this report. The laboratories are presented by their code numbers.

Directly after deadline, a reminder fax was sent to those laboratories that had not yet reported any results at that moment.

Shortly after the deadline, the available results were screened for suspect data. A 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 results. Additional or corrected results are used for data analysis and original results are placed under 'Remarks' in the result tables in appendix 1.

3.1 STATISTICS

Statistical calculations were performed as described in the report ‘i.i.s. Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation’ (i.i.s.-protocol, version 3.2) of January 2010.

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. After removal of outliers this check was repeated. Not all data sets proved to have a normal distribution, in which cases the statistical evaluation should be used with due care.

In accordance with ISO 5725 (1986 and 1994) the original results per determination were submitted subsequently to Dixon and Grubbs outlier tests. Outliers are marked by D(0.01) for the Dixon test and by G(0.01) or DG(0.01) for the Grubbs test. Stragglers are marked by D(0.05) for the Dixon test and by G(0.05) or DG(0.05) for the Grubbs test. Both outliers and stragglers were not included in the calculations of the averages and the standard deviations.

Finally the reproducibilities were calculated from the standard deviations by multiplying these 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 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 standard. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms (see appendix 3, nr.14-15).

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, e.g. ASTM reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the spread 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, literature repeatability is available; in other cases a reproducibility of a former iis proficiency test could be used and also the Horwitz equation can be used to estimate target reproducibility.

The z-scores were calculated according to:

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

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

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

4. Evaluation

In this proficiency test major problems were encountered with despatch of the samples. Several laboratories in Brazil, Finland, France, P.R. of China, Pakistan, Spain, Sweden, Taiwan, Thailand, USA, UK and Vietnam received their samples late or not at all. Twelve participants reported the results after the final reporting date and ten participants did not report any results at all.

Not all laboratories were able to perform all analyses requested. The 49 reporting laboratories did send in 678 (numerical) results. Observed were 33 outlying results, which is 4.8%. In proficiency studies, outlier percentages of 3% - 7.5% are normal.

The concentrations of some GC-impurities were low and sometimes even below the detection limit. Consequently, many participants reported 'less than' values for these components. For these components no significant conclusions were drawn.

4.1 EVALUATION PER TEST

In this section, the results are discussed per test. The methods, which are used by the various laboratories, are taken into account for explaining the observed differences when possible and applicable. These methods are also in the tables together with the original data. The abbreviations, used in these tables, are listed in appendix 3.

Not normal distributions were found for the following determinations: Anorganic Chloride, Density @20°C, Nitrogen, pHe, Phosphorus, Acetone, Cyclohexane, iso-Amylalcohol, n-Butanol, sec-butanol and Total impurties. In these cases the statistical evaluation should be used with due care. One can see that this is justified from the Kernel Density Graphs.

Sample #1089

Acidity: This determination was problematic. Two statistical outliers were detected. Also, the calculated reproducibility, after rejection of the statistical outliers, is not in agreement with the requirements of ASTM D1613:06.

Aldehydes: This determination was very problematic. Three statistical outliers were observed. Also, the calculated reproducibility, after rejection of the statistical outliers, is not at all in agreement with the strict estimated reproducibility calculated using the Horwitz equation.

Anorg. Chloride: This concentration is below the application range (4–30 mg/kg) of EN15484:07. However, this determination was not problematic. Only one statistical outlier was detected. Also, the calculated reproducibility, after rejection of the statistical outliers, is in good agreement with the estimated requirements of EN15484:07.

Appearance: This determination was not problematic. All participants agreed about the appearance of sample #1089. Uniformity of reporting can be improved.
A new standardized method is available for Appearance since 2009, being ASTM E2680. According this method the appearance should be reported as 'pass' (or 'fail').

Density @20°C: This determination was not problematic. Two statistical outliers were observed. However, the calculated reproducibility is, after rejection of the statistical outliers, in full agreement with the requirements of ASTM D4052:02e1.

Nitrogen: This determination was problematic. No statistical outlier was detected. However, the calculated reproducibility is not in agreement with the requirements of ASTM D4629:09.

N.V.M.: This determination was not problematic. Only one statistical outlier was detected. The calculated reproducibility is, after rejection of the statistical outlier, in full agreement with the requirements of ASTM D1353:09.

Org. Chloride: This concentration is below the application range (<1 mg/ kg) of ASTM D4929:07-B. However, this determination was not problematic. No statistical outlier was detected. Also, the calculated reproducibility is in good agreement with the estimated requirements of ASTM D4929:07-B.

pHe: This determination was very problematic. The test results may be bimodally divided. Each group has a reproducibility not in agreement with requirements of ASTM D6423:08.
When all results are evaluated, no statistical outlier was observed. Also, the calculated reproducibility is again not at all in agreement with the requirements of ASTM D6423:08. It is a well known fact that measuring pH of Ethanol is extremely difficult.

Sulphate: This determination was problematic. No statistical outliers were detected. However, the calculated reproducibility is not at all in agreement with the requirements of ASTM D15492:07.

Total Sulphur: This concentration is below the application range (7–20 mg/ kg) of EN15485:07. This determination was not at all problematic. No statistical outliers were detected. However, the calculated reproducibility is in full agreement with the requirements of EN15485:07.

Water: This determination was not problematic for either the coulometric or the titrimetric mode. Two statistical outliers were observed for the coulometric mode, and only one statistical outlier was detected for the titrimetric mode. Both calculated reproducibilities, after rejection of the statistical outliers, are in full agreement with the requirements of respectively EN15489:07 (coulometric) and ASTM E203:08 (titrimetric).

Copper: Only three participants reported a numerical result. Therefore no significant conclusions were drawn.

Phosphorus: This concentration is below the application range (0.118–1.18 mg/kg) of EN15487:07. This determination was problematic. No statistical outliers were detected. Also, the calculated reproducibility is not in agreement with the requirements of EN15485:07.

Sample #1090 (GC- Impurities)

For Benzene, Crotonaldehyde, DEG, Dioxane, MEG, sec-Amylalcohol, tert-Amylalcohol and tert-Butanol only few numerical results were reported. Therefore no significant conclusions were drawn for these parameters. The concentrations of Acetone, Cyclohexane, n-amylalcohol and sec-Butanol were near or below the limit of detection, hence no significant conclusions were drawn.

Purity on db: The determination was problematic for a number of laboratories. Six statistical outliers were detected. However, the calculated reproducibility is, after rejection of the statistical outlier, in full agreement with the requirements of EN15721:07.

Acetaldehyde: The determination of this component was very problematic. No statistical outliers were observed. However, the calculated reproducibility is not at all in agreement with the strict estimated reproducibility calculated using the Horwitz equation.

Acetal: The determination of this component may be problematic. Two statistical outliers were observed. The calculated reproducibility is, after rejection of the statistical outliers, not in agreement with the strict estimated reproducibility calculated using the Horwitz equation.

Ethylacetate: The determination of this component was not problematic. Two statistical outliers were observed. However, the calculated reproducibility, after rejection of the statistical outliers, is in full agreement with the strict estimated reproducibility calculated using the Horwitz equation.

iso-Amylalcohol: The determination of this component was problematic. One statistical outlier was observed. Another 3 test results appeared to be the sum of 2- and 3-methyl-1-butanol and therefore were excluded. The calculated reproducibility, after rejection of the statistical outlier, is not in agreement with the strict estimated reproducibility calculated using the Horwitz equation.

iso-Butanol: The determination of this component was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the strict estimated reproducibility calculated using the Horwitz equation. The large spread may be caused by co-elution.

iso-Propanol: The determination of this component was very problematic. Only one statistical outlier was observed. However, the calculated reproducibility is, after rejection of the statistical outlier, not at all in agreement with the strict estimated reproducibility calculated using the Horwitz equation. The average recovery of Isopropanol and the theoretical increment of 16.88 mg/kg may be good (<112%). The actual blank iso-propanol content is unknown.

Methanol: The determination of this component was not problematic. Two statistical outliers were detected. However, the calculated reproducibility, after rejection of the statistical outliers, is in full agreement with the requirements according to EN15721:07.

n-Butanol: The determination of this component was problematic at low level of 15 ppm. Two statistical outliers were detected. The calculated reproducibility, after rejection of the statistical outliers, is not in agreement with the strict estimated reproducibility calculated using the Horwitz equation.

n-Propanol: The determination of this component was not problematic. No statistical outliers ware observed. Also, the calculated reproducibility is in agreement with the strict estimated reproducibility calculated using the Horwitz equation.

Total Impurities: The determination was not problematic. Three statistical outliers were observed. However, the calculated reproducibility, after rejection of the statistical outliers, is in good agreement with the estimated reproducibility calculated using the Horwitz equation.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the relevant standard and the reproducibility as found for the group of participating laboratories. The average results per sample, calculated reproducibilities and reproducibilities derived from literature standards (in casu ASTM standards) or the Horwitz equation are compared in the next table.

Parameter	unit	n	average	2.8 *sd_R	R (lit)
Acidity as Acetic acid	mg/kg	42	22.40	15.80	14.00
Aldehyde as Acetaldehyde	mg/kg	13	23.08	32.40	13.06
Anorganic Chloride as Cl	mg/kg	19	0.19	0.43	(1.26)
Density @ 20^{o}C	kg/L	46	0.7899	0.0003	0.0005
Nitrogen	mg/kg	13	0.57	0.93	0.61
Nonvolatile Matter	mg/100 mL	20	0.49	0.99	2.40
Organic Chloride	mg/kg	7	0.42	0.61	(0.69)
pHe		19	3.84	5.11	0.52
Sulphate	mg/kg	19	1.78	2.03	1.02
Total Sulphur	mg/kg	29	1.13	1.08	(3.34)
Water _Coulometric	% M/M	34	0.150	0.015	0.022
Water _Titrimetric	% M/M	25	0.150	0.024	0.078
Copper	mg/kg	3	n.a.	n.a.	n.a.
Phosphorous	mg/kg	10	0.024	0.054	(0.049)

Table 5: Reproducibilities of sample #1089
Results between brackets should be used with care, as the average is near or below the application range

Parameter	Unit	n	average	2.8 *sd_R	R (lit)
Purity on dry basis	%M/M	25	99.662	0.074	0.124
Acetaldehyde	mg/kg	26	21.78	28.62	6.14
Acetal	mg/kg	25	1037.6	184.3	163.4
Acetone	mg/kg	12	5.87	8.36	(2.01)
Benzene	mg/kg	3	n.a.	n.a.	n.a.
Cyclohexane	mg/kg	6	3.5	11.1	(1.3)
Crotonaldehyde	mg/kg	4	n.a.	n.a.	n.a.
DEG	mg/kg	1	n.a.	n.a.	n.a.
Dioxane	mg/kg	3	n.a.	n.a.	n.a.
Ethylacetate	mg/kg	29	145.36	30.33	30.78
iso-Amylalcohol	mg/kg	18	742.20	196.75	122.95
iso-Butanol	mg/kg	29	500.63	114.46	88.00
iso-Propanol	mg/kg	24	23.00	14.67	6.43
MEG	mg/kg	3	n.a.	n.a.	n.a.
Methanol	mg/kg	29	65.86	20.04	22.04
n-Amylalcohol	mg/kg	6	4.6	15.3	(1.6)
n-Butanol	mg/kg	27	14.70	6.51	4.40
n-Propanol	mg/kg	31	572.00	88.94	98.55
sec-Amylalcohol	mg/kg	3	n.a.	n.a.	n.a.
sec-Butanol	mg/kg	9	7.28	23.44	(2.42)
tert-Amylalcohol	mg/kg	2	n.a.	n.a.	n.a.
tert-Butanol	mg/kg	0	n.a.	n.a.	n.a.
Total impurities	mg/kg	20	3369.5	828.4	1333.6

Table 6: Reproducibilities of sample #1089 and #1090
Results between brackets should be used with care, as the average is near or below the application range

Without further statistical calculations, it can be concluded that for most of the tests there is a not much compliance of the group of participating laboratories with the relative standards. The tests, that are problematic, have been discussed in paragraph 4.1.

4.3 COMPARISON OF THE PROFICIENCY TEST OF DECEMBER 2010 WITH PREVIOUS PTS

	December 2010	*December 2009*	*December 2008*	*December 2007*
Number of reporting labs	49	44	53	40
Number of results reported	678	616	557	595
Statistical outliers	33	44	40	30
Percentage outliers	4.8%	7.1%	7.2%	5.0%

Table 7: Comparison with previous proficiency tests.

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

The performance of the determinations of the proficiency tests was compared against the requirements of the respective standards. The conclusions are given the following table:

Determination	*December 2010*	*December 2009*	*December 2008*	*December 2007*
Acidity as Acetic Acid	-	+/-	+/-	+/-
Aldehyde as Acetaldehyde	--	--	--	--
Anorganic Chloride as Cl	(++)	++	-	+
Density @ 20°C	++	++	++	++
Nitrogen	--			
Nonvolatile Matter	++	--	++	++
Organic Chloride	(+)	n.e.	-	n.e.
pHe	--	--	--	--
Sulphate	-	n.e.	--	n.e.
Total Sulphur	(++)	++	+	-
Water coulometric	+	++	++	++
Water titrimetric	++	++	++	--
Copper as Cu	n.e.	n.e.	n.e.	n.e.
Phosphorus as P	(-)	n.e.	n.e.	n.e.
Purity on dry basis	++	+	(++)	(--)
Acetaldehyde	--	--	n.e.	n.e.
Acetal	+/-	-	n.e.	n.e.
Acetone	(-)	n.e.	(--)	--
Benzene	n.e.	+	n.e.	+/-
Cyclohexane	(--)	n.e.	n.e.	n.e.
Crotonaldehyde	n.e.	n.e.	n.e.	n.e.
DEG	n.e.	n.e.	n.e.	n.e.
Dioxane	n.e.	n.e.	n.e.	n.e.
Ethylacetate	+	-	n.e.	n.e.
iso-Amylalcohol	--	--	n.e.	--
iso-Butanol	-	-	(-)	--
iso-Propanol	--	--	n.e.	n.e.
MEG	n.e.	--	n.e.	n.e.
Methanol	+	++	(--)	--
n-Amylalcohol	(--)	n.e.	n.e.	n.e.
n-Butanol	-	n.e.	n.e.	n.e.
n-Propanol	+	-	(+/-)	--
sec-Amylalcohol	n.e.	n.e.	n.e.	n.e.
sec-Butanol	(--)	n.e.	(+/-)	n.e.
tert-Amylalcohol	n.e.	n.e.	n.e.	n.e.
tert-Butanol	n.e.	n.e.	n.e.	n.e.
Total Impurities	++	++	n.e.	n.e.

Table 8: comparison determinations against the standard
results between brackets are compared with the spread of the previous round robin

The performance of the determinations against the requirements of the respective standards is listed in the above table. The following performance categories were used:

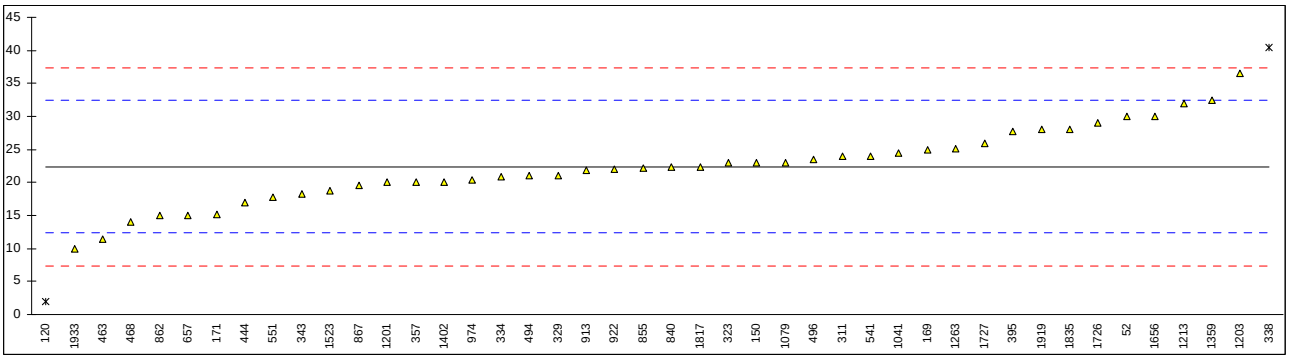
- ++: group performed much better than the standard
- + : group performed better than the standard
- +/-: group performance equals the standard
- - : group performed worse than the standard
- -- : group performed much worse than the standard
- n.e.: not evaluated

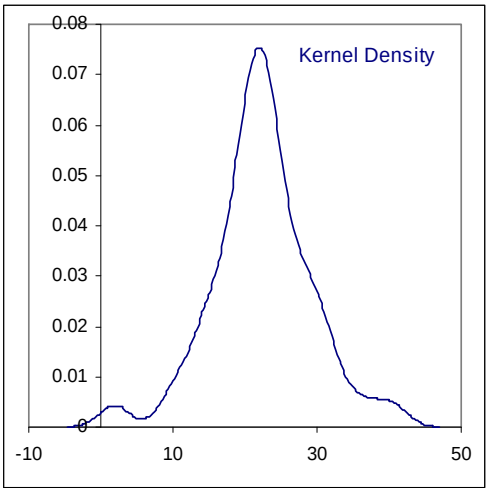
APPENDIX 1

Determination of Acidity as Acetic Acid on sample #1089; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	D1613	30		1.52	
120	D1613	1.9	C,G(0.05)	-4.10	First reported 0.0019
150	D1613	23		0.12	
169	D1613	25	C	0.52	First reported 0.0025
171	D1613	15.11		-1.46	
311	D1613	24		0.32	
323	D1613	23		0.12	
329	D1613	21		-0.28	
333	D1613	<30		-----	
334	D1613	20.81		-0.32	
338	D1613	40.5	G(0.05)	3.62	
343	EN15491	18.2		-0.84	
357	D1613	20		-0.48	
359		-----		-----	
395	D1613	27.762		1.07	
399		-----		-----	
444	IP538	17.0	C	-1.08	First reported (D1613) 20.6
463	D1613	11.39		-2.20	
468	EN15491	14		-1.68	
494	D1613	21	U	-0.28	Reported 0.0021
496	D1613	23.4		0.20	
541	D1613	24		0.32	
551	D1613	17.84		-0.91	
556		-----		-----	
559		-----		-----	
657	D1613	15		-1.48	
840	D1613-06	22.4		0.00	
855	D1613	22.2		-0.04	
862	D1613	15		-1.48	
867	D1613	19.5		-0.58	
902		-----		-----	
912		-----		-----	
913	D1613	21.9		-0.10	
922	D1613	22		-0.08	
974	D1613	20.3978		-0.40	
1006		-----		-----	
1041	EN14591	24.5		0.42	
1079	D1613	23.06		0.13	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	D1613	20	U	-0.48	Reported 0.002
1203	EN15491	36.5		2.82	
1205		-----		-----	
1213	D1613	32	C	1.92	First reported 0.0032
1263	D1613	25.07		0.53	
1359	In house	32.4		2.00	
1402	D1613	20	U	-0.48	Reported 0.002
1523	ISO1388/2	18.75		-0.73	
1605		-----		-----	
1656	EN15491	30	C	1.52	First reported 0.003
1726	D1613	29		1.32	
1727	D1613	26		0.72	
1807		-----		-----	
1817	in house	22.4142		0.00	
1835	D1613	28		1.12	
1919	D1613	28		1.12	
1933	EN15491	10		-2.48	
2160		-----		-----	

normality	OK
n	42
outliers	2
mean (n)	22.395
st.dev. (n)	5.6434
R(calc.)	15.802
R(D1613:06)	14.00

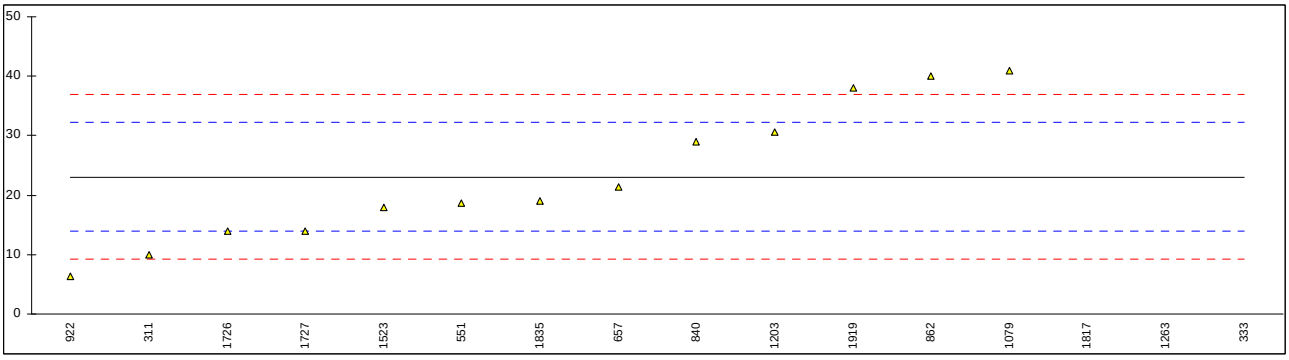

45
40
35
30
25
20
15
10
5
0
120
1933
463
468
862
657
171
444
551
343
1523
867
1201
357
1402
974
334
494
329
913
922
855
840
1817
323
150
1079
496
311
541
1041
169
1263
1727
395
1919
1835
1726
52
1656
1213
1359
1203
338

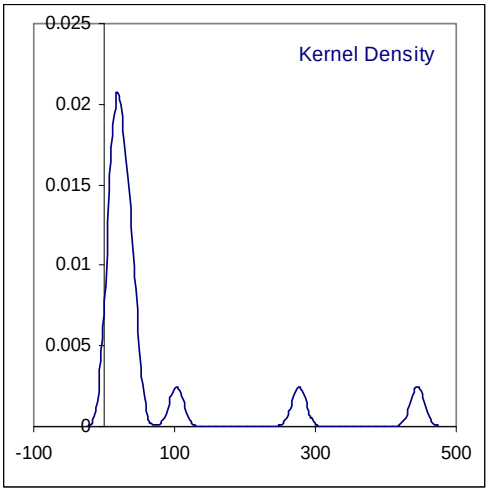

Kernel Density
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
-10
10
30
50

Determination of Aldehydes as Acetaldehyde on sample #1089; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171		-----		-----	
311	INH 529	10		-2.84	
323		-----		-----	
329		-----		-----	
333		445	G(0.01)	91.65	
334		-----		-----	
338		-----		-----	
343		-----		-----	
357		-----		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494		-----		-----	
496		-----		-----	
541		-----		-----	
551	INH GC.89 BR	18.721		-0.95	
556		-----		-----	
559		-----		-----	
657	IHM.0001-10	21.4		-0.36	
840	IHM.0001-10	29		1.29	
855		-----		-----	
862	GB394	40		3.68	
867		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	IHM.0001-10	6.3		-3.64	
974		-----		-----	
1006		-----		-----	
1041		-----		-----	
1079	EN15721	41		3.89	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201		-----		-----	
1203	GC	30.7		1.66	
1205		-----		-----	
1213		-----		-----	
1263	ISO1388	277.02	C,G(0.01)	55.16	First reported 290.45
1359		-----		-----	
1402		-----		-----	
1523	D5501	17.85		-1.13	
1605		-----		-----	
1656		-----		-----	
1726	in house	14		-1.97	
1727	GCIHM	14		-1.97	
1807		-----		-----	
1817	in house	102.89	G(0.01)	17.34	
1835	GCIHM	19		-0.89	
1919		38		3.24	
1933		-----		-----	
2160		-----		-----	

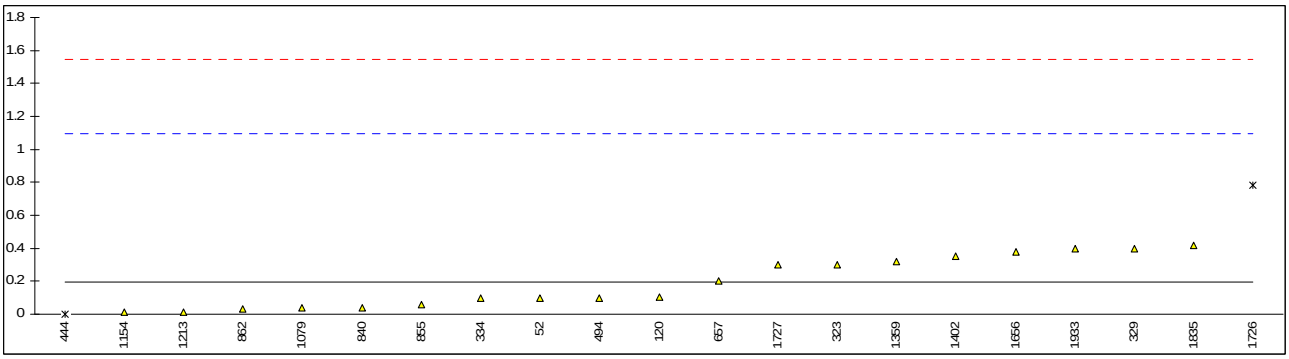
normality	OK
n	13
outliers	3
mean (n)	23.075
st.dev. (n)	11.5704
R(calc.)	32.397
R(Horwitz)	13.063

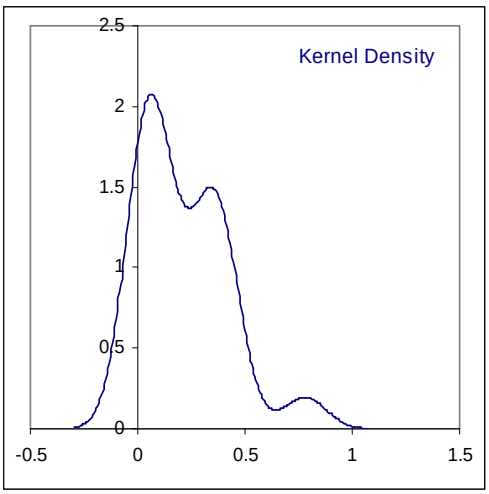

50
40
30
20
10
0
922
311
1726
1727
1523
551
1835
657
840
1203
1919
862
1079
1817
1263
333


Kernel Density
0.025
0.02
0.015
0.01
0.005
0
-100
100
300
500

Determination of Anorganic Chlorides as Cl^- on sample #1089; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	D512mod	0.10		-0.21	
120	D512	0.102		-0.20	
150		-----		-----	
169		-----		-----	
171	D7328	<0.1		-----	
311	EN15484	<4.0		-----	
323	EN15484	0.3		0.24	
329	EN15484	0.4		0.46	
333	EN15484	<4		-----	
334	EN15484	0.1		-0.21	
338		-----		-----	
343	EN15484	<4		-----	
357	EN15484	<0.5		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444	EN15492	0	ex	-----	Zero is not a true value
463	EN15484	<4		-----	
468	EN15484	<4.0		-----	
494	EN15484	0.10		-0.21	
496		-----		-----	
541		-----		-----	
551	INH-1307	<1		-----	
556		-----		-----	
559		-----		-----	
657	D7328	0.2		0.02	
840	IMPCA002-98	0.04		-0.34	
855	IMPCA002	0.06		-0.29	
862	IMPCA	0.03		-0.36	
867	IMPCA002	<0.25		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922		-----		-----	
974		-----		-----	
1006		-----		-----	
1041		-----		-----	
1079	EN15484	0.037		-0.35	
1126		-----		-----	
1138		-----		-----	
1154	EN15484	0.01		-0.41	
1201	EN15484	<0.5		-----	
1203		-----		-----	
1205		-----		-----	
1213	D4806	0.016		-0.39	
1263		-----		-----	
1359	In house	0.3223		0.29	
1402	EN15484	0.35		0.35	
1523		-----		-----	
1605		-----		-----	
1656	EN15492	0.38		0.41	
1726	turbidimetric	0.78	G(0.05)	1.30	
1727	INH	0.3		0.24	
1807		-----		-----	
1817		-----		-----	
1835	turbidimetric	0.42		0.50	
1919		-----		-----	
1933	EN15484	0.4		0.46	
2160		-----		-----	
	normality	not OK			
	n	19			
	outliers	1			
	mean (n)	0.193			
	st.dev. (n)	0.1541			
	R(calc.)	0.432			
	R(EN15484:07)	(1.264)			Application range (4 – 30 mg/L)


1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
444
1154
1213
862
1079
840
855
334
52
494
120
657
1727
323
1359
1402
1656
1933
329
1835
1726


Kernel Density
2.5
2
1.5
1
0.5
0
-0.5
0
0.5
1
1.5

Determination of Appearance on sample #1089;

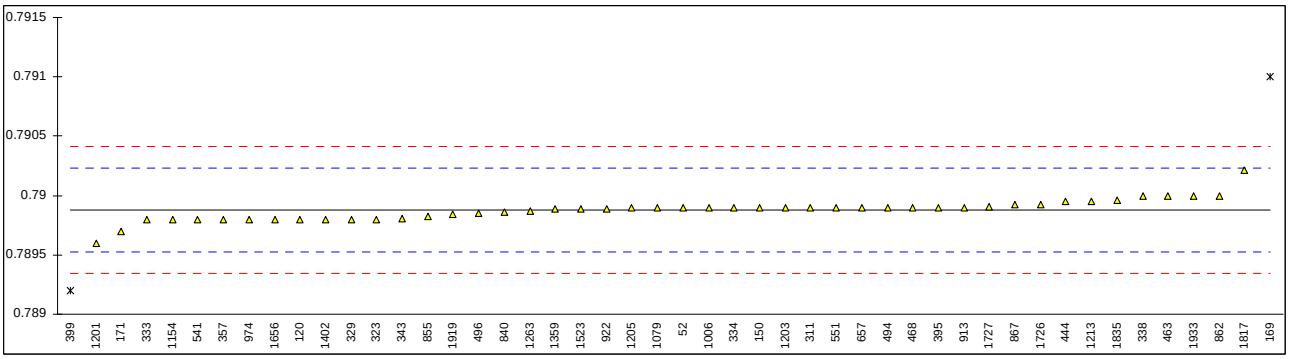
lab	method	value	mark	z(targ)	remarks
52	D4176	PASS		-----	
120		-----		-----	
150	E2680	PASS		-----	
169		-----		-----	
171	E2680	C&F		-----	
311	E2680	PASS		-----	
323	INH	CFFMS		-----	
329	E2680	CFFMS		-----	
333	E2680	C&B		-----	
334		-----		-----	
338	E2680	CBFFSM		-----	
343	EN15769	C&C		-----	
357	E2680	PASS		-----	
359		-----		-----	
395	E2680	PASS		-----	
399	E2680	PASS		-----	
444	IP573	PASS		-----	
463	EN15769	C&C		-----	
468	EN15769	C&C		-----	
494	E2680	PASS		-----	
496	E2680	PASS		-----	
541	E2680	B&C		-----	
551	Visual	CCFSM		-----	
556		-----		-----	
559		-----		-----	
657	E2680	PASS		-----	
840	E2680-09	PASS		-----	
855	E2680	B&C		-----	
862	VISUAL	B&C		-----	
867	E2680	PASS		-----	
902		-----		-----	
912		-----		-----	
913	E2680	CFFSM		-----	
922	VISUAL	CFFMS		-----	
974		-----		-----	
1006		-----		-----	
1041	VISUAL	C&WATERFREE		-----	
1079	E2680	PASS		-----	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	E2680	B&C		-----	
1203	E2680	B&C		-----	
1205		-----		-----	
1213	D4176	C		-----	
1263		-----		-----	
1359	E2680	CLEAR		-----	
1402	E2680	C&C		-----	
1523		-----		-----	
1605		-----		-----	
1656	EN15769	PASS		-----	
1726	E2680	C&B		-----	
1727	EN15769	C&C		-----	
1807		-----		-----	
1817		-----		-----	
1835	EN15769	C&C		-----	
1919		-----		-----	
1933	EN15769	C		-----	
2160		-----		-----	
	normality	n.a.			
	n	38			
	outliers	0			
	mean (n)	n.a			
	st.dev. (n)	n.a			
	R(calc.)	n.a			
	R()				

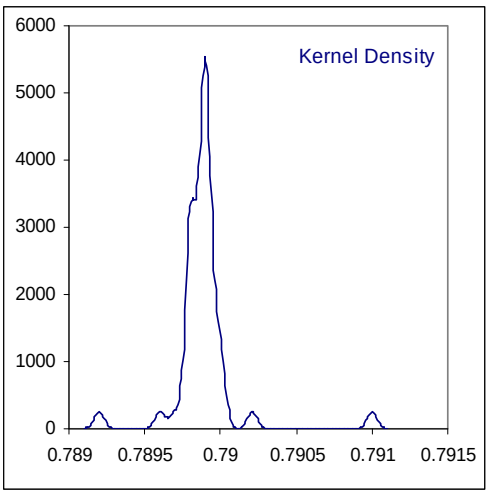
C = clear or colourless
B = bright
F(F) = Free (From)
S = Suspended
M = Matter

Determination of Density @ 20°C on sample #1089; results in kg/L

lab	method	value	mark	z(targ)	remarks
52	D4052	0.7899		0.12	
120	D4052	0.7898		-0.44	
150	D4052	0.7899		0.12	
169	D4052	0.7910	G(0.01)	6.28	
171	D4052	0.7897		-1.00	
311	D4052	0.7899		0.12	
323	D4052	0.7898		-0.44	
329	D4052	0.7898		-0.44	
333	D4052	0.7898		-0.44	
334	D4052	0.7899		0.12	
338	D4052	0.7900	C	0.68	First reported 0.7942
343	D4052	0.78981		-0.39	
357	D4052	0.7898		-0.44	
359		-----		-----	
395	D4052	0.7899		0.12	
399	D4052	0.7892	G(0.05)	-3.80	
444	D4052	0.78995		0.40	
463	D4052	0.7900		0.68	
468	D4052	0.7899		0.12	
494	D4052	0.7899		0.12	
496	D4052	0.78985		-0.16	
541	D4052	0.7898		-0.44	
551	D4052	0.7899		0.12	
556		-----		-----	
559		-----		-----	
657	D4052	0.7899		0.12	
840	D4052-09	0.78986		-0.11	
855	D4052	0.78982		-0.33	
862	D4052	0.79000		0.68	
867	D4052	0.78992		0.23	
902		-----		-----	
912		-----		-----	
913	D4052	0.7899		0.12	
922	D4052	0.78989		0.06	
974	D4052	0.7898		-0.44	
1006	D4052	0.7899		0.12	
1041		-----		-----	
1079	D4052	0.7899		0.12	
1126		-----		-----	
1138		-----		-----	
1154	ISO12185	0.7898		-0.44	
1201	D4052	0.7896		-1.56	
1203	D4052	0.7899	C	0.12	First reported 789.9
1205	in house	0.789896		0.09	
1213	D4052	0.78995		0.40	
1263	ISO12185	0.78987		-0.05	
1359	D4052	0.78989		0.06	
1402	D4052	0.7898		-0.44	
1523	D4052	0.78989		0.06	
1605		-----		-----	
1656	D4052	0.7898		-0.44	
1726	D4052	0.78992		0.23	
1727	D4052	0.78991		0.17	
1807		-----		-----	
1817	in house	0.790210		1.85	
1835	D4052	0.78996		0.45	
1919	D4052	0.78984		-0.22	
1933	EN12185	0.79000		0.68	
2160		-----		-----	

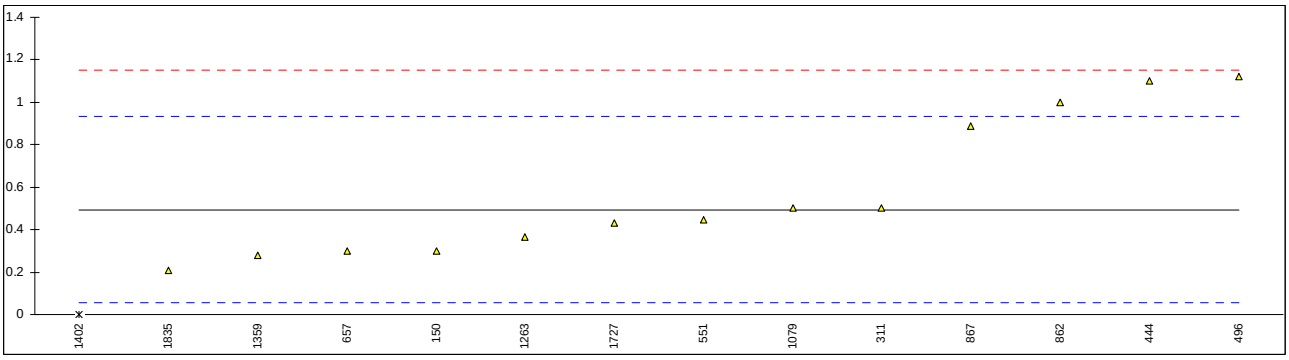
normality	not OK
n	46
outliers	2
mean (n)	0.78988
st.dev. (n)	0.000092
R(calc.)	0.00026
R(D4052:02e1)	0.00050

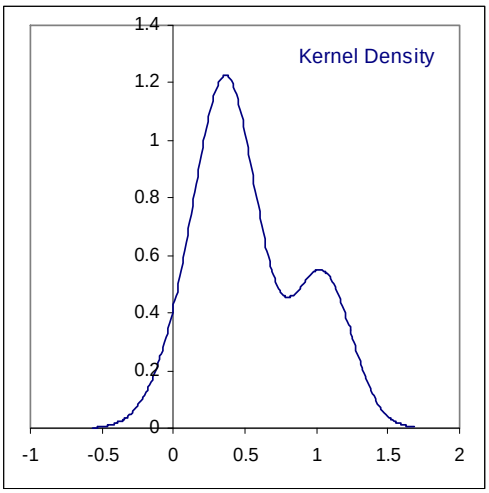

0.7915
0.791
0.7905
0.79
0.7895
0.789
399 1201 171 333 1154 541 357 974 1656 120 1402 329 323 343 855 1919 496 840 1263 1359 1523 922 1205 1079 52 1006 334 150 1203 311 551 657 494 468 395 913 1727 867 1726 444 1213 1835 338 463 1933 862 1817 169


Kernel Density
6000
5000
4000
3000
2000
1000
0
0.789 0.7895 0.79 0.7905 0.791 0.7915

Determination of Nitrogen on sample #1089; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	D4629	<1	C	<1.97	First reported 4.0
120		-----		-----	
150	D4629	0.3		-1.26	
169		-----		-----	
171	D4629	<0.1		<-2.18	
311	D4629	0.5		-0.33	
323		-----		-----	
329		-----		-----	
333		-----		-----	
334		-----		-----	
338		-----		-----	
343		-----		-----	
357	D6069	<0.5		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444	D4629	1.10		2.43	
463	D4629	<1.0		<1.97	
468	D4629	<1.0		<1.97	
494		-----		-----	
496	D4629	1.12		2.52	
541		-----		-----	
551	D4629	0.4458		-0.58	
556		-----		-----	
559		-----		-----	
657	D4629	0.3		-1.26	
840		-----		-----	
855		-----		-----	
862	D6069	1.0		1.97	
867	D6069	0.89		1.46	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	D4629	<2		-----	
974		-----		-----	
1006		-----		-----	
1041		-----		-----	
1079	D4629	0.5		-0.33	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	D4629	<1		<1.97	
1203		-----	W	-----	
1205		-----		-----	
1213		-----		-----	
1263	D4629	0.366		-0.95	
1359	In house	0.28		-1.35	
1402	D4629	0.0	ex	-----	Zero is not a true value
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726		-----		-----	
1727	D4629	0.43		-0.66	
1807		-----		-----	
1817		-----		-----	
1835	D4629	0.21		-1.67	
1919		-----		-----	
1933		-----		-----	
2160		-----		-----	
	normality	not OK			
	n	13			
	outliers	0			
	mean (n)	0.572			
	st.dev. (n)	0.3312			
	R(calc.)	0.927			
	R(D4629:09)	0.607			Application range (0.3-100 mg/kg)

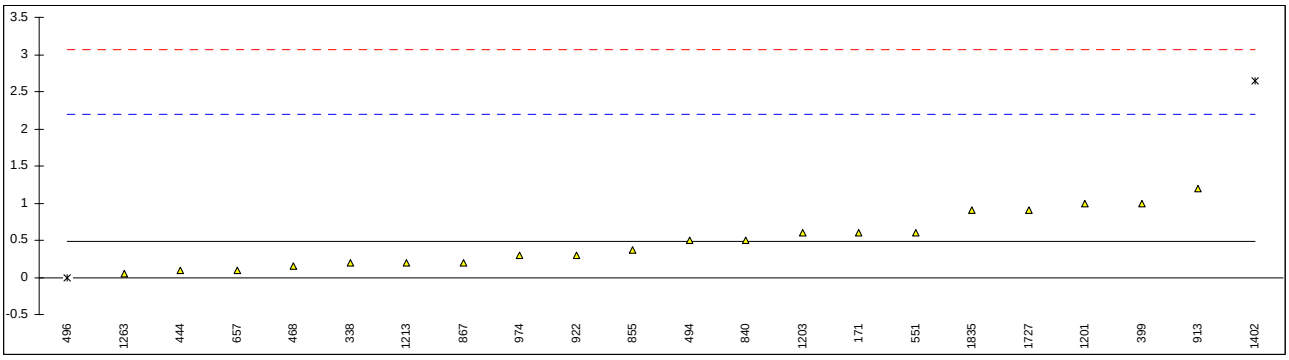

1.4
1.2
1
0.8
0.6
0.4
0.2
0
1402
1835
1359
657
150
1263
1727
551
1079
311
867
862
444
496

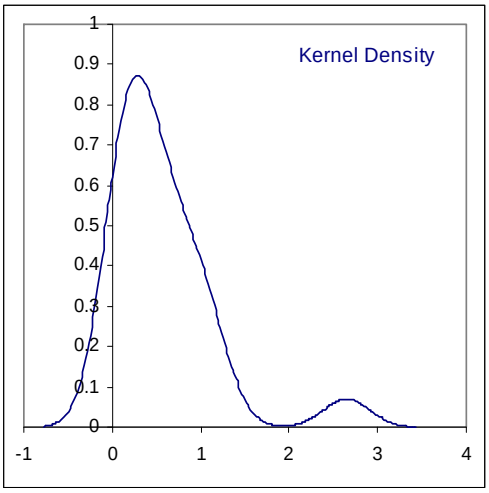

Kernel Density
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-1
-0.5
0
0.5
1
1.5
2

Determination of Nonvolatile Matter on sample #1089; results in mg/100mL

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150	D1353	<1		-----	
169		-----		-----	
171	D1353	0.6		0.13	
311	D1353	<1		-----	
323	D1353	<1		-----	
329	D1353	<1		-----	
333		-----		-----	
334		-----		-----	
338	D1353	0.2		-0.34	
343	EN15691	<10		-----	
357	D1353	<1		-----	
359		-----		-----	
395		-----		-----	
399	D1353	1.0		0.60	
444	IP576	0.1		-0.45	
463		-----		-----	
468	EN15691	0.15		-0.39	
494	D1353	0.5		0.01	
496	D1353	0	ex	-----	Zero is not a true value
541		-----		-----	
551	D1353	0.6		0.13	
556		-----		-----	
559		-----		-----	
657	D1353	0.1		-0.45	
840	D1353-09	0.5		0.01	
855	D1353	0.37		-0.14	
862	D1353	<0.1		-----	
867	D1353	0.2		-0.34	
902		-----		-----	
912		-----		-----	
913	D1353	1.2		0.83	
922	D1353	0.3		-0.22	
974	D1353	0.3		-0.22	
1006		-----		-----	
1041	EN15691	<1		-----	
1079	D1353	<1		-----	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	D1353	1.0		0.60	
1203	D1353	0.6		0.13	
1205		-----		-----	
1213	D1353	0.2	C	-0.34	First Reported 2
1263	D1353	0.05		-0.51	
1359	In house	<1		-----	
1402	D1353	2.65	G(0.01)	2.52	
1523		-----		-----	
1605		-----		-----	
1656	EN15691	<1		-----	
1726		-----		-----	
1727	EN15691	0.9		0.48	
1807		-----		-----	
1817		-----		-----	
1835	EN15691	0.9		0.48	
1919		-----		-----	
1933	D1353	<2		-----	
2160		-----		-----	

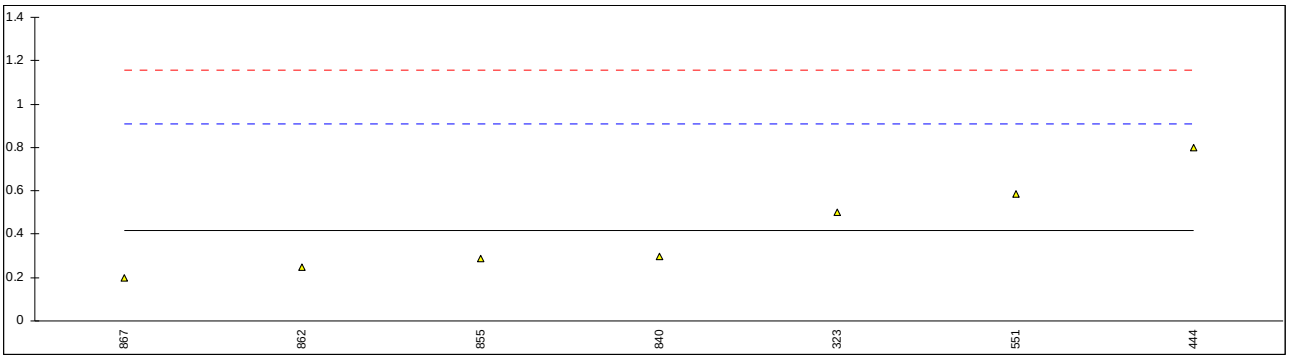
normality	OK
n	20
outliers	1
mean (n)	0.49
st.dev. (n)	0.352
R(calc.)	0.99
R(D1353:09)	2.40


3.5
3
2.5
2
1.5
1
0.5
0
-0.5
496
1263
444
657
468
338
1213
867
974
922
855
494
840
1203
171
551
1835
1727
1201
399
913
1402


Kernel Density
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-1
0
1
2
3
4

Determination of Organic Chloride on sample #1089; results in mg/kg

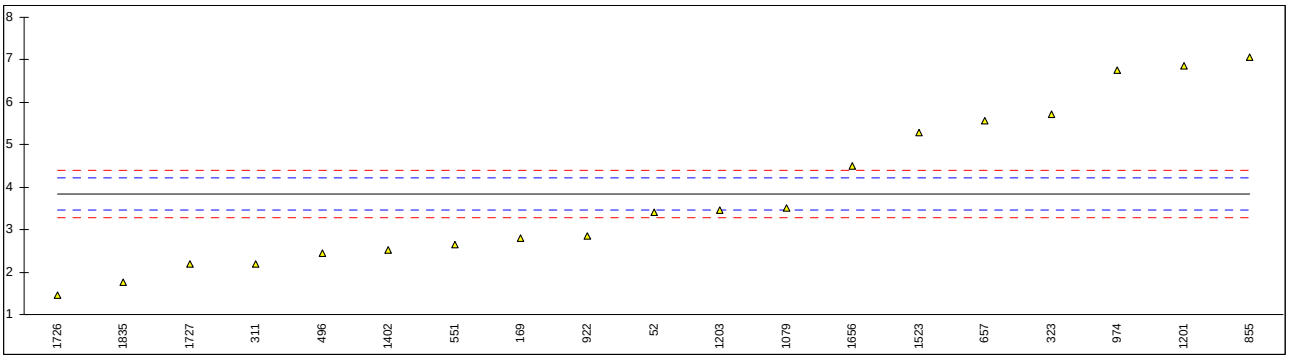
lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150	D7359	<1		-----	
169		-----		-----	
171		-----		-----	
311	D5808	<1		-----	
323	D4929-B	0.5		-----	
329	D4929-B	<1		-----	
333		-----		-----	
334		-----		-----	
338		-----		-----	
343		-----		-----	
357	D5808	<1		-----	
359		-----		-----	
395		-----		-----	
399	D4929-B	<1		-----	
444	IP510	0.8		-----	
463		-----		-----	
468		-----		-----	
494	D4929-B	<0.5		-----	
496	D5808	<1		-----	
541		-----		-----	
551	D4929-B	0.5866		-----	
556		-----		-----	
559		-----		-----	
657	D4929-B	<1		-----	
840	D4929-07A	0.30		-----	
855	UOP779	0.29		-----	
862	D5808	0.25		-----	
867	D5808	0.2		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922		-----		-----	
974		-----		-----	
1006		-----		-----	
1041		-----		-----	
1079	D4929-B	<1		-----	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	D4929-B	<1		-----	
1203		-----		-----	
1205		-----		-----	
1213		-----		-----	
1263		-----		-----	
1359		-----		-----	
1402		-----		-----	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726		-----		-----	
1727		-----		-----	
1807		-----		-----	
1817		-----		-----	
1835		-----		-----	
1919		-----		-----	
1933		-----		-----	
2160		-----		-----	
	normality	OK			
	n	7			
	outliers	0			
	mean (n)	0.418			
	st.dev. (n)	0.2188			
	R(calc.)	0.613			
	R(D4929:07 -B)	(0.688)			Application range >1 mg/kg

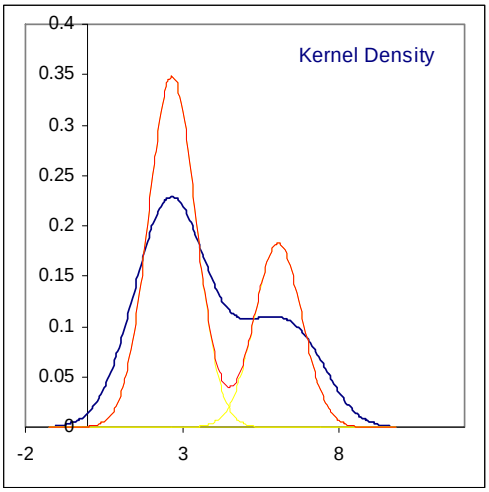

1.4
1.2
1
0.8
0.6
0.4
0.2
0
867
862
855
840
323
551
444

Determination of pHe on sample #1089;

lab	method	value	mark	z(targ)	remarks
52	D6423	3.4		-2.36	
120		-----		-----	
150		-----		-----	
169	D6423	2.81		-5.54	
171		-----		-----	
311	D6423	2.2		-8.83	
323	D6423	5.71		10.07	
329		-----		-----	
333		-----		-----	
334		-----		-----	
338		-----		-----	
343		-----		-----	
357		-----		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494		-----		-----	
496	D6423	2.445		-7.51	
541		-----		-----	
551	D6423	2.65		-6.40	
556		-----		-----	
559		-----		-----	
657	D6423	5.57		9.32	
840		-----		-----	
855	D6423	7.05		17.29	
862		-----		-----	
867		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	D6423	2.86		-5.27	
974	D6423	6.745		15.65	
1006		-----		-----	
1041		-----		-----	
1079	D6423	3.5		-1.83	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	D6423	6.86		16.27	
1203	D6423	3.45		-2.09	
1205		-----		-----	
1213		-----		-----	
1263		-----		-----	
1359		-----		-----	
1402	D6423	2.51		-7.16	
1523	D6423	5.28		7.76	
1605		-----		-----	
1656	D6423	4.5		3.56	
1726	EN15490	1.46		-12.81	
1727	EN15490	2.18		-8.93	
1807		-----		-----	
1817		-----		-----	
1835	EN15490	1.76		-11.19	
1919		-----		-----	
1933	EN15490	ND		-----	
2160		-----		-----	

	All data	Group 1	Group 2
normality	not OK	OK	OK
n	19	12	7
outliers	0	0	0
mean (n)	3.839	2.602	5.959
st.dev. (n)	1.8244	0.6509	0.9507
R(calc.)	5.108	1.8225	2.6619
R(D6423:08)	0.520	0.52	0.52

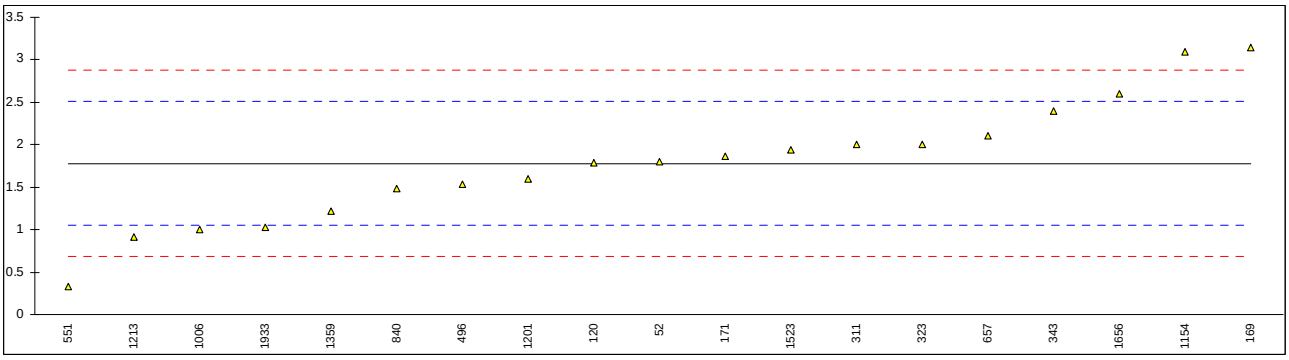

8
7
6
5
4
3
2
1
1726
1835
1727
311
496
1402
551
169
922
52
1203
1079
1656
1523
657
323
974
1201
855

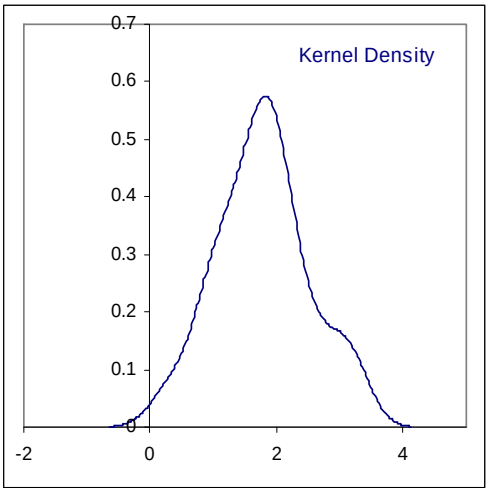

Kernel Density
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-2
3
8

Determination of Sulphate on sample #1089; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	D7318	1.8		0.05	
120	D7318	1.79		0.02	
150		-----		-----	
169	D7319	3.147		3.77	
171	D7328	1.87		0.24	
311	INH-518	2		0.60	
323	EN15492	2		0.60	
329		-----		-----	
333		-----		-----	
334		-----		-----	
338		-----		-----	
343	EN15492	2.4		1.71	
357		-----		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494		-----		-----	
496	EN15492	1.53		-0.69	
541		-----		-----	
551	OGC 1425	0.33		-4.00	
556		-----		-----	
559		-----		-----	
657	D7328	2.1		0.88	
840	D7318-07	1.479		-0.83	
855		-----		-----	
862		-----		-----	
867		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922		-----		-----	
974		-----		-----	
1006	D5453	1.0		-2.16	
1041		-----		-----	
1079	EN15492	<1		<-2.16	
1126		-----		-----	
1138		-----		-----	
1154	EN15492	3.1		3.64	
1201	EN15492	1.6		-0.50	
1203		-----		-----	
1205		-----		-----	
1213	D4806	0.909		-2.41	
1263		-----		-----	
1359	In house	1.223		-1.54	
1402		-----		-----	
1523	D7319	1.9397		0.44	
1605		-----		-----	
1656	EN15492	2.6		2.26	
1726		-----		-----	
1727		-----		-----	
1807		-----		-----	
1817		-----		-----	
1835		-----		-----	
1919		-----		-----	
1933	INH	1.03		-2.07	
2160		-----		-----	

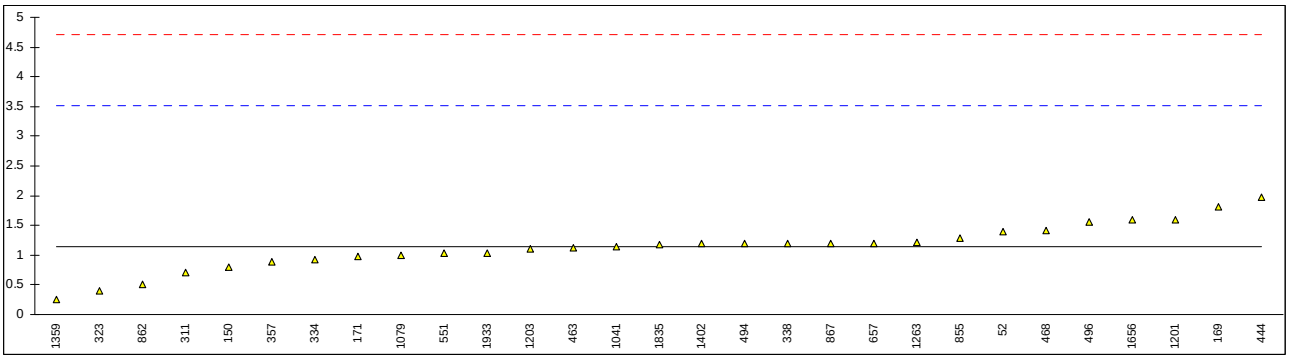
normality	OK
n	19
outliers	0
mean (n)	1.781
st.dev. (n)	0.7238
R(calc.)	2.027
R(EN15492:07)	1.015

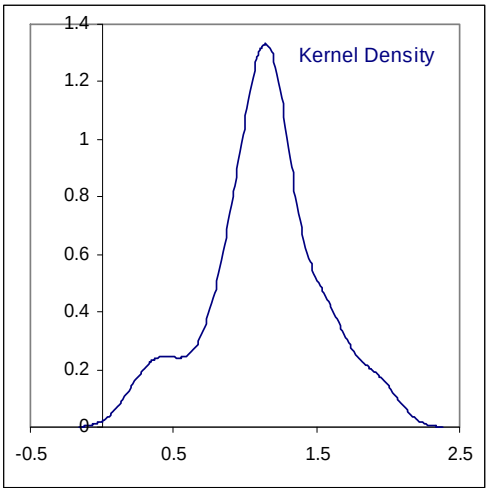

3.5
3
2.5
2
1.5
1
0.5
0
551
1213
1006
1933
1359
840
496
1201
120
52
171
1523
311
323
657
343
1656
1154
169


Kernel Density
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-2
0
2
4

Determination of total Sulphur on sample #1089; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52	D5453	1.4		-----	
120		-----		-----	
150	D5453	0.8		-----	
169	D5453	1.82		-----	
171	D5453	0.97		-----	
311	D5453	0.7		-----	
323	EN14586	0.4		-----	
329	D5453	<1		-----	
333	EN15486	<5		-----	
334	ISO20846	0.92		-----	
338	EN15485	1.2		-----	
343	EN15485	<5		-----	
357	D5453	0.89		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444	IP554	1.97		-----	
463	EN15485	1.13		-----	
468	EN15485	1.42		-----	
494	EN15485	1.2		-----	
496	EN15485	1.55		-----	
541	D5453	<1		-----	
551	D5453	1.03		-----	
556		-----		-----	
559		-----		-----	
657	D5453	1.2		-----	
840		-----		-----	
855	D5453	1.29		-----	
862	D5453	0.5		-----	
867	D3120	1.2		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	D5453	<2		-----	
974		-----		-----	
1006		-----		-----	
1041	EN20846	1.14		-----	
1079	EN15485	1.0		-----	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15485	1.6		-----	
1203	EN15485	1.1		-----	
1205		-----		-----	
1213	D2622	<5		-----	
1263	ISO20846	1.208		-----	
1359	In house	0.25		-----	
1402	EN15485	1.19		-----	
1523		-----		-----	
1605		-----		-----	
1656	EN15486	1.6		-----	
1726		-----		-----	
1727		-----		-----	
1807		-----		-----	
1817		-----		-----	
1835	EN15485	1.17		-----	
1919		-----		-----	
1933	EN15486	1.03		-----	
2160		-----		-----	
	normality	OK			
	n	29			
	outliers	0			
	mean (n)	1.134			
	st.dev. (n)	0.3862			
	R(calc.)	1.081			
	R(EN15485:07)	(3.339)			Application range = 7 – 20 mg/kg

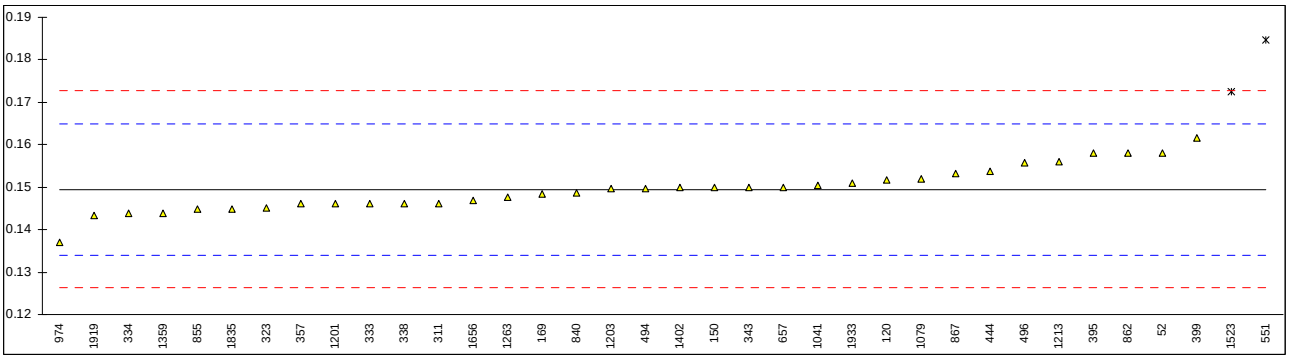

5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1359
323
862
311
150
357
334
171
1079
551
1933
1203
463
1041
1835
1402
494
338
867
657
1263
855
52
468
496
1656
1201
169
444

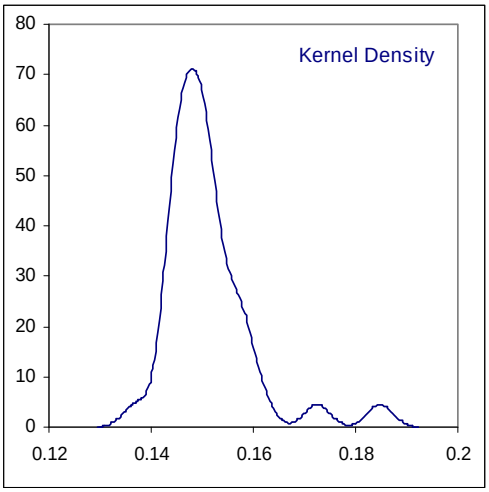

Kernel Density
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.5
0.5
1.5
2.5

Determination of Water (coulometric) on sample #1089; results in %M/M

lab	method	value	mark	z(targ)	remarks
52	E1064	0.158		1.10	
120	E1064	0.1516		0.27	
150	E1064	0.150		0.06	
169	E1064	0.1484		-0.14	
171		-----		-----	
311	EN15489	0.146		-0.45	
323	EN15489	0.145		-0.58	
329		-----		-----	
333	EN15489	0.146		-0.45	
334	E1064	0.14384		-0.73	
338	EN15489	0.146		-0.45	
343	EN15489	0.15		0.06	
357	E1064	0.146		-0.45	
359		-----		-----	
395	E1064	0.15798		1.10	
399	EN15489	0.1616		1.57	
444	IP539	0.1537		0.54	
463		-----		-----	
468		-----		-----	
494	EN15489	0.1496		0.01	
496	EN15489	0.1558		0.82	
541		-----		-----	
551	E1064	0.1848	G(0.01)	4.57	
556		-----		-----	
559		-----		-----	
657	E1064	0.150		0.06	
840	E1064-08	0.1486		-0.12	
855	E1064	0.1448		-0.61	
862	E1064	0.158		1.10	
867	E1064	0.1533		0.49	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922		-----		-----	
974	EN15489	0.1370		-1.62	
1006		-----		-----	
1041	EN15489	0.1505		0.13	
1079	EN15489	0.152		0.32	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15489	0.146		-0.45	
1203	EN15489	0.1496		0.01	
1205		-----		-----	
1213	E1064	0.156		0.84	
1263	ISO12937	0.14767		-0.24	
1359	In house	0.14394		-0.72	
1402	EN15489	0.150		0.06	
1523	E1064	0.1725	G(0.01)	2.98	
1605		-----		-----	
1656	EN15489	0.1470		-0.32	
1726		-----		-----	
1727		-----		-----	
1807		-----		-----	
1817		-----		-----	
1835	EN15489	0.1449		-0.60	
1919	EN15489	0.14328		-0.81	
1933	EN15489	0.151		0.19	
2160		-----		-----	

normality	OK
n	34
outliers	2
mean (n)	0.150
st.dev. (n)	0.0052
R(calc.)	0.015
R(EN15489:07)	0.022

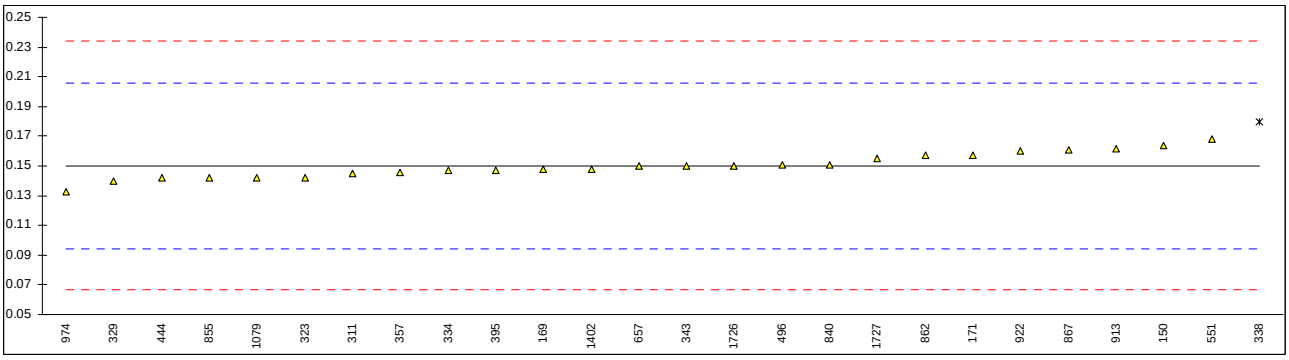

0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
974
1919
334
1359
855
1835
323
357
1201
333
338
311
1656
1263
169
840
1203
494
1402
150
343
657
1041
1933
120
1079
867
444
496
1213
395
862
52
399
1523
551

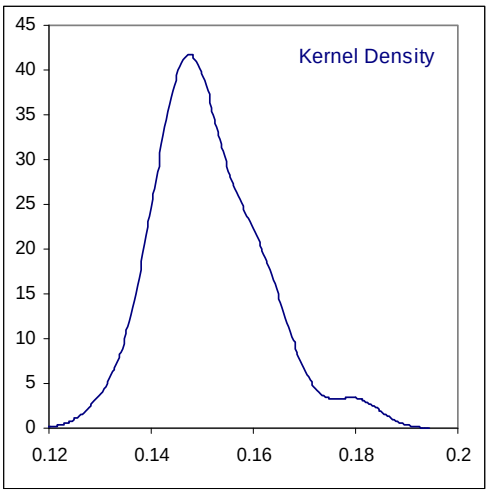

Kernel Density
80
70
60
50
40
30
20
10
0
0.12
0.14
0.16
0.18
0.2

Determination of Water (titrimetric) on sample #1089; results in %M/M

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150	E203	0.164		0.49	
169	E203	0.1477		-0.09	
171	E203	0.1573		0.25	
311	E203	0.145		-0.19	
323	E203	0.142		-0.30	
329	E203	0.140		-0.37	
333		-----		-----	
334	E203	0.1470		-0.12	
338	E203	0.18	G(0.05)	1.07	
343	E203	0.15		-0.01	
357	E203	0.146		-0.15	
359		-----		-----	
395	E203	0.14738		-0.10	
399		-----		-----	
444	E203	0.1419		-0.30	
463		-----		-----	
468		-----		-----	
494		-----		-----	
496	E203	0.1505		0.01	
541		-----		-----	
551	E203	0.168		0.64	
556		-----		-----	
559		-----		-----	
657	E203	0.150		-0.01	
840	E203-08	0.1508		0.02	
855	D1364	0.1419		-0.30	
862	E203	0.157		0.24	
867	E203	0.1610		0.39	
902		-----		-----	
912		-----		-----	
913	E203	0.1615		0.40	
922	E203	0.16		0.35	
974	E203	0.1325		-0.64	
1006		-----		-----	
1041		-----		-----	
1079	E203	0.142		-0.30	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201		-----		-----	
1203		-----		-----	
1205		-----		-----	
1213		-----		-----	
1263		-----		-----	
1359		-----		-----	
1402	E203	0.148		-0.08	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726	E203	0.1501		-0.01	
1727	E203	0.1551		0.17	
1807		-----		-----	
1817		-----		-----	
1835		-----		-----	
1919		-----		-----	
1933		-----		-----	
2160		-----		-----	

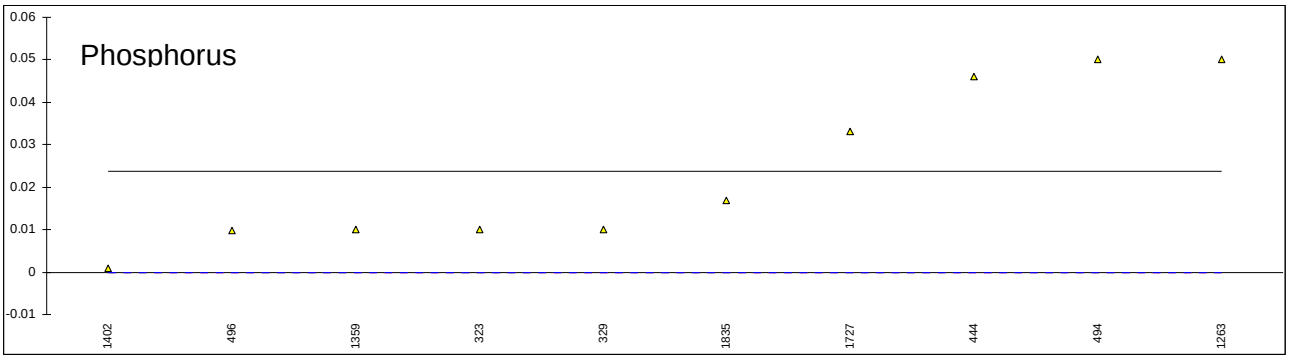
normality	OK
n	25
outliers	1
mean (n)	0.150
st.dev. (n)	0.0085
R(calc.)	0.024
R(E203:08)	0.078


0.25
0.23
0.21
0.19
0.17
0.15
0.13
0.11
0.09
0.07
0.05
974
329
444
855
1079
323
311
357
334
395
169
1402
657
343
1726
496
840
1727
862
171
922
867
913
150
551
338


Kernel Density
45
40
35
30
25
20
15
10
5
0
0.12
0.14
0.16
0.18
0.2

Determination of Copper and Phosphorus on sample #1089; results in mg/kg

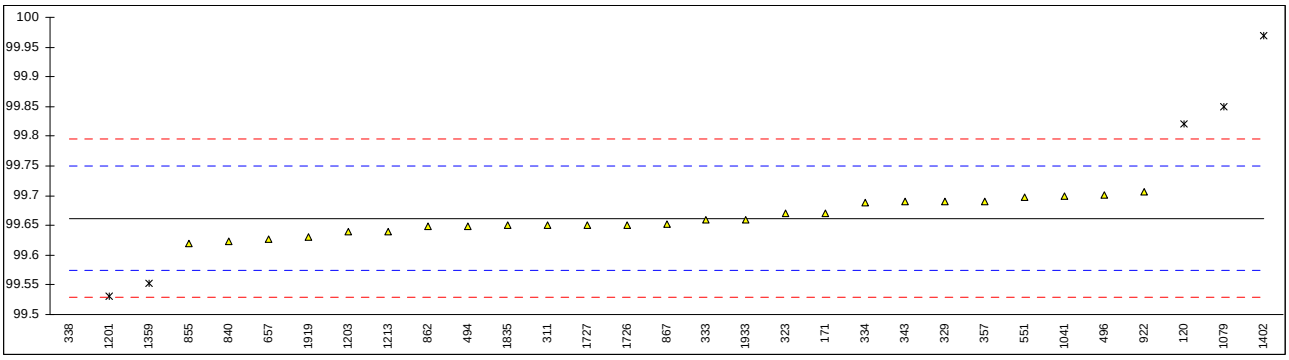
lab	method	Cu	z(targ)	remarks	method	P	z(targ)	remarks
52	EN15488	<0.05	-----			-----	-----	
120		-----	-----			-----	-----	
150	D1688mod	<0.01	-----			-----	-----	
169		-----	-----			-----	-----	
171	D1688	<0.01	-----		D3231	<0.1	-----	
311	EN15488	<0.07	-----		EN15487	<0.15	-----	
323	EN15488	<0.07	-----		EN15487	0.01	-----	
329	EN15488	<0.07	-----		EN15487	0.01	-----	
333		-----	-----			-----	-----	
334		-----	-----			-----	-----	
338		-----	-----			-----	-----	
343	EN15488	<0.07	-----			-----	-----	
357	EN15488	<0.02	-----		EN15487	<0.15	-----	
359		-----	-----			-----	-----	
395		-----	-----			-----	-----	
399		-----	-----			-----	-----	
444	EN15488	0.0023	-----		IP555	0.046	-----	
463	D1688	<0.1	-----			-----	-----	
468	D1688	<0.1	-----			-----	-----	
494	ICP	<0.1	-----		EN15487	0.05	-----	
496		-----	-----		EN15487	0.0099	-----	
541		-----	-----			-----	-----	
551	INH2047	<0.04	-----		INH2047	<0.04	-----	
556		-----	-----			-----	-----	
559		-----	-----			-----	-----	
657		-----	-----			-----	-----	
840		-----	-----		EN15487	<0.05	-----	
855	D1688	0.30	-----	False positive?		-----	-----	
862	AA	<0.005	-----			-----	-----	
867		-----	-----			-----	-----	
902		-----	-----			-----	-----	
912		-----	-----			-----	-----	
913		-----	-----			-----	-----	
922		-----	-----			-----	-----	
974		-----	-----			-----	-----	
1006		-----	-----			-----	-----	
1041		-----	-----			-----	-----	
1079	EN15488	<0.1	-----		EN15487	<0.15	-----	
1126		-----	-----			-----	-----	
1138		-----	-----			-----	-----	
1154		-----	-----			-----	-----	
1201	ICP	<0.5	-----		EN15487	<0.5	-----	
1203		-----	-----		EN15487	n.d.	-----	First reported 0.14
1205		-----	-----			-----	-----	
1213	D1688	<0.1	-----		D4951	<1	-----	
1263	DIN38604	0.018	-----		EN15487	0.05	-----	First reported 0.13
1359		-----	-----		In house	0.0100	-----	
1402		-----	-----		EN15487	0.00087	-----	
1523		-----	-----			-----	-----	
1605		-----	-----			-----	-----	
1656	D1688-A	<0.05	-----		EN15487	<0.1	-----	
1726		-----	-----		EN15487	<0.15	-----	
1727		-----	-----		EN15487	0.033	-----	
1807		-----	-----			-----	-----	
1817		-----	-----			-----	-----	
1835		-----	-----		EN15487	0.017	-----	
1919		-----	-----			-----	-----	
1933	ISO11885	<0.01	-----		ISO11885	<0.1	-----	
2160		-----	-----			-----	-----	
	normality	n.a.			normality	not OK		
	n	3			n	10		
	outliers	0			outliers	0		
	mean (n)	<0.07			mean (n)	0.024		
	st.dev. (n)	n.a.			st.dev. (n)	0.0191		
	R(calc.)	n.a.			R(calc.)	0.054		
	R(EN15488:07)	n.a.		Range = 0.07–0.20 mg/kg	R(EN15487:07)	(0.049)		Range = 0.15-1.5 mg/L (0.118-1.18 mg/kg)

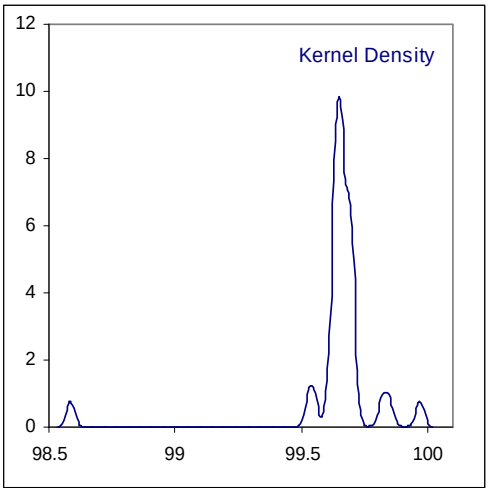

Phosphorus
0.06
0.05
0.04
0.03
0.02
0.01
0
-0.01
1402
496
1359
323
329
1835
1727
444
494
1263

Determination of Purity on dry basis on sample #1090; results in %M/M

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120	D5501	99.82	G(0.05)	3.57	
150		-----		-----	
169		-----		-----	
171	D5501mod	99.671		0.20	
311	INH 529	99.65		-0.27	
323	INH.001	99.67		0.18	
329	INH.001	99.69		0.63	
333		99.66		-0.05	
334	EN15721	99.688		0.58	
338	CE2870	98.586	G(0.01)	-24.31	
343	EN15721	99.69		0.63	
357	GCINHF012	99.69		0.63	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	99.648		-0.32	
496	EN15721	99.7017		0.89	
541		-----		-----	
551	Calc.	99.69788		0.81	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	99.6271		-0.79	
840	INH.0001-10	99.623		-0.88	
855	INH.0001-09	99.620		-0.95	
862	INH.0001-10	99.648		-0.32	
867	INH.0001-09	99.652		-0.23	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	99.70571		0.98	
974		-----		-----	
1006		-----		-----	
1041	EN15721	99.70		0.86	
1079	EN15721	99.85	G(0.05)	4.24	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	99.53	G(0.05)	-2.98	
1203	EN15721	99.64		-0.50	
1205		-----		-----	
1213	D5501	99.64	C	-0.50	First reported 99.81
1263		-----		-----	
1359	In house	99.552	G(0.05)	-2.49	
1402	EN15721	99.97	G(0.01)	6.95	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726	in house	99.6508		-0.26	
1727	GCIHM	99.65		-0.27	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	99.65		-0.27	
1919		99.63		-0.73	
1933		99.66		-0.05	
2160		-----		-----	

normality	OK
n	25
outliers	6
mean (n)	99.662
st.dev. (n)	0.0266
R(calc.)	0.074
R(EN15721:07)	0.124

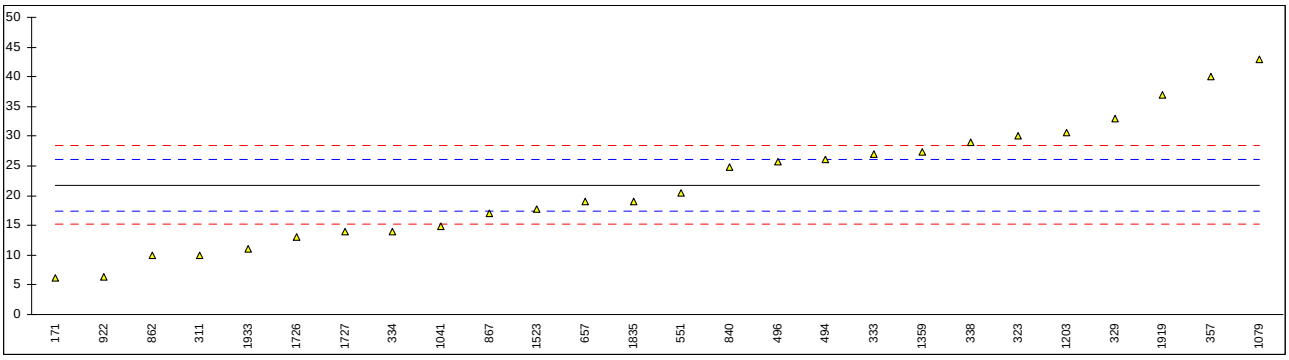

100
99.95
99.9
99.85
99.8
99.75
99.7
99.65
99.6
99.55
99.5
338
1201
1359
855
840
657
1919
1203
1213
862
494
1835
311
1727
1726
867
333
1933
323
171
334
343
329
357
551
1041
496
922
120
1079
1402

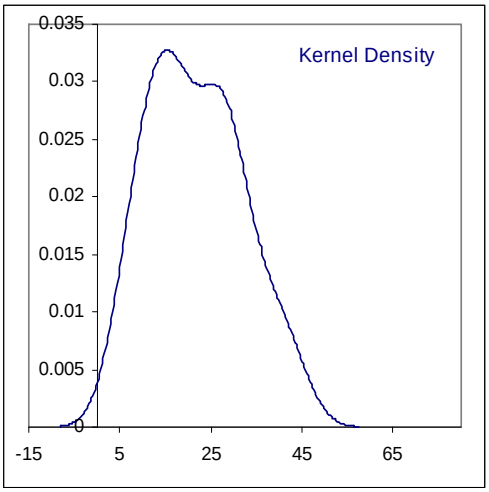

Kernel Density
12
10
8
6
4
2
0
98.5
99
99.5
100

Determination of Acetaldehyde on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	6.25		-7.09	
311	INH 529	10	C	-5.37	First reported <5
323	INH.001	30		3.75	
329	INH.001	33		5.12	
333		27.0		2.38	
334	EN15721	14		-3.55	
338	CE2870	29		3.30	
343		-----		-----	
357	GCINHF012	40		8.31	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	26		1.93	
496	EN15721	25.7		1.79	
541		-----		-----	
551	INH GC 89 BR	20.47		-0.60	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	19.0		-1.27	
840	INH.0001-10	24.8		1.38	
855		-----		-----	
862	INH.0001-10	10		-5.37	
867	INH.0001-09	17		-2.18	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	6.4		-7.02	
974		-----		-----	
1006		-----		-----	
1041	EN15721	14.9		-3.14	
1079	EN15721	43		9.68	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201		-----		-----	
1203	EN15721	30.7		4.07	
1205		-----		-----	
1213		-----		-----	
1263		-----		-----	
1359	In house	27.3		2.52	
1402		-----		-----	
1523	D5501	17.71		-1.86	
1605		-----		-----	
1656		-----		-----	
1726	in house	13		-4.01	
1727	GCIHM	14		-3.55	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	19		-1.27	
1919		37		6.95	
1933		11		-4.92	
2160		-----		-----	

normality	OK
n	26
outliers	0
mean (n)	21.778
st.dev. (n)	10.2227
R(calc.)	28.624
R(Horwitz)	6.136

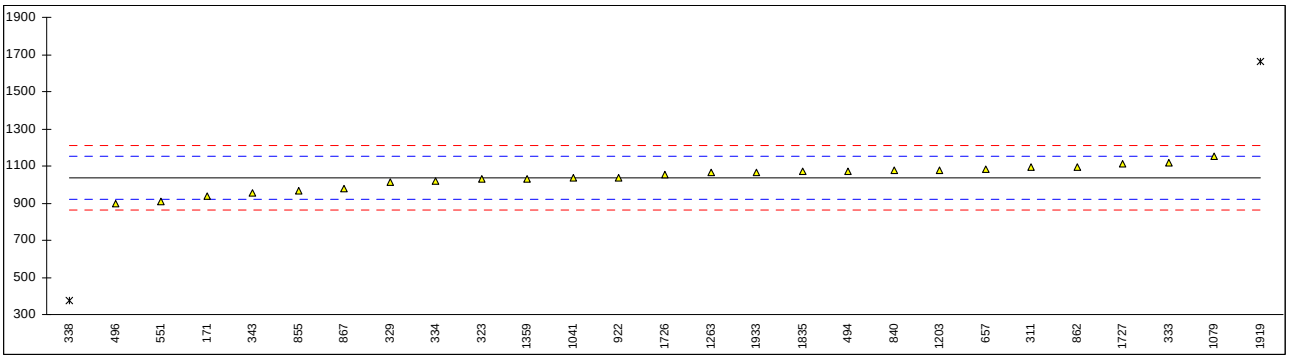

50
45
40
35
30
25
20
15
10
5
0
171
922
862
311
1933
1726
1727
334
1041
867
1523
657
1835
551
840
496
494
333
1359
338
323
1203
329
1919
357
1079

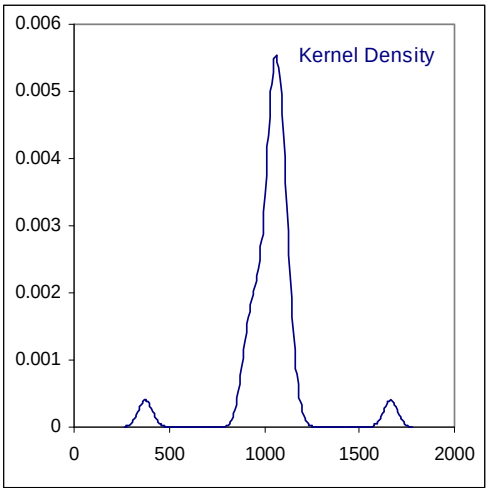

Kernel Density
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
-15
5
25
45
65

Determination of Acetal on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	935.14		-1.76	
311	INH 529	1095		0.98	
323	INH.001	1033		-0.08	
329	INH.001	1015		-0.39	
333		1120		1.41	
334	EN15721	1018		-0.34	
338	CE2870	375	G(0.01)	-11.35	
343	EN15721	954		-1.43	
357		-----		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	1070		0.55	
496	EN15721	899.2		-2.37	
541		-----		-----	
551	INH GC 89 BR	906.57		-2.24	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	1085		0.81	
840	INH.0001-10	1074		0.62	
855	INH.0001-09	964.1		-1.26	
862	INH.0001-10	1097		1.02	
867	INH.0001-09	979		-1.00	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	1036.5		-0.02	
974		-----		-----	
1006		-----		-----	
1041	EN15721	1036.3		-0.02	
1079	EN15721	1150		1.93	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201		-----		-----	
1203	EN15721	1078.3		0.70	
1205		-----		-----	
1213		-----		-----	
1263	D5501	1062.96		0.43	
1359	In house	1033.2		-0.08	
1402		-----		-----	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726	in house	1054		0.28	
1727	GCIHM	1110		1.24	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	1069		0.54	
1919		1665	G(0.01)	10.75	
1933		1065		0.47	
2160		-----		-----	

normality	OK
n	25
outliers	2
mean (n)	1037.61
st.dev. (n)	65.828
R(calc.)	184.32
R(Horwitz)	163.44

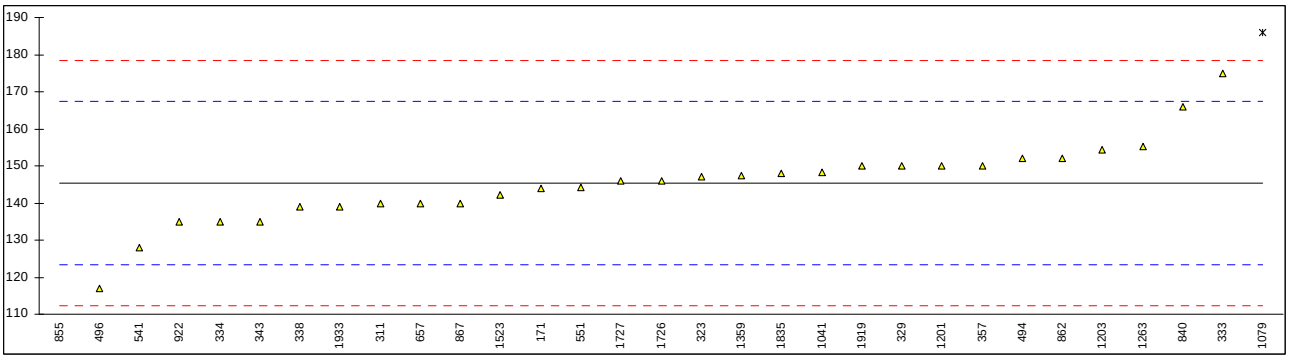

1900
1700
1500
1300
1100
900
700
500
300
338
496
551
171
343
855
867
329
334
323
1359
1041
922
1726
1263
1933
1835
494
840
1203
657
311
862
1727
333
1079
1919

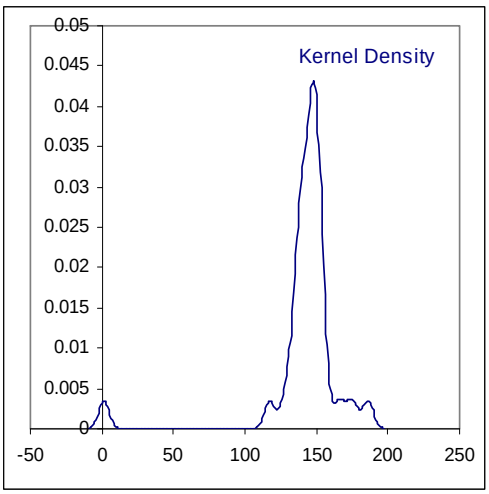

Kernel Density
0.006
0.005
0.004
0.003
0.002
0.001
0
0
500
1000
1500
2000

Determination of Ethylacetate on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	143.95		-0.13	
311	INH 529	140		-0.49	
323	INH.001	147		0.15	
329	INH.001	150		0.42	
333		175		2.70	
334	EN15721	135		-0.94	
338	CE2870	139		-0.58	
343	EN15721	135		-0.94	
357	GCINHF012	150		0.42	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	152		0.60	
496	EN15721	117.1		-2.57	
541	INH.0001-10	128		-1.58	
551	INH GC 89 BR	144.33		-0.09	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	140		-0.49	
840	INH.0001-10	166		1.88	
855	INH.0001-09	1.4	G(0.01)	-13.10	
862	INH.0001-10	152		0.60	
867	INH.0001-09	140		-0.49	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	134.8		-0.96	
974		-----		-----	
1006		-----		-----	
1041	EN15721	148.4		0.28	
1079	EN15721	186	G(0.05)	3.70	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	150		0.42	
1203	EN15721	154.3		0.81	
1205		-----		-----	
1213		-----		-----	
1263	D5501	155.12		0.89	
1359	In house	147.4		0.19	
1402		-----		-----	
1523	D5501	142.03		-0.30	
1605		-----		-----	
1656		-----		-----	
1726	in house	146		0.06	
1727	GCIHM	146		0.06	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	148		0.24	
1919		150		0.42	
1933		139		-0.58	
2160		-----		-----	

normality	OK
n	29
outliers	2
mean (n)	145.36
st.dev. (n)	10.832
R(calc.)	30.33
R(Horwitz)	30.78

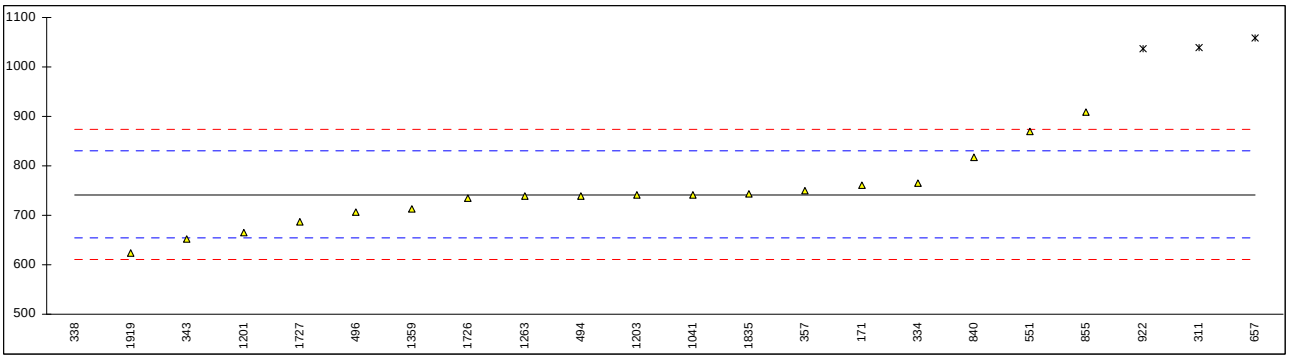

190
180
170
160
150
140
130
120
110
855
496
541
922
334
343
338
1933
311
657
867
1523
171
551
1727
1726
323
1359
1835
1041
1919
329
1201
357
494
862
1203
1263
840
333
1079

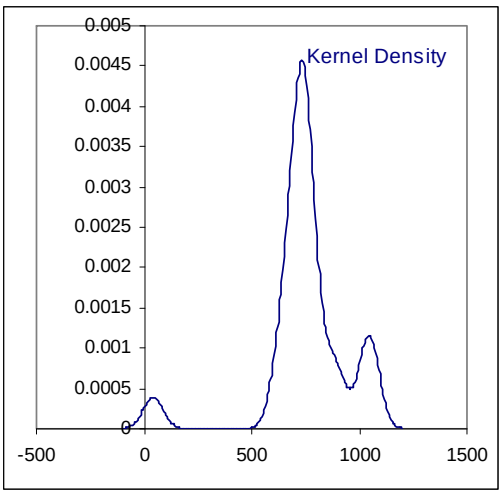

Kernel Density
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
-50
0
50
100
150
200
250

Determination of iso-Amylalcohol (3-methyl-1-butanol) on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	761.29		0.43	
311	INH 529	1040	ex	6.78	reported sum of 2- and 3- methyl -1-butanol
323		-----		-----	
329		-----		-----	
333		-----		-----	
334	EN15721	766		0.54	
338	CE2870	42	G(0.01)	-15.95	
343	EN15721	652		-2.05	
357	GCINHF012	751	C	0.20	first reported 665
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	740		-0.05	
496	EN15721	707.2		-0.80	
541		-----		-----	
551	INH GC 89 BR	869.03		2.89	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	1059	ex	7.21	reported sum of 2- and 3- methyl -1-butanol
840	INH.0001-10	817		1.70	
855	INH.0001-09	908.9		3.80	
862		-----		-----	
867		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	1037.6	ex	6.73	reported sum of 2- and 3-methyl-1-butanol
974		-----		-----	
1006		-----		-----	
1041	EN15721	742.3		0.00	
1079		-----		-----	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	665		-1.76	
1203	EN15721	740.7		-0.03	
1205		-----		-----	
1213		-----		-----	
1263	D5501	738.11		-0.09	
1359	In house	714.0		-0.64	
1402		-----		-----	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726	in house	734		-0.19	
1727	GCIHM	687		-1.26	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	743		0.02	
1919		623		-2.71	
1933		ND		-----	
2160		-----		-----	

normality	not OK
n	18
outliers	1
mean (n)	742.20
st.dev. (n)	70.269
R(calc.)	196.75
R(Horwitz)	122.95

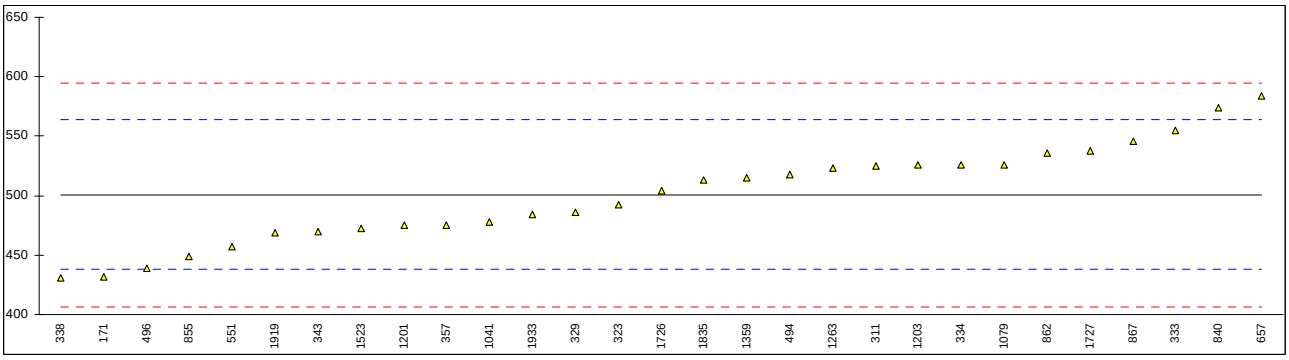

1100
1000
900
800
700
600
500
338
1919
343
1201
1727
496
1359
1726
1263
494
1203
1041
1835
357
171
334
840
551
855
922
311
657

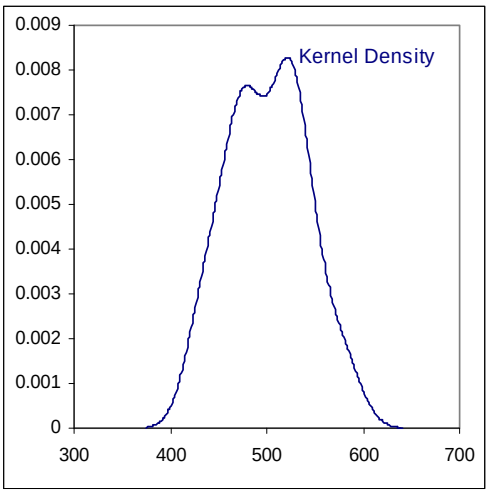

Kernel Density
0.005
0.0045
0.004
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
-500
0
500
1000
1500

Determination of iso-Butanol on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	431.91		-2.19	
311	INH 529	525		0.78	
323	INH.001	492		-0.27	
329	INH.001	486		-0.47	
333		555		1.73	
334	EN15721	526		0.81	
338	CE2870	431		-2.22	
343	EN15721	470		-0.97	
357	GCINHF012	475		-0.82	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	518		0.55	
496	EN15721	439.4		-1.95	
541		-----		-----	
551	INH GC 89 BR	456.68		-1.40	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	584		2.65	
840	INH.0001-10	574		2.33	
855	INH.0001-09	448.5		-1.66	
862	INH.0001-10	536		1.13	
867	INH.0001-09	546		1.44	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922		-----		-----	
974		-----		-----	
1006		-----		-----	
1041	EN15721	477.9		-0.72	
1079	EN15721	526		0.81	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	475		-0.82	
1203	EN15721	525.9		0.80	
1205		-----		-----	
1213		-----		-----	
1263	D5501	523.03		0.71	
1359	In house	515.4		0.47	
1402		-----		-----	
1523	D5501	472.56		-0.89	
1605		-----		-----	
1656		-----		-----	
1726	in house	504		0.11	
1727	GCIHM	538		1.19	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	513		0.39	
1919		469		-1.01	
1933		484		-0.53	
2160		-----		-----	

normality	OK
n	29
outliers	0
mean (n)	500.630
st.dev. (n)	40.8799
R(calc.)	114.464
R(Horwitz)	87.999

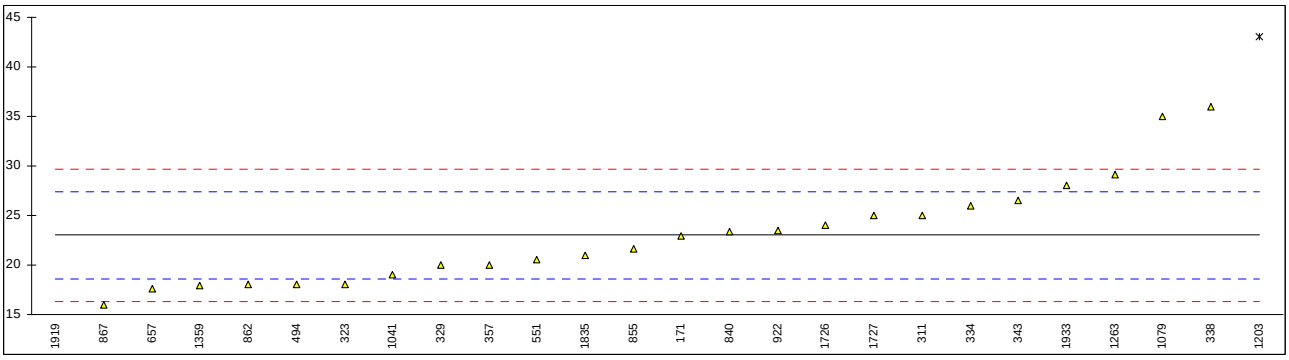

650
600
550
500
450
400
338
171
496
855
551
1919
343
1523
1201
357
1041
1933
329
323
1726
1835
1359
494
1263
311
1203
334
1079
862
1727
867
333
840
657

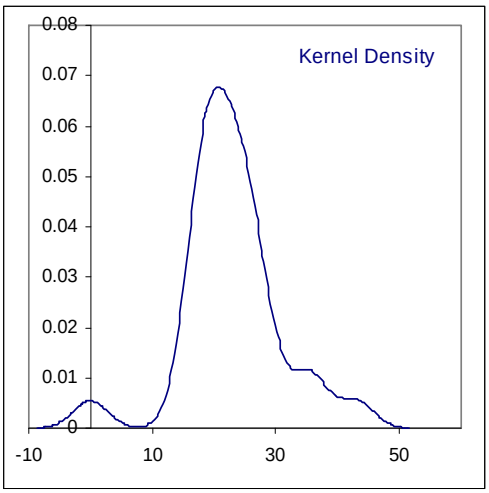

Kernel Density
0.009
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
300
400
500
600
700

Determination of iso-Propanol on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	22.89		-0.05	
311	INH 529	25		0.87	
323	INH.001	18		-2.18	
329	INH.001	20		-1.31	
333		-----		-----	
334	EN15721	26		1.30	
338	CE2870	36		5.66	
343	INH.0001-10	26.5		1.52	
357	GCINHF012	20		-1.31	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	18		-2.18	
496		-----		-----	
541		-----		-----	
551	INH GC 90 BR	20.59		-1.05	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	17.6		-2.35	
840	INH.0001-10	23.4		0.17	
855	INH.0001-09	21.6		-0.61	
862	INH.0001-10	18		-2.18	
867	INH.0001-09	16		-3.05	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	23.5		0.22	
974		-----		-----	
1006		-----		-----	
1041	EN15721	19	C	-1.74	First reported <10
1079	GC	35		5.22	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	<10		-----	False negative?
1203	EN15721	43.0	C, G(0.05)	8.71	First reported 43.0
1205		-----		-----	
1213		-----		-----	
1263	D5501	29.12		2.66	
1359	In house	17.9		-2.22	
1402		-----		-----	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726	in house	24		0.43	
1727	GCIHM	25		0.87	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	21		-0.87	
1919		0	ex	-10.02	Zero is not a true value
1933		28		2.18	
2160		-----		-----	

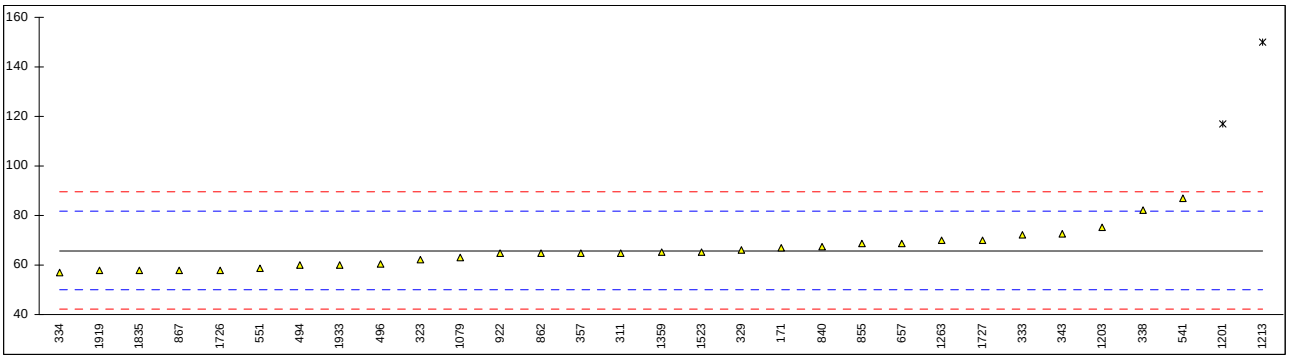
	normality	OK	
	n	24	
	outliers	1	Spike
	mean (n)	23.004	16.88 mg/kg (Recovery <112%)
	st.dev. (n)	5.2381	
	R(calc.)	14.667	
	R(Horwitz)	6.429	

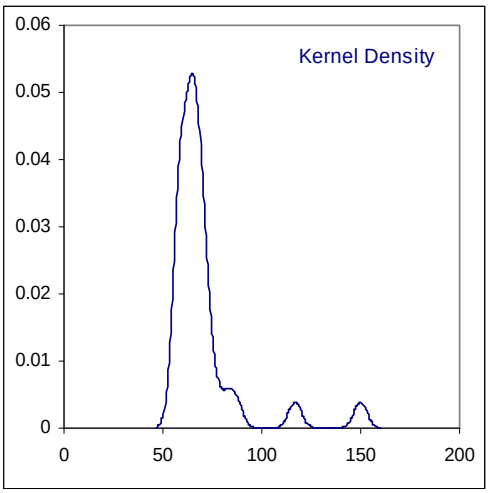

45
40
35
30
25
20
15
1919
867
657
1359
862
494
323
1041
329
357
551
1835
855
171
840
922
1726
1727
311
334
343
1933
1263
1079
338
1203


Kernel Density
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
-10
10
30
50

Determination of Methanol on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	66.90		0.13	
311	INH 529	65		-0.11	
323	INH.001	62		-0.49	
329	INH.001	66		0.02	
333		72		0.78	
334	EN15721	57		-1.13	
338	CE2870	82		2.05	
343	INH.0001-10	72.6		0.86	
357	GCINHF012	65		-0.11	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	60		-0.74	
496	EN15721	60.4		-0.69	
541	INH.0001-10	87		2.69	
551	INH GC 89 BR	58.83		-0.89	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	68.7		0.36	
840	INH.0001-10	67.6		0.22	
855	INH.0001-09	68.5		0.34	
862	INH.0001-10	65		-0.11	
867	INH.0001-09	58		-1.00	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	65	C	-0.11	First reported 92.9
974		-----		-----	
1006		-----		-----	
1041	EN15721	<10		-----	
1079	EN15721	63		-0.36	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	117	G(0.01)	6.50	
1203	EN15721	75.4		1.21	
1205		-----		-----	
1213	D5501	150	C,G(0.01)	10.69	First reported “zero”
1263	D5501	69.82		0.50	
1359	In house	65.1		-0.10	
1402		-----		-----	
1523	D5501	65.13		-0.09	
1605		-----		-----	
1656		-----		-----	
1726	in house	58		-1.00	
1727	GCIHM	70		0.53	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	58		-1.00	
1919		58		-1.00	
1933		60		-0.74	
2160		-----		-----	
	normality	OK			
	n	29			
	outliers	2			
	mean (n)	65.86			
	st.dev. (n)	7.157			
	R(calc.)	20.04			
	R(EN15721:07)	22.04			Compare with R(Horwitz) = 15.71

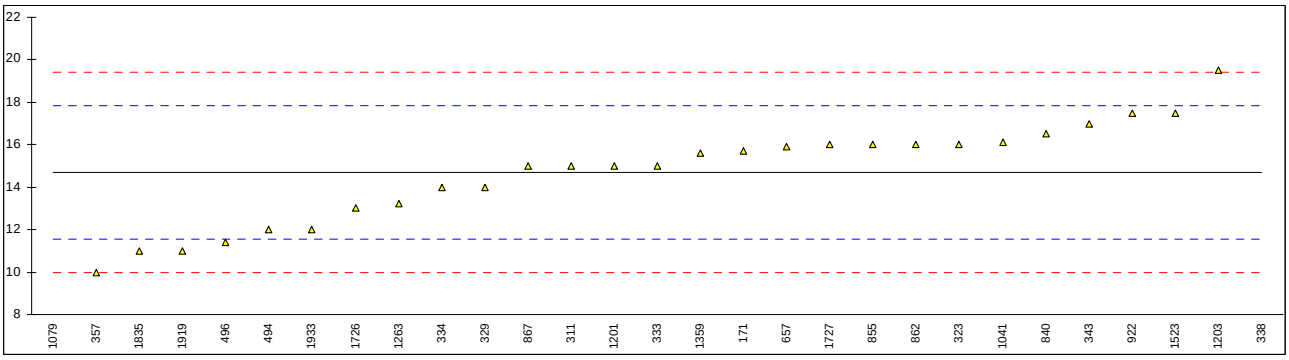

160
140
120
100
80
60
40
334
1919
1835
867
1726
551
494
1933
496
323
1079
922
862
357
311
1359
1523
329
171
840
855
657
1263
1727
333
343
1203
338
541
1201
1213

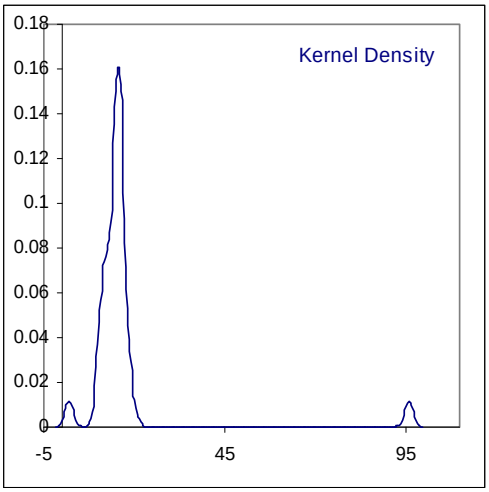

Kernel Density
0.06
0.05
0.04
0.03
0.02
0.01
0
0
50
100
150
200

Determination of n-Butanol on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	15.69		0.63	
311	INH 529	15		0.19	
323	INH.001	16		0.83	
329	INH.001	14		-0.45	
333		15		0.19	
334	EN15721	14		-0.45	
338	CE2870	96	G(0.01)	51.80	
343	EN15721	17		1.46	
357	GCINHF012	10		-3.00	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	12		-1.72	
496	EN15721	11.4		-2.10	
541		-----		-----	
551		-----		-----	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	15.9		0.76	
840	INH.0001-10	16.5		1.15	
855	INH.0001-09	16.0		0.83	
862	INH.0001-10	16		0.83	
867	INH.0001-09	15	C	0.19	First reported 25
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	17.5		1.78	
974		-----		-----	
1006		-----		-----	
1041	EN15721	16.1		0.89	
1079	EN15721	2	G(0.01)	-8.09	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	15		0.19	
1203	EN15721	19.5		3.06	
1205		-----		-----	
1213		-----		-----	
1263	D5501	13.24		-0.93	
1359	In house	15.6		0.57	
1402		-----		-----	
1523	D5501	17.50		1.78	
1605		-----		-----	
1656		-----		-----	
1726	in house	13		-1.08	
1727	GCIHM	16		0.83	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	11		-2.36	
1919		11		-2.36	
1933		12		-1.72	
2160		-----		-----	

normality	not OK
n	27
outliers	2
mean (n)	14.70
st.dev. (n)	2.325
R(calc.)	6.51
R(Horwitz)	4.40

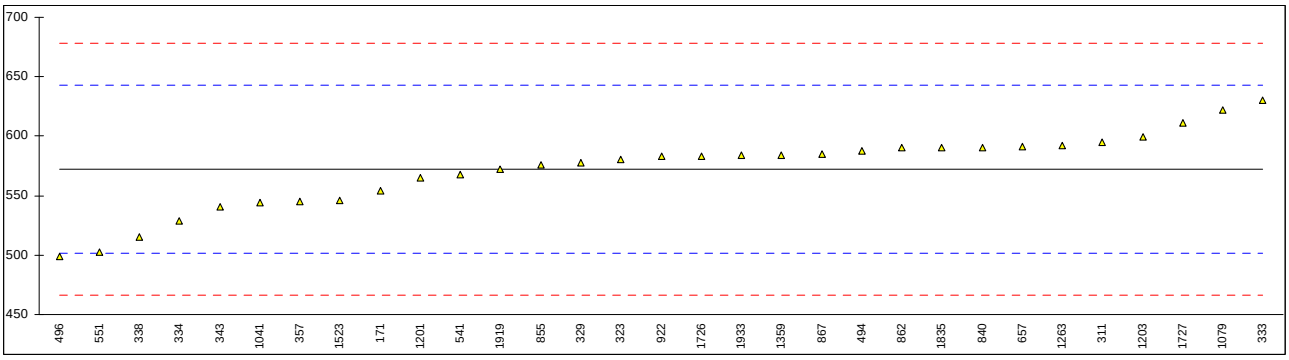

22
20
18
16
14
12
10
8
1079
357
1835
1919
496
494
1933
1726
1263
334
329
867
311
1201
333
1359
171
657
1727
855
862
323
1041
840
343
922
1523
1203
338

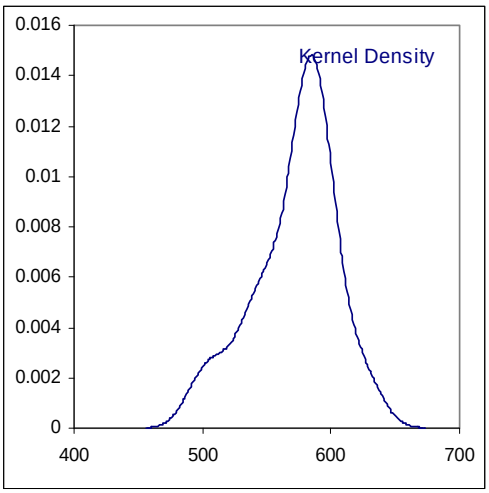

Kernel Density
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
-5
45
95

Determination of n-Propanol on sample #1090; results in mg/kg

lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	554.21		-0.51	
311	INH 529	595		0.65	
323	INH.001	580		0.23	
329	INH.001	578		0.17	
333		630		1.65	
334	EN15721	529		-1.22	
338	CE2870	515		-1.62	
343	EN15721	541		-0.88	
357	GCINHF012	545		-0.77	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	588		0.45	
496	EN15721	499.2		-2.07	
541	INH.0001-10	568		-0.11	
551	INH GC 89 BR	502.17		-1.98	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	591		0.54	
840	INH.0001-10	590		0.51	
855	INH.0001-09	575.6		0.10	
862	INH.0001-10	590		0.51	
867	INH.0001-09	585		0.37	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	582.7		0.30	
974		-----		-----	
1006		-----		-----	
1041	EN15721	543.8		-0.80	
1079	EN15721	622		1.42	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	565		-0.20	
1203	EN15721	599.3		0.78	
1205		-----		-----	
1213		-----		-----	
1263	D5501	592.23		0.57	
1359	In house	584.5		0.36	
1402		-----		-----	
1523	D5501	546.42		-0.73	
1605		-----		-----	
1656		-----		-----	
1726	in house	583		0.31	
1727	GCIHM	611		1.11	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	590		0.51	
1919		572		0.00	
1933		584		0.34	
2160		-----		-----	

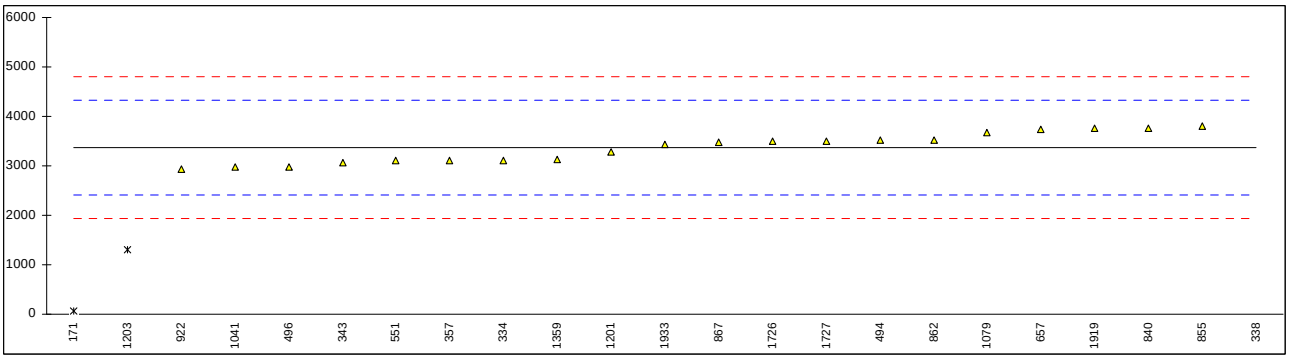
normality	OK
n	31
outliers	0
mean (n)	572.00
st.dev. (n)	31.765
R(calc.)	88.94
R(Horwitz)	98.55

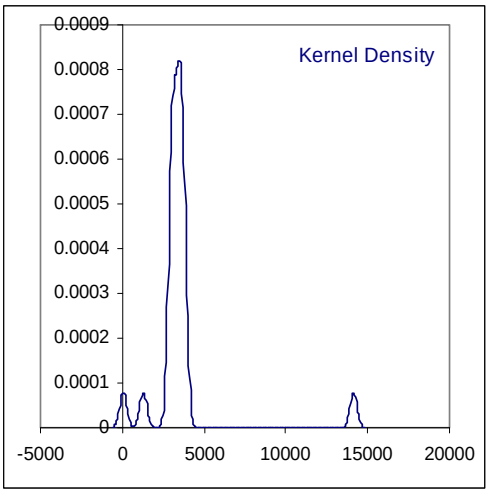

700
650
600
550
500
450
496
551
338
334
343
1041
357
1523
171
1201
541
1919
855
329
323
922
1726
1933
1359
867
494
862
1835
840
657
1263
311
1203
1727
1079
333


Kernel Density
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
400
500
600
700

Determination of Total Impurities on sample #1090; results in mg/kg

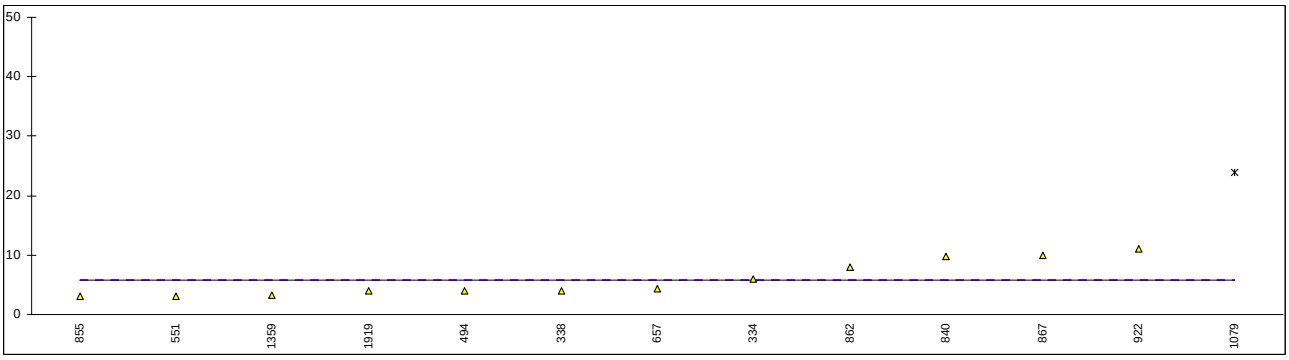
lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	62.5	C, G(0.01)	-6.94	First reported 81.27
311		-----		-----	
323		-----		-----	
329		-----		-----	
333		-----		-----	
334	EN15721	3116		-0.53	
338	CE2870	14144	G(0.01)	22.62	
343	EN15721	3070		-0.63	
357	GCINHF012	3100		-0.57	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	3515		0.31	
496	EN15721	2983.1		-0.81	
541		-----		-----	
551	calc.	3100	U	-0.57	Reported 0.31; Probably reported in %M/M
556		-----		-----	
559		-----		-----	
657	INH.0001-10	3729		0.75	
840	INH.0001-10	3762		0.82	
855	INH.0001-09	3799.5		0.90	
862	INH.0001-10	3520		0.32	
867	INH.0001-09	3483		0.24	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	2942.9		-0.90	
974		-----		-----	
1006		-----		-----	
1041	EN15721	2979.7		-0.82	
1079	EN15721	3684		0.66	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	3290		-0.17	
1203	EN15721	1295	G(0.01)	-4.36	
1205		-----		-----	
1213		-----		-----	
1263		-----		-----	
1359	In house	3125.2		-0.51	
1402		-----		-----	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726	in house	3492		0.26	
1727	GCIHM	3510		0.29	
1807		-----		-----	
1817		-----		-----	
1835		-----		-----	
1919		3760		0.82	
1933		3429		0.12	
2160		-----		-----	
	normality	not OK			
	n	20			
	outliers	3			
	mean (n)	3369.52			
	st.dev. (n)	295.853			
	R(calc.)	828.39			
	R(Horwitz)	1333.57			

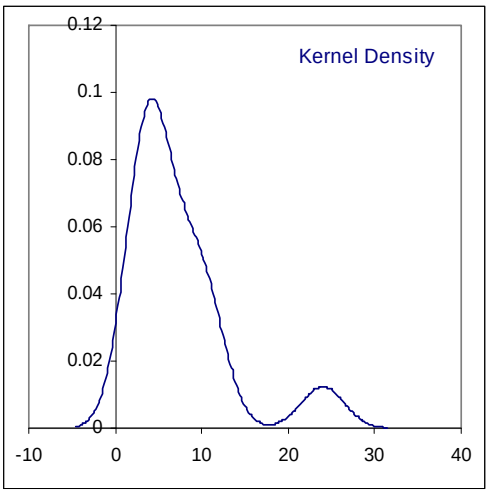

6000
5000
4000
3000
2000
1000
0
171
1203
922
1041
496
343
551
357
334
1359
1201
1933
867
1726
1727
494
862
1079
657
1919
840
855
338


Kernel Density
0.0009
0.0008
0.0007
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
-5000
0
5000
10000
15000
20000

Determination of Acetone on sample #1090; results in mg/kg

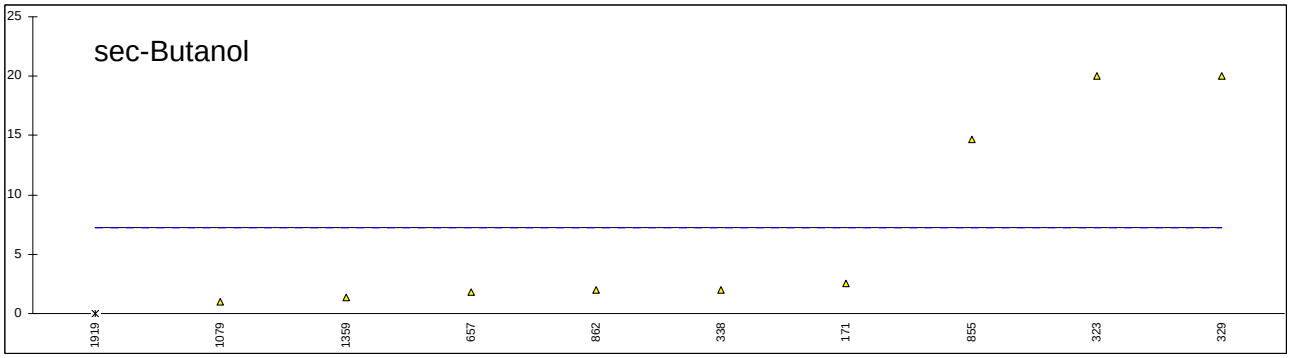
lab	method	value	mark	z(targ)	remarks
52		-----		-----	
120		-----		-----	
150		-----		-----	
169		-----		-----	
171	D5501mod	<1		-----	
311	INH 529	<5		-----	
323	INH.001	<5		-----	
329	INH.001	<5		-----	
333		-----		-----	
334	EN15721	6		-----	
338	CE2870	4		-----	
343	INH.0001-10	<2		-----	
357	GCINHF012	<10		-----	
359		-----		-----	
395		-----		-----	
399		-----		-----	
444		-----		-----	
463		-----		-----	
468		-----		-----	
494	EN15721	4		-----	
496		-----		-----	
541		-----		-----	
551	INH GC 89 BR	3.05		-----	
556		-----		-----	
559		-----		-----	
657	INH.0001-10	4.4		-----	
840	INH.0001-10	9.7	C	-----	First reported 16.2
855	INH.0001-09	3.0		-----	
862	INH.0001-10	8		-----	
867	INH.0001-09	10		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
922	INH.0001-10	11		-----	
974		-----		-----	
1006		-----		-----	
1041	EN15721	<10		-----	
1079	GC	24	G(0.01)	-----	
1126		-----		-----	
1138		-----		-----	
1154		-----		-----	
1201	EN15721	<10		-----	
1203	EN15721	<5		-----	
1205		-----		-----	
1213		-----		-----	
1263		-----		-----	
1359	In house	3.3		-----	
1402		-----		-----	
1523		-----		-----	
1605		-----		-----	
1656		-----		-----	
1726	in house	ND		-----	
1727	GCIHM	ND		-----	
1807		-----		-----	
1817		-----		-----	
1835	GCIHM	ND		-----	
1919		4		-----	
1933		<7		-----	
2160		-----		-----	
	normality	not OK			
	n	12			
	outliers	1			
	mean (n)	5.871			
	st.dev. (n)	2.9855			
	R(calc.)	8.359			
	R(Horwitz)	(2.015)			

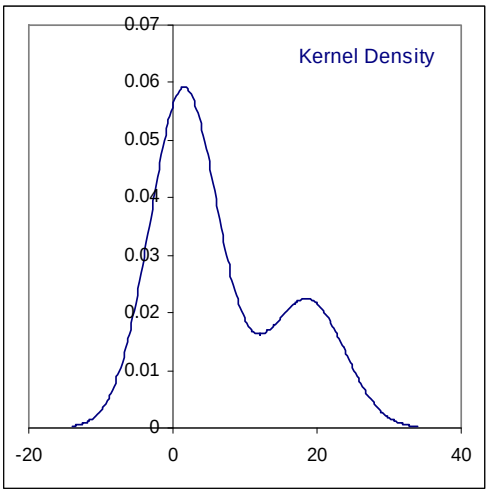

50
40
30
20
10
0
855
551
1359
1919
494
338
657
334
862
840
867
922
1079


Kernel Density
0.12
0.1
0.08
0.06
0.04
0.02
0
-10
0
10
20
30
40

Determination of sec-Amylalcohol and sec-Butanol on sample #1090; results in mg/kg

lab	method	sec-Amyl.	z(targ)	method	sec-Butanol	z(targ)	remarks
52		-----	-----		-----	-----	
120		-----	-----		-----	-----	
150		-----	-----		-----	-----	
169		-----	-----		-----	-----	
171	D5501mod	<1	-----	D5501mod	2.58	-----	
311	INH 529	<5	-----	INH 529	<5	-----	
323	INH.001	<5	-----	INH.001	20	-----	
329	INH.001	<5	-----	INH.001	20	-----	
333		-----	-----		-----	-----	
334		-----	-----		-----	-----	
338		-----	-----	CE2870	2	-----	
343	INH.0001-10	2.97	-----	INH.0001-10	<2	-----	
357	GCINHF012	<10	-----	GCINHF012	<10	-----	
359		-----	-----		-----	-----	
395		-----	-----		-----	-----	
399		-----	-----		-----	-----	
444		-----	-----		-----	-----	
463		-----	-----		-----	-----	
468		-----	-----		-----	-----	
494	EN15721	<5	-----	EN15721	<5	-----	
496		-----	-----	EN15721	<10	-----	
541		-----	-----		-----	-----	
551		-----	-----	INH 89 BR	<6	-----	
556		-----	-----		-----	-----	
559		-----	-----		-----	-----	
657	INH.0001-10	3.0	-----	INH.0001-10	1.8	-----	
840	INH.0001-10	<2	-----	INH.0001-10	<2	-----	
855		-----	-----	INH.0001-09	14.7	-----	
862	INH.0001-10	3	-----	INH.0001-10	2	-----	
867	INH.0001-09	<2	-----	INH.0001-09	<2	-----	
902		-----	-----		-----	-----	
912		-----	-----		-----	-----	
913		-----	-----		-----	-----	
922		-----	-----		-----	-----	
974		-----	-----		-----	-----	
1006		-----	-----		-----	-----	
1041	EN15721	<10	-----	EN15721	<10	-----	
1079		-----	-----	EN15721	1	-----	
1126		-----	-----		-----	-----	
1138		-----	-----		-----	-----	
1154		-----	-----		-----	-----	
1201		-----	-----	EN15721	<10	-----	
1203	EN15721	<5	-----	EN15721	<5	-----	
1205		-----	-----		-----	-----	
1213		-----	-----		-----	-----	
1263		-----	-----		-----	-----	
1359		-----	-----	in house	1.4	-----	
1402		-----	-----		-----	-----	
1523		-----	-----		-----	-----	
1605		-----	-----		-----	-----	
1656		-----	-----		-----	-----	
1726	in house	ND	-----	in house	ND	-----	
1727		-----	-----		-----	-----	
1807		-----	-----		-----	-----	
1817		-----	-----		-----	-----	
1835		-----	-----	GCIHM	ND	-----	
1919		-----	-----		0	-----	ex= Zero is not a true value
1933		ND	-----		<7	-----	
2160		-----	-----		-----	-----	
	normality	n.a.		normality	not OK		
	n	3		n	9		
	outliers	0		outliers	0		
	mean (n)	n.a.		mean (n)	7.276		
	st.dev. (n)	n.a.		st.dev. (n)	8.3707		
	R(calc.)	n.a.		R(calc.)	23.438		
	R(Horwitz)	n.a.		R(Horwitz)	(2.418)		


sec-Butanol
25
20
15
10
5
0
1919
1079
1359
657
862
338
171
855
323
329


Kernel Density
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
-20
0
20
40

Determination of Benzene and Cyclohexane on sample #1090; results in mg/kg

lab	method	Benz.	z(targ)	remarks	method	Cyclohe.	z(targ)	remarks
52		-----	-----			-----	-----	
120		-----	-----			-----	-----	
150		-----	-----			-----	-----	
169		-----	-----			-----	-----	
171	D5501mod	<1	-----		D5501mod	<1	-----	
311	INH 529	<5	-----		INH 529	<5	-----	
323	INH.001	<5	-----		INH.001	<5	-----	
329	INH.001	<5	-----		INH.001	<5	-----	
333		<10	-----			<10	-----	
334	EN15721	0	-----		EN15721	1	-----	
338	CE2870	1	-----		CE2870	7	-----	
343	INH.0001-10	<2	-----		INH.0001-10	<2	-----	
357	GCINHF012	<10	-----		GCINHF012	<10	-----	
359		-----	-----			-----	-----	
395		-----	-----			-----	-----	
399		-----	-----			-----	-----	
444		-----	-----			-----	-----	
463		-----	-----			-----	-----	
468		-----	-----			-----	-----	
494	EN15721	<5	-----		EN15721	<5	-----	
496		-----	-----			-----	-----	
541	INH.0001-10	<5	-----			-----	-----	
551	INH-1299	<0.1	-----		INH GC 05 BR	0.88	-----	
556		-----	-----			-----	-----	
559		-----	-----			-----	-----	
657	INH.0001-10	ND	-----		INH.0001-10	0.7	-----	
840	INH.0001-10	<1	-----		INH.0001-10	1.6	-----	
855		-----	-----			-----	-----	
862	INH.0001-10	<5	-----		INH.0001-10	<5	-----	
867	INH.0001-09	<2	-----		INH.0001-09	<2	-----	
902		-----	-----			-----	-----	
912		-----	-----			-----	-----	
913		-----	-----			-----	-----	
922	INH.0001-10	<2	-----		INH.0001-10	<2	-----	
974		-----	-----			-----	-----	
1006		-----	-----			-----	-----	
1041	EN15721	<10	-----			-----	-----	
1079	GC	18	-----		GC	10	-----	
1126		-----	-----			-----	-----	
1138		-----	-----			-----	-----	
1154		-----	-----			-----	-----	
1201	EN15721	<10	-----		EN15721	<10	-----	
1203	EN15721	<5	-----		EN15721	<5	-----	
1205		-----	-----			-----	-----	
1213		-----	-----			-----	-----	
1263		-----	-----			-----	-----	
1359		-----	-----			-----	-----	
1402		-----	-----			-----	-----	
1523		-----	-----			-----	-----	
1605		-----	-----			-----	-----	
1656		-----	-----			-----	-----	
1726	in house	ND	-----		in house	ND	-----	
1727	GCIHM	ND	-----		GCIHM	ND	-----	
1807		-----	-----			-----	-----	
1817		-----	-----			-----	-----	
1835	GCIHM	ND	-----		GCIHM	ND	-----	
1919		-----	-----			-----	-----	
1933		ND	-----			ND	-----	
2160		-----	-----			-----	-----	
	normality	n.a.			normality	not OK		
	n	3			n	6		
	outliers	n.a.			outliers	0		
	mean (n)	n.a.			mean (n)	3.5		
	st.dev. (n)	n.a.			st.dev. (n)	3.98		
	R(calc.)	n.a.			R(calc.)	11.1		
	R(Horwitz)	n.a.			R(Horwitz)	(1.3)		

Determination of Crotonaldehyde, DEG and Dioxane on sample #1090; results in mg/kg

lab	method	Croto.	z(targ)	remarks	method	DEG	z(targ)	remarks	method	Dioxa.	z(targ)	remark
52		-----	-----			-----	-----			-----	-----	
120		-----	-----			-----	-----			-----	-----	
150		-----	-----			-----	-----			-----	-----	
169		-----	-----			-----	-----			-----	-----	
171	D5501mod	<1	-----		D5501mod	<1	-----			-----	-----	
311	INH 529	<5	-----		INH-270	<5	-----		INH 529	<5	-----	
323	INH.001	<5	-----			-----	-----			-----	-----	
329	INH.001	<5	-----			-----	-----			-----	-----	
333		-----	-----			-----	-----			-----	-----	
334		-----	-----			-----	-----			-----	-----	
338		-----	-----			-----	-----			-----	-----	
343	INH.0001-10	16.6	-----			-----	-----			-----	-----	
357	GCINHF012	<10	-----			-----	-----			-----	-----	
359		-----	-----			-----	-----			-----	-----	
395		-----	-----			-----	-----			-----	-----	
399		-----	-----			-----	-----			-----	-----	
444		-----	-----			-----	-----			-----	-----	
463		-----	-----			-----	-----			-----	-----	
468		-----	-----			-----	-----			-----	-----	
494	EN15721	<5	-----			-----	-----			-----	-----	
496		-----	-----			-----	-----			-----	-----	
541		-----	-----			-----	-----			-----	-----	
551	INH GC 84 BR	<6	-----		INH-1379	<6	-----		INH-2179	0.0248	-----	
556		-----	-----			-----	-----			-----	-----	
559		-----	-----			-----	-----			-----	-----	
657	INH.0001-10	1.88	-----	F.r. 16.4	INH.0001-10	1.88	-----	F.r. <2	INH.0001-10	<2	-----	
840	INH.0001-10	1.7	-----		INH.0001-10	<5	-----			-----	-----	
855		-----	-----			-----	-----			-----	-----	
862	INH.0001-10	16	-----		INH.0001-10	<5	-----		INH.0001-10	2	-----	
867		-----	-----		INH.0001-09	<2	-----			-----	-----	
902		-----	-----			-----	-----			-----	-----	
912		-----	-----			-----	-----			-----	-----	
913		-----	-----			-----	-----			-----	-----	
922		-----	-----			-----	-----			-----	-----	
974		-----	-----			-----	-----			-----	-----	
1006		-----	-----			-----	-----			-----	-----	
1041		-----	-----			-----	-----			-----	-----	
1079		-----	-----			-----	-----			-----	-----	
1126		-----	-----			-----	-----			-----	-----	
1138		-----	-----			-----	-----			-----	-----	
1154		-----	-----			-----	-----			-----	-----	
1201	EN15721	<10	-----			-----	-----			-----	-----	
1203	EN15721	<5	-----		EN15721	<5	-----		EN15721	<5	-----	
1205		-----	-----			-----	-----			-----	-----	
1213		-----	-----			-----	-----			-----	-----	
1263		-----	-----			-----	-----			-----	-----	
1359		-----	-----			-----	-----			-----	-----	
1402		-----	-----			-----	-----			-----	-----	
1523		-----	-----			-----	-----			-----	-----	
1605		-----	-----			-----	-----			-----	-----	
1656		-----	-----			-----	-----			-----	-----	
1726	in house	ND	-----		in house	ND	-----		in house	6	-----	
1727	GCIHM	ND	-----			-----	-----			-----	-----	
1807		-----	-----			-----	-----			-----	-----	
1817		-----	-----			-----	-----			-----	-----	
1835		-----	-----			-----	-----			-----	-----	
1919		-----	-----			-----	-----			-----	-----	
1933		ND	-----			ND	-----			ND	-----	
2160		-----	-----			-----	-----			-----	-----	
	normality	n.a			normality	n.a.			normality	n.a.		
	n	4			n	1			n	3		
	outliers	0			outliers	0			outliers	n.a		
	mean (n)	n.a.			mean (n)	n.a.			mean (n)	n.a.		
	st.dev. (n)	n.a.			st.dev. (n)	n.a			st.dev. (n)	n.a.		
	R(calc.)	n.a.			R(calc.)	n.a.			R(calc.)	n.a.		
	R(Horwitz)	n.a.			R(Horwitz)	n.a.			R(Horwitz)	n.a.		

Determination of MEG and n-Amylalcohol on sample #1090; results in mg/kg

lab	method	MEG	z(targ)	remarks	method	n-Amyl.	z(targ)	remarks
52		-----	-----			-----	-----	
120		-----	-----			-----	-----	
150		-----	-----			-----	-----	
169		-----	-----			-----	-----	
171	D5501mod	<1	-----		D5501mod	<1	-----	
311	INH-270	<5	-----		INH 529	<5	-----	
323		-----	-----		INH.001	<5	-----	
329		-----	-----		INH.001	<5	-----	
333		-----	-----			-----	-----	
334		-----	-----		EN15721	15	-----	
338		-----	-----			-----	-----	
343		-----	-----		INH.0001-10	<2	-----	
357		-----	-----		GCINHF012	<10	-----	
359		-----	-----			-----	-----	
395		-----	-----			-----	-----	
399		-----	-----			-----	-----	
444		-----	-----			-----	-----	
463		-----	-----			-----	-----	
468		-----	-----			-----	-----	
494		-----	-----		EN15721	6	-----	
496		-----	-----			-----	-----	
541		-----	-----			-----	-----	
551	INH-1379	<6	-----			-----	-----	
556		-----	-----			-----	-----	
559		-----	-----			-----	-----	
657	INH.0001-10	3.8	-----		INH.0001-10	0.6	-----	
840	INH.0001-10	5.4	-----		INH.0001-10	3.0	-----	
855	INH.0001-09	18.7	-----		INH.0001-09	0.8	-----	
862	INH.0001-10	<5	-----		INH.0001-10	<5	-----	
867	INH.0001-09	<2	-----		INH.0001-09	<2	-----	
902		-----	-----			-----	-----	
912		-----	-----			-----	-----	
913		-----	-----			-----	-----	
922		-----	-----			-----	-----	
974		-----	-----			-----	-----	
1006		-----	-----			-----	-----	
1041		-----	-----		EN15721	<10	-----	
1079		-----	-----			-----	-----	
1126		-----	-----			-----	-----	
1138		-----	-----			-----	-----	
1154		-----	-----			-----	-----	
1201		-----	-----		EN15721	<10	-----	
1203	EN15721	<5	-----		EN15721	<5	-----	
1205		-----	-----			-----	-----	
1213		-----	-----			-----	-----	
1263		-----	-----			-----	-----	
1359		-----	-----			-----	-----	
1402		-----	-----			-----	-----	
1523		-----	-----			-----	-----	
1605		-----	-----			-----	-----	
1656		-----	-----			-----	-----	
1726	in house	ND	-----		in house	2	-----	
1727		-----	-----			-----	-----	
1807		-----	-----			-----	-----	
1817		-----	-----			-----	-----	
1835		-----	-----			-----	-----	
1919		-----	-----			0	-----	ex = zero is not true value
1933		ND	-----			ND	-----	
2160		-----	-----			-----	-----	
	normality	n.a.			normality	n.a.		
	n	3			n	6		
	outliers	n.a.			outliers	0		
	mean (n)	n.a.			mean (n)	4.567		
	st.dev. (n)	n.a.			st.dev. (n)	5.4749		
	R(calc.)	n.a.			R(calc.)	15.330		
	R(Horwitz)	n.a.			R(Horwitz)	(1.6278)		

Determination of tert-Butanol and t-Amylalcohol on sample #1090; results in mg/kg

lab	method	t-BuOH	z(targ)	remarks	method	t-Amyl.	z(targ)	remarks
52		-----	-----			-----	-----	
120		-----	-----			-----	-----	
150		-----	-----			-----	-----	
169		-----	-----			-----	-----	
171	D5501mod	<1	-----		D5501mod	<1	-----	
311	INH529	<5	-----		INH529	<5	-----	
323	INH.001	<5	-----		INH.001	<5	-----	
329	INH.001	<5	-----		INH.001	<5	-----	
333		-----	-----			-----	-----	
334		-----	-----			-----	-----	
338		-----	-----			-----	-----	
343	INH.0001-10	<2	-----		INH.0001-10	<2	-----	
357	GCINHF012	<10	-----		GCINHF012	<10	-----	
359		-----	-----			-----	-----	
395		-----	-----			-----	-----	
399		-----	-----			-----	-----	
444		-----	-----			-----	-----	
463		-----	-----			-----	-----	
468		-----	-----			-----	-----	
494	EN15721	<5	-----		EN15721	<5	-----	
496		-----	-----			-----	-----	
541		-----	-----			-----	-----	
551		-----	-----			-----	-----	
556		-----	-----			-----	-----	
559		-----	-----			-----	-----	
657	INH.0001-10	ND	-----		INH.0001-10	ND	-----	
840	INH.0001-10	<2	-----		INH.0001-10	<2	-----	
855		-----	-----			-----	-----	
862	INH.0001-10	<5	-----		INH.0001-10	2.6	-----	
867	INH.0001-09	<2	-----		INH.0001-09	<2	-----	
902		-----	-----			-----	-----	
912		-----	-----			-----	-----	
913		-----	-----			-----	-----	
922		-----	-----			-----	-----	
974		-----	-----			-----	-----	
1006		-----	-----			-----	-----	
1041	EN15721	<10	-----		EN15721	<10	-----	
1079	EN15721	<1	-----			-----	-----	
1126		-----	-----			-----	-----	
1138		-----	-----			-----	-----	
1154		-----	-----			-----	-----	
1201	EN15721	<10	-----		EN15721	<10	-----	
1203	EN15721	<5	-----		EN15721	<5	-----	
1205		-----	-----			-----	-----	
1213		-----	-----			-----	-----	
1263		-----	-----			-----	-----	
1359		-----	-----			-----	-----	
1402		-----	-----			-----	-----	
1523		-----	-----			-----	-----	
1605		-----	-----			-----	-----	
1656		-----	-----			-----	-----	
1726	in house	ND	-----		in house	ND	-----	
1727		-----	-----			-----	-----	
1807		-----	-----			-----	-----	
1817		-----	-----			-----	-----	
1835		-----	-----			-----	-----	
1919		-----	-----			0	-----	ex = zero is not true value
1933		ND	-----			ND	-----	
2160		-----	-----			-----	-----	
	normality	n.a.			normality	n.a.		
	n	0			n	1		
	outliers	n.a.			outliers	n.a.		
	mean (n)	n.a.			mean (n)	n.a.		
	st.dev. (n)	n.a.			st.dev. (n)	n.a.		
	R(calc.)	n.a.			R(calc.)	n.a.		
	R(Horwitz)	n.a.			R(Horwitz)	n.a.		

APPENDIX 2

Number of participating laboratories per country:

1 lab in ARGENTINA
1 lab in AUSTRIA
5 labs in BELGIUM
3 labs in BRAZIL
1 lab in CANADA
2 labs in FINLAND
5 labs in FRANCE
3 labs in GERMANY
1 lab in HUNGARY
2 labs in INDIA
2 labs in ITALY
3 labs in P.R. of CHINA
1 lab in PAKISTAN
1 lab in PERU
1 lab in SINGAPORE
5 labs in SPAIN
3 labs in SWEDEN
1 lab in TAIWAN R.O.C.
1 lab in THAILAND
5 labs in THE NETHERLANDS
2 labs in TURKEY
1 lab in U.A.E.
4 labs in U.S.A.
4 labs in UNITED KINGDOM
2 labs in VIETNAM

APPENDIX 3

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
E	= error in calculations
ex	= excluded from calculations
n.a.	= not applicable
U	= unit error
SDS	= Safety Data Sheet

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