Results of Proficiency Test
Methanol
September 2021

Organized by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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CONTENTS

1 INTRODUCTION

Since 1999 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the analysis of Methanol in accordance with the latest version of the IMPCA specification every year. During the annual proficiency testing program 2021/2022 it was decided to continue the round robin for the analysis of Methanol.

In this interlaboratory study registered for participation:
- 100 laboratories in 37 countries on Methanol PT (iis21C10)
- 61 laboratories in 24 countries for UV analysis on Methanol PT (iis21C10UV)

In total 101 laboratories in 37 different countries registered for participation in one or two PTs. See appendix 3 for the number of participants per country. In this report the results of this Methanol proficiency tests are presented and discussed. This report is also electronically available through the iis website.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organizer of this proficiency test (PT). Sample analyzes for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory.
In this proficiency test the participants received, depending on the registration, from one up to three different samples of Methanol, see table below.

Sample ID	PT ID	Quantity	Purpose
#21160	iis21C10	1x 1L	Regular analyzes
#21162	iis21C10	1x 250mL	NVM
#21161	iis21C10UV	4x 100mL	UV

Table 1: Methanol samples used in iis21C10 and iis21C10UV PTs

Participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, is accredited in agreement with ISO/IEC17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accredited scope. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant’s data. Feedback from the participants on the reported data is encouraged and customer’s satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

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

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

For the preparation of the sample for the regular analyzes a batch of approximately 130 liters of Methanol was obtained from a local supplier. This batch was spiked with Iron Chloride, Toluene and Benzene. After homogenization 121 amber glass bottles of 1L were filled and labelled #21160.
The homogeneity of the subsamples was checked by determination of Density at 20°C in accordance with ASTM D4052 and determination of Water in accordance with ASTM E1064 and Toluene in accordance with IMPCA001 on 8 stratified randomly selected subsamples.

	Density at 20°C in kg/L	Water in mg/kg	Toluene in mg/kg
sample #21160-1	0.79140	670	15.8
sample #21160-2	0.79141	690	15.5
sample #21160-3	0.79140	670	15.7
sample #21160-4	0.79141	670	16.1
sample #21160-5	0.79141	670	15.7
sample #21160-6	0.79140	660	15.6
sample #21160-7	0.79141	690	16.1
sample #21160-8	0.79140	660	16.2

Table 2: homogeneity test results of subsamples #21160

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

	Density at 20°C in kg/L	Water In mg/kg	Toluene in mg/kg
r (observed)	0.00001	33	0.73
reference test method	ISO12185:96	ASTM E1064:16	Horwitz
0.3 x R (reference test method)	0.00015	32	1.4

Table 3: evaluation of repeatabilities of the subsamples #21160

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

For the Methanol UV sample a batch of approximately 9 liters of Methanol was obtained from a local supplier. After homogenization 88 amber glass bottles of 100mL were filled and labelled #21161.
The homogeneity of the subsamples was checked by determination of UV absorbances at 250nm and at 268.5nm (using a 50 mm cuvette) according to IMPCA004 on 8 stratified randomly selected subsamples.

	Absorbance at 250nm	Absorbance at 268.5nm
sample #21161-1	0.148	0.072
sample #21161-2	0.147	0.070
sample #21161-3	0.147	0.070
sample #21161-4	0.147	0.071
sample #21161-5	0.148	0.070
sample #21161-6	0.151	0.072
sample #21161-7	0.148	0.070
sample #21161-8	0.147	0.070

Table 4: homogeneity test results of subsamples #21161

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

	Absorbance at 250nm	Absorbance at 268.5nm
r (observed)	0.0038	0.003
reference test method	IMPCA004	IMPCA004
0.3 x R (reference test method)	0.0045	0.006

Table 5: evaluation of repeatabilities of the subsamples #21161

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

For the Methanol NVM sample a batch of approximately 30 liters Methanol was obtained from a local supplier. This batch was spiked with Sodium Chloride. After homogenization 113 amber glass bottles of 250mL were filled and labelled #21162.
The homogeneity of the subsamples was checked by determination of Nonvolatile matter according to EN15691 on 8 stratified randomly selected subsamples.

	Nonvolatile matter in mg/100mL
sample #21162-1	24
sample #21162-2	24
sample #21162-3	23
sample #21162-4	26
sample #21162-5	24
sample #21162-6	24
sample #21162-7	23
sample #21162-8	25

Table 6: homogeneity test results of subsamples #21162

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

	Nonvolatile matter in mg/100mL
r (observed)	2.8
reference test method	D1353:13
0.3 x R (reference test method)	3.1

Table 7: evaluation of repeatability of the subsamples #21162

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

Depending on the registration of the participant the appropriate set of PT samples was sent on August 25, 2021. An SDS was added to the sample package.

2.5 STABILITY OF THE SAMPLES

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

2.6 ANALYZES

The participants were requested to determine on sample #21160: Acidity as Acetic acid, Appearance, Carbonizable substances Pt/Co, Inorganic Chloride as Cl, Color Pt/Co, Density at 20°C, Specific Gravity 20/20°C, Distillation (IBP, 50% recovered, DP and Range), Iron as Fe, Miscibility with water (Hydrocarbons), Permanganate Time Test at 15°C, Purity by GC (as received and on dry basis), Acetone, Benzene, Ethanol, Toluene, Total Sulfur, Trimethylamine (TMA) and Water (Coulometric and Volumetric).
On sample #21161 it was requested to determine the UV absorbances at 300, 268.5, 250, 240, 230 and 220 nm and an evaluation (Pass/Fail) of the UV scan.
On sample #21162 was requested to determine Nonvolatile matter only.

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

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

3 RESULTS

During five weeks after sample dispatch the test results of the individual laboratories were gathered via the data entry portal www.kpmd.co.uk/sgs-iis/. The reported test results are tabulated per determination in appendix 1 and 2 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalysis). Additional or corrected test results are used for data analysis and the original test results are placed under ‘Remarks’ in the test result tables in appendix 1. Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

3.1 STATISTICS

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

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

The assigned value is determined by consensus based on the test results of the group of participants after rejection of the statistical outliers and/or suspect data.

According to ISO13528 all (original received or corrected) results per determination were submitted to outlier tests. In the iis procedure for proficiency tests, outliers are detected prior to calculation of the mean, standard deviation and reproducibility. For small data sets, Dixon (up to 20 test results) or Grubbs (up to 40 test results) outlier tests can be used. For larger data sets (above 20 test results) Rosner's outlier test can be used. Outliers are marked by D(0.01) for the Dixon's test, by G(0.01) or DG(0.01) for the Grubbs' test and by R(0.01) for the Rosner's test. Stragglers are marked by D(0.05) for the Dixon's test, by G(0.05) or DG(0.05) for the Grubbs' test and by R(0.05) for the Rosner's test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

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

Finally, the reproducibilities were calculated from the standard deviations by multiplying 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 test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also, a normal Gauss curve (dotted line) was projected over the Kernel Density Graph (smooth line) for reference. The Gauss curve is calculated from the consensus value and the corresponding standard deviation.

3.3 Z-SCORES

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

The target standard deviation was calculated from the literature reproducibility by division with 2.8. In case no literature reproducibility was available, other target values may be used, like Horwitz or an estimated reproducibility based on former iis proficiency tests.

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

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

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

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

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

4 EVALUATION

Some problems were encountered with the dispatch of the samples due to COVID-19 pandemic. Therefore, the reporting time on the data entry portal was extended with one week.
In the regular Methanol PT seven participants reported test results after the reporting date and eleven participants did not report any test results at all. Not all participants were able to report all tests requested.
In the Methanol UV PT two participants reported test results after the reporting date and fifteen participants did not report any test results at all.
In total 90 participants reported 1669 test results. Observed were 84 outlying test results, which is 5.0% of the numerical test results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

Not all data sets proved to have a normal Gaussian distribution. These are referred to as “not OK” or “suspect”. The statistical evaluation of these data sets should be used with due care, see also paragraph 3.1.

4.1 EVALUATION PER SAMPLE AND PER TEST

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

Unfortunately, a suitable reference test method, providing the precision data, is not available for all determinations. For these tests the calculated reproducibility was compared against the estimated reproducibility calculated with the Horwitz equation.

In the iis PT reports ASTM test methods are referred to with a number (e.g. D1209) and an added designation for the year that the test method was adopted or revised (e.g. D1209:05). If applicable, a designation in parentheses is added to designate the year of reapproval (e.g. D1209:05(2019)). In the test results tables of appendix 1 only the test method number and year of adoption or revision (e.g. D1209.05) will be used.

sample #21160

Acidity as Acetic acid: This determination was not problematic. One statistical outlier was observed. The calculated the reproducibility after rejection of the statistical outlier is in agreement with the requirements of ASTM D1613:17.

Appearance: This determination was not problematic. All reporting participants agreed about the appearance, which was bright, clear and free of suspended matter (Pass).

Carbonizable substances: This determination was very problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with the requirements of ASTM E346:08e1(withdrawn 2017). Therefore, no z-scores are calculated.

Inorganic Chloride as Cl: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of IMPCA002:98.

Color as Pt/Co: This determination was not problematic. No statistical outliers were observed. The calculated reproducibility is in agreement with the requirements of ASTM D1209:05(2019).

Density at 20°C: This determination was not problematic. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO12185:96.

Specific Gravity 20/20°C: This determination was not problematic. Seven statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ISO12185:96.

Distillation: This determination was not problematic. Five statistical outliers were observed and two other test results were excluded. All three calculated reproducibilities after rejection of the suspect data were in agreement with the requirements of ASTM D1078:11(2019) for the automated and manual mode.

Iron as Fe: This determination was problematic for a number of participants. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM E394:15.

Miscibility with water (Hydrocarbons): This determination may be problematic. Most of the reporting participants agreed about the Miscibility with water (Hydrocarbons) and reported “Pass”. Remarkably, thirteen participants reported “Fail”.

Permanganate Time Test: This determination may be problematic. Most of the reporting participants agreed about a test value below 15 minutes. It was decided not to calculate z-scores due to the lower test Permanganate Time test values reported. Remarkably, three participants reported a test above 50 minutes.

Purity by GC as received: This determination may be problematic. Four statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers was larger in comparison with the calculated reproducibility in the 2020 PT iis20C06, see appendix 1.

Purity by GC on dry basis: This determination may be problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers were larger in comparison with the calculated reproducibility of the 2020 PT iis20C06, see appendix 1.

Acetone: This determination may be problematic for a number of participants. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated reproducibility calculated with the Horwitz equation.

Benzene: This determination may be problematic for a number of participants. Three statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated reproducibility calculated with the Horwitz equation.

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

Toluene: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the estimated reproducibility calculated with the Horwitz equation.

Total Sulfur: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM D5453:19a.

Trimethyl amine (TMA): This determination was very problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is not at all in agreement with the requirements calculated from the repeatability of ASTM E346:08e1 (withdrawn 2017). It was decided not to calculate z-scores due to large variation in the results.

Water, Coulometric: This determination was problematic for a number of participants. Eight statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM E1064:16.

Water, Volumetric: This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM E203:16.

sample #21161

UV Absorbance: The determination with a 50 mm cuvette may be problematic for a number of participants. In total nineteen statistical outliers were observed and six other test results were excluded. The calculated reproducibilities of 300 nm, 268.5 nm, 250 nm and 220 nm after rejection of the statistical outliers were in agreement with the requirements of IMPCA004:15. Regretfully, for “UV at 240nm and 230nm” no precision data are available.
Remarkably, twenty-four participants would have approved the sample and seventeen participants would have rejected the sample.
Please note that IMPCA004 describes the use of a 50 mm cuvette. Five participants used a 10 mm cuvette. The reported test results with 10 mm cuvette are not evaluated and given in appendix 2.

sample #21162

Nonvolatile matter: This determination was problematic for a number of participants. Eight statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the requirements of ASTM D1353:13(2021).

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the reference test method and the reproducibility as found for the group of participating laboratories.
The number of significant test results, the average, the calculated reproducibility (2.8 * standard deviation) and the target reproducibility derived from literature reference test methods (in casu ASTM, EN and ISO test methods) or estimated using the Horwitz equation are presented in the next tables.

Parameter	unit	n	average	2.8 * sd	R(lit)
Acidity as Acetic acid	mg/kg	82	16.9	12.1	14
Appearance		84	pass	n.a.	n.a.
Carbonizable substances Pt/Co		43	33.8	45.8	(12.9)
Inorganic Chloride as Cl	mg/kg	58	0.67	0.19	0.3
Color Pt/Co		70	5.9	6.0	7
Density at 20°C	kg/L	74	0.7914	0.0002	0.0005
Specific Gravity 20/20°C		75	0.7928	0.0002	0.0005
Initial Boiling Point	°C	74	64.4	0.3	1.0
50% recovered	°C	71	64.5	0.3	0.4
Dry Point	°C	73	65.0	0.5	0.7
Iron as Fe	mg/kg	56	0.4	0.2	0.2
Miscibility with water (H.Carbons)		70	Pass	n.a.	n.a.
Permanganate Time Test 15°C	minutes	76	<15	n.e.	n.e.
Purity by GC as received	%M/M	52	99.909	0.031	n.a.
Purity by GC on dry basis	%M/M	72	99.979	0.025	n.a.
Acetone	mg/kg	66	16.0	5.0	4.7
Benzene	mg/kg	58	15.2	4.6	4.5
Ethanol	mg/kg	71	32.0	11.3	8.5
Toluene	mg/kg	57	14.9	4.5	4.4
Total Sulfur	mg/kg	59	2.1	0.8	1.0
Trimethylamine (TMA)	µg/kg	12	72.3	95.8	(27.3)
Water, Coulometric	mg/kg	72	687	60	109
Water, Volumetric	mg/kg	38	700	130	780

Table 8: reproducibilities of tests on sample #21160

Parameter	unit	n	average	2.8 * sd	R(lit)
UV absorbance at 300 nm		37	0.022	0.007	0.033
UV absorbance at 268.5 nm		36	0.071	0.013	0.019
UV absorbance at 250 nm		36	0.139	0.014	0.014
UV absorbance at 240 nm		33	0.307	0.031	n.a.
UV absorbance at 230 nm		33	0.655	0.067	n.a.
UV absorbance at 220 nm		36	1.253	0.146	0.360

Table 9: reproducibilities of tests on sample #21161, 50 mm cuvette only

Parameter	unit	n	average	2.8 * sd	R(lit)
Nonvolatile matter	mg/100mL	67	24.2	5.3	10.5

Table 10: reproducibility of test on sample #21162

Without further statistical calculations, it can be concluded that for many tests there is a good compliance of the group of participating laboratories with the reference test methods. The tests that are problematic have been discussed in paragraph 4.1.

4.3 COMPARISON OF THE PROFICIENCY TEST OF SEPTEMBER 2021 WITH PREVIOUS PTS

	September 2021	September 2020	September 2019	September 2018	September 2017
Number of reporting laboratories	90	81	77	96	80
Number of test results	1669	1314	1343	1412	1456
Number of statistical outliers	84	49	48	62	54
Percentage of statistical outliers	5.0%	3.7%	3.6%	4.4%	3.7%

Table 11: 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 to the requirements of the reference test methods. The conclusions are given the following table.

	September 2021	September 2020	September 2019	September 2018	September 2017
Acidity as Acetic acid	+	+	+	--	--
Carbonizable substances Pt/Co	(--)	-	+/-	-	+/-
Inorganic Chloride as Cl	+	n.e.	++	+	(+)
Color Pt/Co	+	++	++	++	++
Density at 20°C	++	++	++	++	++
Specific Gravity 20/20°C	++	++	++	++	++
Distillation	+	++	++	++	++
Iron as Fe	+/-	n.e.	-	--	n.e.
Permanganate Time Test 15°C	(-)	-	-	+	-
Acetone	+/-	n.e.	+/-	n.e.	-
Benzene	+/-	n.e.	+/-	n.e.	+
Ethanol	-	-	-	-	+/-
Toluene	+/-	+	n.e.	n.e.	n.e.
Total Sulfur	+	+	n.e.	n.e.	n.e.
Trimethylamine (TMA)	(--)	-	+/-	--	--
Water, Coulometric	+	-	+/-	+	+/-
Water, Volumetric	++	++	++	++	++
Nonvolatile matter	++	--	--	--	--

Table 12: comparison determinations against the requirements of the reference test methods for sample #21160 and #21162
Evaluation between brackets is for concentrations near or below the detection limits

	September 2021	September 2020	September 2019	September 2018	September 2017
UV absorbance at 300 nm	++	+	+/-	+/-	+/-
UV absorbance at 268.5 nm	+	--	++	++	+/-
UV absorbance at 250 nm	+/-	--	-	+	+/-
UV absorbance at 220 nm	++	+	++	+	++

Table 13: comparison determinations against the requirements of the reference test methods for sample #21161

The following performance categories were used:

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

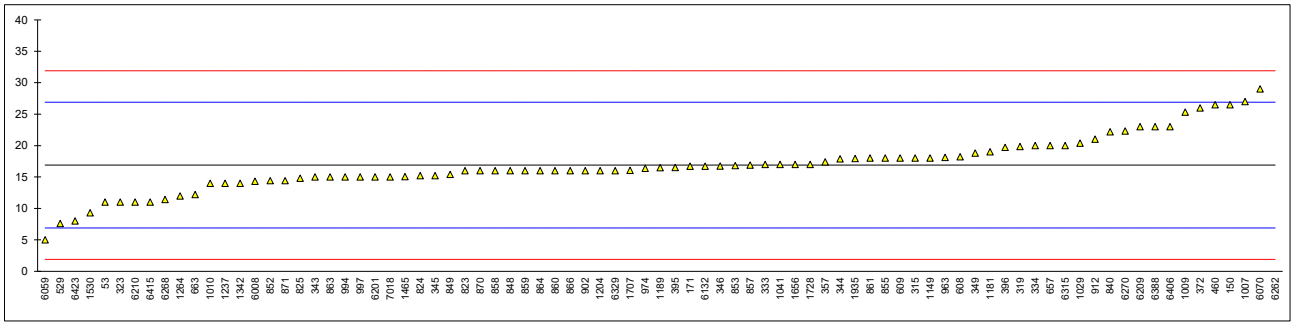
APPENDIX 1

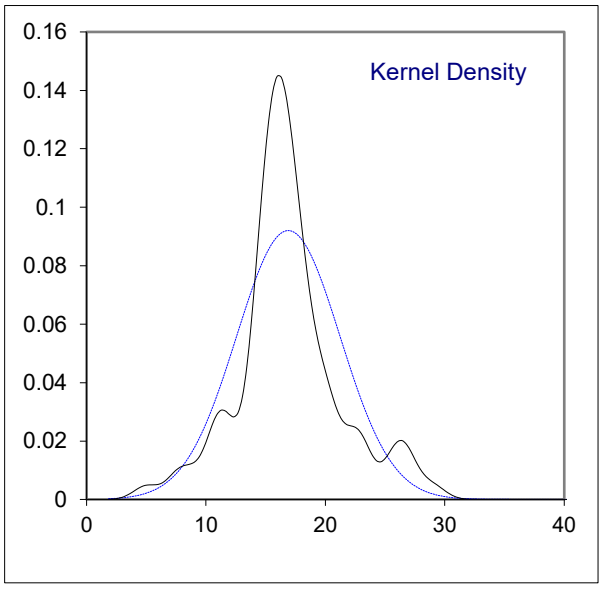
Determination of Acidity as Acetic acid on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D1613	11		-1.18	
150	D1613	26.5		1.92	
171	D1613	16.7		-0.04	
315	D1613	18		0.22	
316		-----		-----	
319	D1613	19.8382		0.59	
323	D1613	11		-1.18	
333	D1613	17		0.02	
334	D1613	20		0.62	
335		-----		-----	
343	D1613	15		-0.38	
344	D1613	17.88		0.20	
345	D1613	15.2		-0.34	
346	D1613	16.73		-0.03	
347		-----		-----	
349	D1613	18.8		0.38	
357	D1613	17.4		0.10	
372	D1613	26		1.82	
395	D1613	16.5		-0.08	
396	D1613	19.7		0.56	
460	D1613	26.5		1.92	
492		-----		-----	
529	D1613	7.6	C	-1.86	first reported 0.00076
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D1613	18.2		0.26	
609	D1613	18		0.22	
657	D1613	20		0.62	
663	D1613	12.2		-0.94	
823	D1613	16		-0.18	
824	D1613	15.2		-0.34	
825	D1613	14.8		-0.42	
840	D1613	22.2		1.06	
848	D1613	16		-0.18	
849	D1613	15.4		-0.30	
852	D1613	14.4		-0.50	
853	D1613	16.8		-0.02	
855	D1613	18		0.22	
857	D1613	16.9		0.00	
858	D1613	16		-0.18	
859	D1613	16		-0.18	
860	D1613	16		-0.18	
861	D1613	18		0.22	
862		-----		-----	
863	D1613	15		-0.38	
864	D1613	16		-0.18	
866	D1613	16.0		-0.18	
870	D1613	16		-0.18	
871	D1613	14.4		-0.50	
872		-----		-----	
902	D1613	16		-0.18	
912	D1613	21		0.82	
913		-----		-----	
963	D1613	18.1		0.24	
970		-----		-----	
974	D1613	16.4		-0.10	
994	D1613	15.0		-0.38	
997	D1613	15		-0.38	
1004		-----		-----	
1007	D1613	27		2.02	
1009	D1613	25.3		1.68	
1010	D1613	14		-0.58	
1029	D1613	20.37		0.69	
1041	D1613	17		0.02	
1120		-----		-----	
1149	D1613	18		0.22	
1181	D1613	18.98926		0.42	
1189	D1613	16.48		-0.08	
1204	D1613	16		-0.18	
1237	D1613	14		-0.58	
1264	D1613	11.97		-0.99	
1342	D1613	14		-0.58	
1354		-----		-----	
1465	D1613	15.05		-0.37	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	D1613	9.3		-1.52	
1656	D1613	17		0.02	
1707	D1613	16.06		-0.17	
1728	D1613	17		0.02	
1862		-----		-----	
1935	D1613	17.94		0.21	
6008	D1613	14.3		-0.52	
6059	D1613	5	C	-2.38	first reported 0.0005
6070	D1613	29		2.42	
6132	D1613	16.709		-0.04	
6201	D1613	15	C	-0.38	first reported 0.015
6209	D1613	23		1.22	
6210	D1613	11		-1.18	
6262	D1613	91	C,R(0.01)	14.82	first reported 285
6268	D1613	11.4		-1.10	
6270	D1613	22.32		1.08	
6315	D1613	20		0.62	
6329	D1613	16		-0.18	
6338		-----		-----	
6388	D1613	23		1.22	
6406	D1613	23		1.22	
6415	D1613	11		-1.18	
6423	D1613	8		-1.78	
7018	D1613	15		-0.38	

normality	suspect
n	82
outliers	1
mean (n)	16.897
st.dev. (n)	4.3349
R(calc.)	12.138
st.dev.(D1613:17)	5
R(D1613:17)	14





Determination of Appearance on sample #21160;

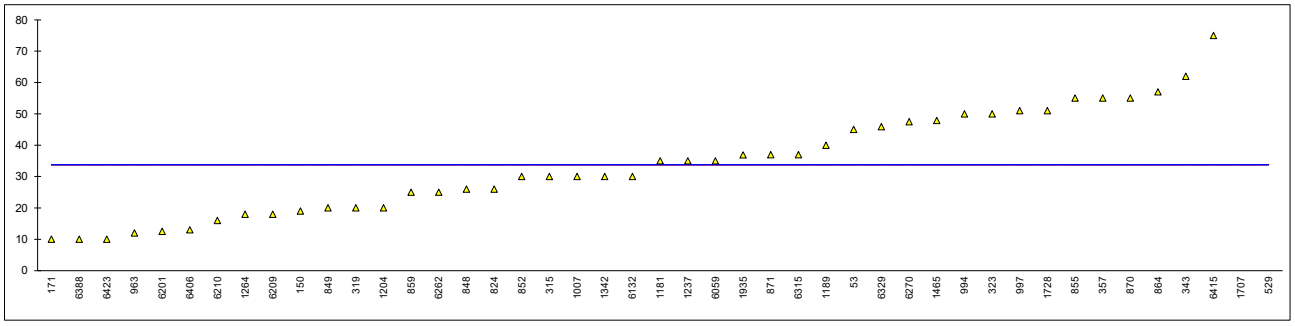
lab	method	value	mark	z(targ)	remarks
53	IMPCA003	Clear and Free		-----	
150	IMPCA003	C&B		-----	
171	E2680	Pass CFSM		-----	
315	IMPCA003	clear and free of susp matter		-----	
316		-----		-----	
319	IMPCA003	clear and free from suspended matter		-----	
323	E2680	clear & bright liquid		-----	
333	IMPCA003	CBFFSM		-----	
334	IMPCA003	Clear FFSM		-----	
335		-----		-----	
343	IMPCA003	clear		-----	
344	IMPCA003	C&B		-----	
345	E2680	Clear and free from suspended matter		-----	
346	IMPCA003	Pass		-----	
347	E2680	Pass		-----	
349		-----		-----	
357	IMPCA003	CP		-----	
372	IMPCA003	Clear and free from suspended matter		-----	
395	IMPCA003	PASS		-----	
396	IMPCA003	Pass		-----	
460	IMPCA003	clear and bright		-----	
492		-----		-----	
529	E2680	no pass		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	IMPCA003	Clear and free from suspended matter		-----	
609	IMPCA003	Clear and free of suspended		-----	
657	IMPCA003	Pass		-----	
663	IMPCA003	clear and free of suspended matter		-----	
823	IMPCA003	CFSM		-----	
824	IMPCA003	C.F.S.M		-----	
825	IMPCA003	Clear and free from suspended matter		-----	
840	E2680	Pass		-----	
848	IMPCA003	Clear & Bright		-----	
849	E2680	CLEAR&BRIGHT		-----	
852	IMPCA003	pass		-----	
853	E2680	Pass		-----	
855	E2680	Pass		-----	
857	IMPCA003	Clear and free of suspended matter		-----	
858	IMPCA003	ok		-----	
859	E2680	Pass		-----	
860	E2680	Pass		-----	
861	E2680	Bright clear		-----	
862		-----		-----	
863	IMPCA003	CFSM		-----	
864	E2680	Pass		-----	
866	IMPCA003	Pass		-----	
870	IMPCA003	Clear and free from suspended matter		-----	
871	IMPCA003	pass		-----	
872		-----		-----	
902	E2680	PASS		-----	
912	E2680	pass		-----	
913		-----		-----	
963	IMPCA003	CFSM		-----	
970	IMPCA003	CFSM		-----	
974	IMPCA003	CFSM		-----	
994	IMPCA003	c@b		-----	
997	IMPCA003	CFSM		-----	
1004		-----		-----	
1007	IMPCA003	P		-----	
1009	IMPCA003	CFSM		-----	
1010	IMPCA003	Cl&fsm		-----	
1029	IMPCA003	CFSM		-----	
1041	IMPCA003	CFSM		-----	
1120		-----		-----	
1149	IMPCA003	C&B		-----	
1181	IMPCA003	clear and free from suspended matter		-----	
1189	IMPCA003	Br & Cl		-----	
1204	IMPCA003	Clear and free of suspended matter		-----	
1237	IMPCA003	clear and free of suspended matter		-----	
1264	IMPCA003	CFSM		-----	
1342	IMPCA003	CFSM		-----	
1354		-----		-----	
1465	IMPCA003	Clear & Free		-----	

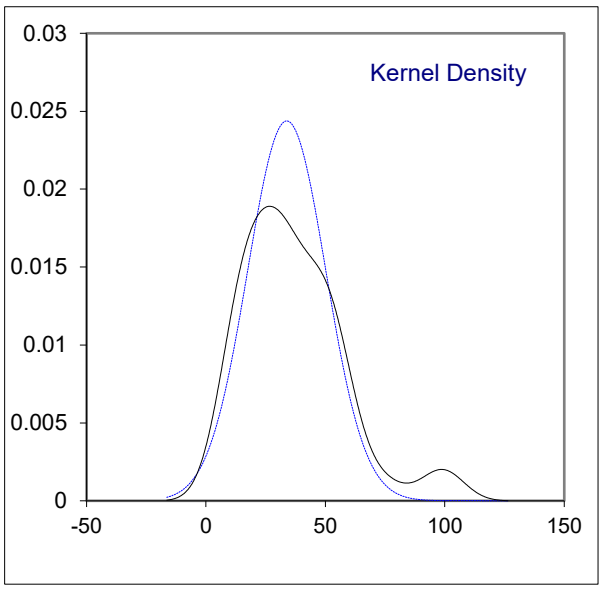
lab	method	value	mark	z(targ)	remarks
1510	IMPCA003	Clear & Bright		-----	
1530	Visual	C & B		-----	
1656	IMPCA003	Pass		-----	
1707	IMPCA003	Clear and free from suspended matter		-----	
1728		CLEAR		-----	
1862		-----		-----	
1935	IMPCA003	B&C		-----	
6008	IMPCA003	Clear and free from suspended matter		-----	
6059	E2680	Clear & bright		-----	
6070	IMPCA003	PASS		-----	
6132	IMPCA003	Clear and Free		-----	
6201	IMPCA003	Br & Cl		-----	
6209	IMPCA003	C & F		-----	
6210	IMPCA003	Clear and free from suspended matter		-----	
6262	E2680	Pass		-----	
6268	IMPCA003	CFSM		-----	
6270	IMPCA003	CFSM		-----	
6315		clear, bright		-----	
6329	IMPCA003	CFSM		-----	
6338		-----		-----	
6388	IMPCA003	Clear and Colorless		-----	
6406	E2680	Pass		-----	
6415	IMPCA003	Pass		-----	
6423	IMPCA003	C & F		-----	
7018	IMPCA	C.F.S.M		-----	
	n	84			
	mean (n)	CFSM/Pass			

Determination of Carbonizable substances Pt/Co on sample #21160;

lab	method	value	mark	z(targ)	remarks
53	E346	45		-----	
150	E346	19		-----	
171	E346	10		-----	
315	E346	30		-----	
316		-----		-----	
319	E346	20		-----	
323	E346	50		-----	
333		-----		-----	
334		-----		-----	
335		-----		-----	
343	E346	62		-----	
344	E346	>30		-----	
345		-----		-----	
346	E346	>30		-----	
347		-----		-----	
349		-----		-----	
357	E346	55		-----	
372	E346	>30		-----	
395		-----		-----	
396	E346	<30		-----	
460		-----		-----	
492		-----		-----	
529	E346	100	C,R(0.05)	-----	first reported 200
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	E346	>35		-----	
609	E346	>40		-----	
657		-----		-----	
663		-----		-----	
823		-----		-----	
824	E346	26		-----	
825		-----		-----	
840		-----		-----	
848	E346	26		-----	
849	E346	20		-----	
852	E346	30		-----	
853		-----		-----	
855	E346	55		-----	
857		-----		-----	
858		-----		-----	
859	E346	25		-----	
860	E346	NA		-----	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864	E346	57		-----	
866		-----		-----	
870	E346	55		-----	
871	E346	37		-----	
872		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963	E346	12		-----	
970		-----		-----	
974		-----		-----	
994	E346	50		-----	
997	E346	51		-----	
1004		-----		-----	
1007	E346	30		-----	
1009	E346	<30		-----	
1010		-----		-----	
1029	E346	>35		-----	
1041		-----		-----	
1120		-----		-----	
1149	E346	>30		-----	
1181	E346	35		-----	
1189	E346	40	C	-----	first reported 107
1204	E346	20		-----	
1237	E346	35		-----	
1264	E346	18		-----	
1342	E346	30		-----	
1354		-----		-----	
1465	E346	47.85		-----	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530		-----		-----	
1656		-----		-----	
1707	E346	98	R(0.05)	-----	
1728	E346	51		-----	
1862		-----		-----	
1935	E346	36.9		-----	
6008	E346	>30		-----	
6059	E346	35		-----	
6070	E346	<5		-----	
6132	E346	30		-----	
6201	E346	12.5		-----	
6209	E346	18		-----	
6210	E346	16		-----	
6262	E346	25		-----	
6268		-----		-----	
6270	E346	47.5		-----	
6315	E346	37		-----	
6329	E346	45.9		-----	
6338		-----		-----	
6388	E346	10		-----	
6406	E346	13		-----	
6415	E346	75		-----	
6423	E346	10		-----	
7018	E346	>30		-----	
				-----	
	normality	OK			
	n	43			
	outliers	2			
	mean (n)	33.806			
	st.dev. (n)	16.3603			
	R(calc.)	45.809			
	st.dev.(E346:08e1)	(4.5830)			
	R(E346:08e1)	(12.871)			



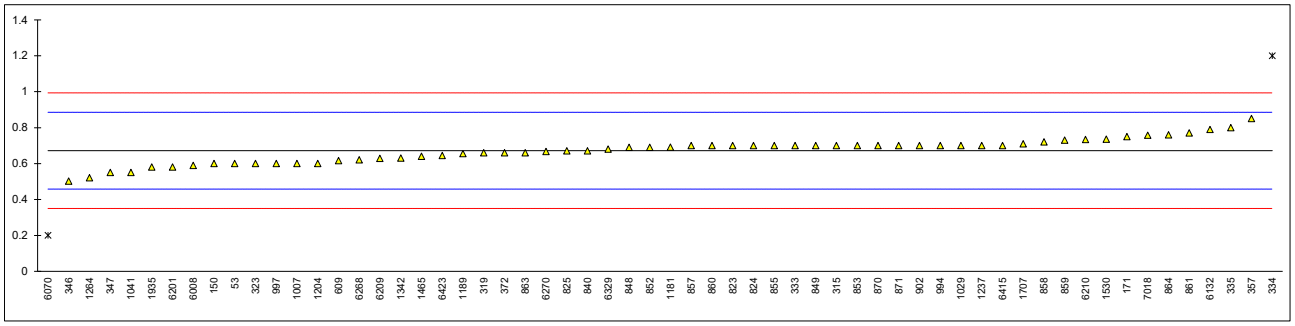


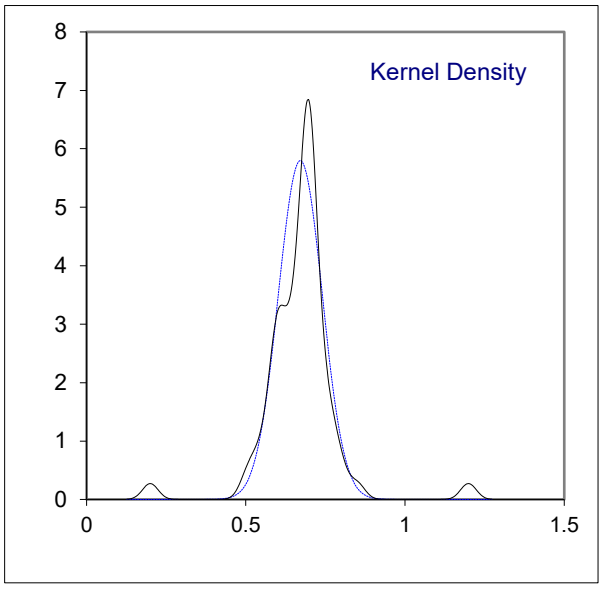
Determination of Inorganic Chloride as Cl on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA002	0.6		-0.67	
150	IMPCA002	0.6		-0.67	
171	IMPCA002	0.75		0.73	
315	IMPCA002	0.7		0.27	
316		-----		-----	
319	IMPCA002	0.66		-0.11	
323	IMPCA002	0.6		-0.67	
333	IMPCA002	0.7		0.27	
334	IMPCA002	1.2	R(0.01)	4.93	
335	IMPCA002	0.8		1.20	
343		-----		-----	
344		-----		-----	
345		-----		-----	
346	IMPCA002	0.502		-1.58	
347	IMPCA002	0.55		-1.13	
349		-----		-----	
357	IMPCA002	0.85		1.67	
372	IMPCA002	0.66		-0.11	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	IMPCA002	0.616		-0.52	
657		-----		-----	
663		-----		-----	
823	IMPCA002	0.7		0.27	
824	IMPCA002	0.7		0.27	
825	IMPCA002	0.67		-0.01	
840	IMPCA002	0.67		-0.01	
848	IMPCA002	0.69		0.17	
849	IMPCA002	0.70		0.27	
852	IMPCA002	0.69		0.17	
853	IMPCA002	0.70		0.27	
855	IMPCA002	0.7		0.27	
857	IMPCA002	0.70		0.27	
858	IMPCA002	0.72		0.45	
859	IMPCA002	0.73		0.55	
860	IMPCA002	0.70		0.27	
861	IMPCA002	0.77		0.92	
862		-----		-----	
863	IMPCA002	0.66		-0.11	
864	IMPCA002	0.76		0.83	
866		-----		-----	
870	IMPCA002	0.70		0.27	
871	IMPCA002	0.7		0.27	
872		-----		-----	
902	IMPCA002	0.7		0.27	
912		-----		-----	
913		-----		-----	
963	IMPCA002	<0.25		-----	
970		-----		-----	
974		-----		-----	
994	IMPCA002	0.7		0.27	
997	IMPCA002	0.6		-0.67	
1004		-----		-----	
1007	IMPCA002	0.6	C	-0.67	first reported 60
1009		-----		-----	
1010		-----		-----	
1029	IMPCA002	0.70		0.27	
1041	IMPCA002	0.55	C	-1.13	first reported 0.22
1120		-----		-----	
1149		-----		-----	
1181	IMPCA002	0.6916		0.19	
1189	IMPCA002	0.655		-0.15	
1204	IMPCA002	0.6		-0.67	
1237	IMPCA002	0.70		0.27	
1264	IMPCA002	0.52		-1.41	
1342	IMPCA002	0.63		-0.39	
1354		-----		-----	
1465	In house	0.6406	C	-0.29	first reported 0.1262

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	IMPCA002	0.735		0.59	
1656		-----		-----	
1707	IMPCA002	0.71		0.36	
1728		-----		-----	
1862		-----		-----	
1935	IMPCA002	0.58		-0.85	
6008	IMPCA002	0.59		-0.76	
6059		-----		-----	
6070	IMPCA002	0.2	R(0.01)	-4.40	
6132	IMPCA002	0.7895		1.10	
6201	IMPCA002	0.58		-0.85	
6209	IMPCA002	0.6285		-0.40	
6210	IMPCA002	0.734		0.58	
6262		-----		-----	
6268	IMPCA002	0.62	C	-0.48	first reported1.91
6270	IMPCA002	0.667		-0.04	
6315		-----		-----	
6329	IMPCA002	0.68		0.08	
6338		-----		-----	
6388		-----		-----	
6406		-----		-----	
6415	IMPCA002	0.7		0.27	
6423	IMPCA002	0.645		-0.25	
7018	In house	0.7572		0.80	

normality	OK
n	58
outliers	2
mean (n)	0.672
st.dev. (n)	0.0688
R(calc.)	0.193
st.dev.(IMPCA002:98)	0.1071
R(IMPCA002:98)	0.3



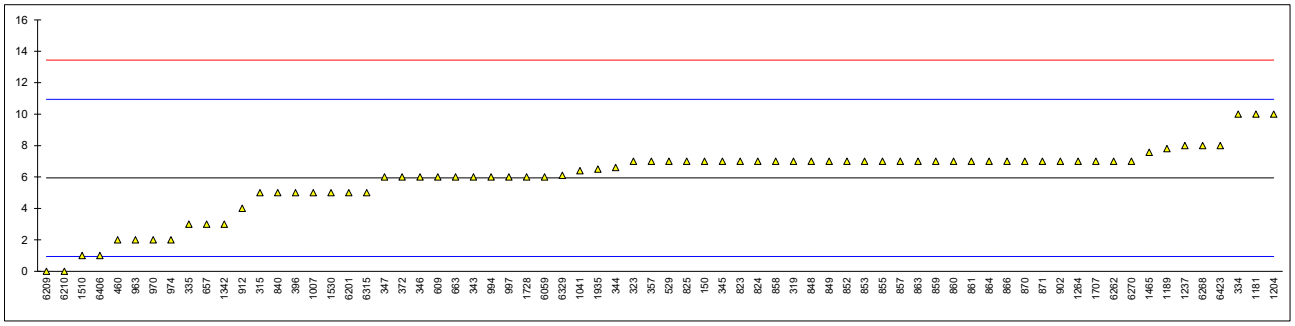


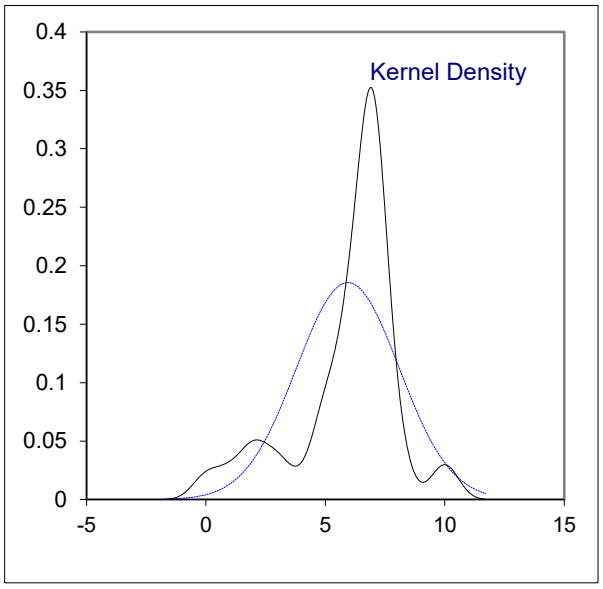
Determination of Color as Pt/Co on sample #21160;

lab	method	value	mark	z(targ)	remarks
53	D1209	<5		-----	
150	D5386	7		0.42	
171	D1209	<5		-----	
315	D1209	5		-0.38	
316		-----		-----	
319	D1209	7		0.42	
323	D1209	7		0.42	
333		-----		-----	
334	D1209	10		1.62	
335	D1209	3		-1.18	
343	D5386	6		0.02	
344	D5386	6.6		0.26	
345	D1209	7		0.42	
346	D1209	6		0.02	
347	D5386	6		0.02	
349		-----		-----	
357	D5386	7		0.42	
372	D1209	6		0.02	
395	D1209	<5		-----	
396	D1209	5		-0.38	
460	D1209	2		-1.58	
492		-----		-----	
529	D1209	7		0.42	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D1209	<5		-----	
609	D1209	6		0.02	
657	D1209	3		-1.18	
663	D1209	6		0.02	
823	D1209	7		0.42	
824	D5386	7		0.42	
825	D1209	7		0.42	
840	D1209	5		-0.38	
848	D1209	7		0.42	
849	D1209	7		0.42	
852	D1209	7		0.42	
853	D5386	7		0.42	
855	D5386	7		0.42	
857	D5386	7		0.42	
858	D5386	7		0.42	
859	D1209	7		0.42	
860	D5386	7		0.42	
861	D5386	7		0.42	
862		-----		-----	
863	D1209	7		0.42	
864	D5386	7		0.42	
866	D1209	7		0.42	
870	D1209	7		0.42	
871	D1209	7		0.42	
872		-----		-----	
902	D1209	7		0.42	
912	D5386	4		-0.78	
913		-----		-----	
963	D1209	2		-1.58	
970	D1209	2		-1.58	
974	D1209	2		-1.58	
994	D1209	6		0.02	
997	D1209	6.0		0.02	
1004		-----		-----	
1007	D1209	5		-0.38	
1009	D1209	>5		-----	
1010		-----		-----	
1029	D1209	<5		-----	
1041	D1209	6.4		0.18	
1120		-----		-----	
1149	D1209	>5		-----	
1181	D1209	10		1.62	
1189	D1209	7.8		0.74	
1204	D1209	10		1.62	
1237	D1209	8		0.82	
1264	D1209	7		0.42	
1342	D1209	3		-1.18	
1354		-----		-----	
1465	D1209	7.57		0.65	

lab	method	value	mark	z(targ)	remarks
1510	D1209	1		-1.98	
1530	D1209	5		-0.38	
1656	D1209	<5		-----	
1707	D1209	7		0.42	
1728	D1209	6		0.02	
1862		-----		-----	
1935	D5386	6.5		0.22	
6008	D1209	<5		-----	
6059	D1209	6		0.02	
6070	D1209	<5		-----	
6132	D1209	<5		-----	
6201	D1209	5		-0.38	
6209	D1209	0		-2.38	
6210	D1209	0		-2.38	
6262	D1209	7.0		0.42	
6268	D5386	8		0.82	
6270	D1209	7		0.42	
6315	ISO6271	5		-0.38	
6329	D5386	6.1		0.06	
6338		-----		-----	
6388		<5		-----	
6406	D5386	1		-1.98	
6415	D1209	<5		-----	
6423	D1209	8		0.82	
7018	D1209	<5		-----	

normality	suspect
n	70
outliers	0
mean (n)	5.94
st.dev. (n)	2.151
R(calc.)	6.02
st.dev.(D1209:05)	2.500
R(D1209:05)	7





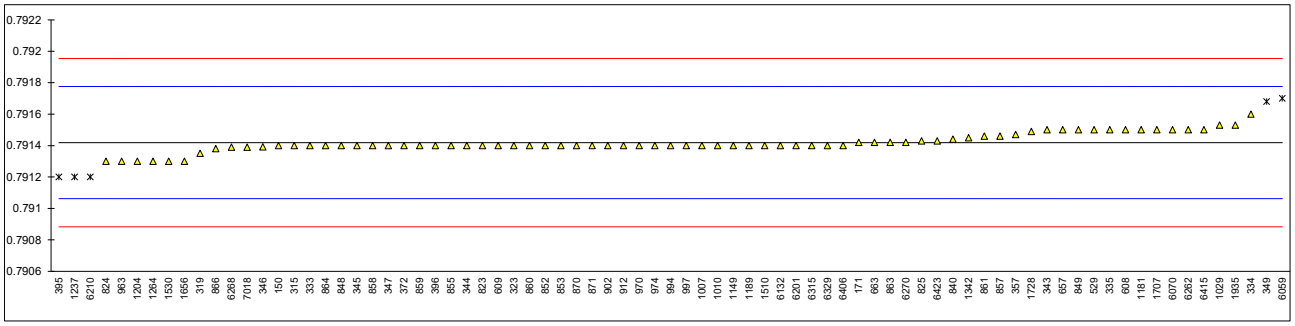
Determination of Density at 20°C on sample #21160; results in kg/L

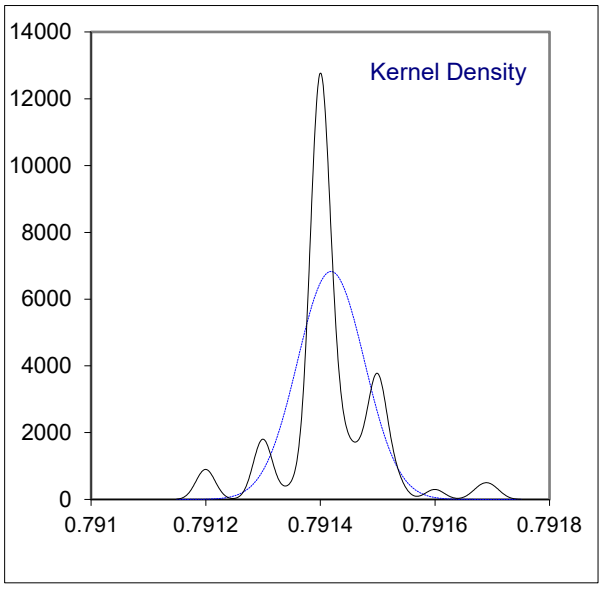
lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	D4052	0.7914		-0.11	
171	D4052	0.79142		0.01	
315	D4052	0.7914		-0.11	
316		-----		-----	
319	D4052	0.79135		-0.39	
323	D4052	0.7914		-0.11	
333	ISO12185	0.7914		-0.11	
334	ISO12185	0.7916		1.01	
335	ISO12185	0.7915		0.45	
343	D4052	0.7915		0.45	
344	D4052	0.7914		-0.11	
345	D4052	0.7914		-0.11	
346	D1298	0.791392		-0.15	
347	D4052	0.7914		-0.11	
349	D4052	0.79168	R(0.05)	1.46	
357	D4052	0.79147		0.29	
372	ISO12185	0.7914		-0.11	
395	D4052	0.7912	R(0.05)	-1.23	
396	D4052	0.7914		-0.11	
460		-----		-----	
492		-----		-----	
529	D4052	0.79150		0.45	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D4052	0.79150		0.45	
609	D4052	0.7914		-0.11	
657	D4052	0.7915		0.45	
663	D4052	0.79142		0.01	
823	D4052	0.7914		-0.11	
824	ISO12185	0.7913		-0.67	
825	D4052	0.79143		0.06	
840	D4052	0.79144		0.12	
848	D4052	0.7914		-0.11	
849	D4052	0.7915		0.45	
852	D4052	0.7914		-0.11	
853	D4052	0.7914		-0.11	
855	ISO12185	0.7914		-0.11	
857	D4052	0.79146		0.23	
858	D4052	0.7914		-0.11	
859	D4052	0.7914		-0.11	
860	D4052	0.79140		-0.11	
861	D4052	0.79146		0.23	
862		-----		-----	
863	D4052	0.79142		0.01	
864	D4052	0.7914		-0.11	
866	D4052	0.79138		-0.22	
870	ISO12185	0.7914		-0.11	
871	D4052	0.7914		-0.11	
872		-----		-----	
902	D4052	0.7914		-0.11	
912	D4052	0.7914		-0.11	
913		-----		-----	
963	ISO12185	0.7913		-0.67	
970	D4052	0.7914		-0.11	
974	D4052	0.7914		-0.11	
994	ISO12185	0.7914		-0.11	
997	ISO12185	0.7914		-0.11	
1004		-----		-----	
1007	D4052	0.7914	C	-0.11	first reported 0.7925
1009		-----	W	-----	test result withdrawn reported 0.79301
1010	D4052	0.7914		-0.11	
1029	D4052	0.79153		0.62	
1041		-----		-----	
1120		-----		-----	
1149	D4052	0.7914		-0.11	
1181	D4052	0.7915		0.45	
1189	ISO12185	0.7914	C	-0.11	first reported 0.7941
1204	D4052	0.7913		-0.67	
1237	ISO12185	0.7912	R(0.05)	-1.23	
1264	D4052	0.7913		-0.67	
1342	D4052	0.79145		0.17	
1354		-----		-----	
1465		-----		-----	

lab	method	value	mark	z(targ)	remarks
1510	ISO12185	0.7914		-0.11	
1530	ISO12185	0.79130		-0.67	
1656	D4052	0.7913		-0.67	
1707	D4052	0.7915		0.45	
1728	D4052	0.79149		0.40	
1862		-----		-----	
1935	D4052	0.79153		0.62	
6008		-----		-----	
6059	ISO12185	0.7917	R(0.05)	1.57	
6070	D4052	0.7915		0.45	
6132	D4052	0.7914		-0.11	
6201	ISO12185	0.7914		-0.11	
6209		-----		-----	
6210	D4052	0.7912	R(0.05)	-1.23	
6262	ISO12185	0.7915		0.45	
6268	D4052	0.79139		-0.16	
6270	D4052	0.79142		0.01	
6315	ISO12185	0.7914		-0.11	
6329	D4052	0.79140		-0.11	
6338		-----		-----	
6388		-----		-----	
6406	ISO12185	0.79140		-0.11	
6415	D4052	0.7915		0.45	
6423	ISO12185	0.79143		0.06	
7018	D4052	0.79139		-0.16	

	normality	OK
	n	74
	outliers	5
	mean (n)	0.79142
	st.dev. (n)	0.000058
	R(calc.)	0.00016
	st.dev.(ISO12185:96)	0.000179
	R(ISO12185:96)	0.0005

Compare R(ASTM D4052:18a) = 0.0005

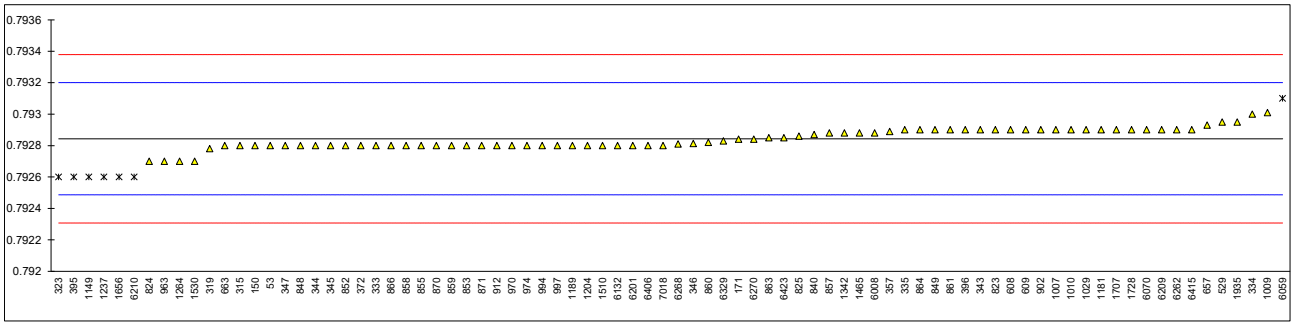


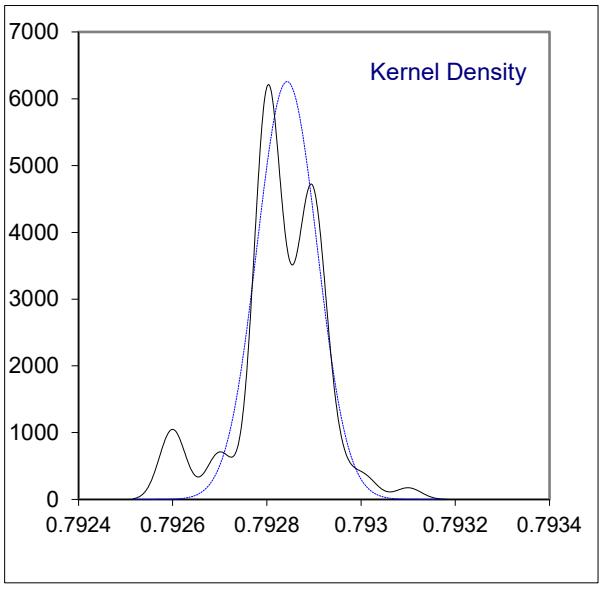


Determination of Specific Gravity 20/20°C on sample #21160;

lab	method	value	mark	z(targ)	remarks
53	D4052	0.7928		-0.24	
150	D4052	0.7928		-0.24	
171	D4052	0.79284		-0.02	
315	D4052	0.7928		-0.24	
316		-----		-----	
319	D4052	0.79278		-0.35	
323	D4052	0.7926	R(0.05)	-1.36	
333	ISO12185	0.7928		-0.24	
334	D4052	0.7930		0.88	
335	D4052	0.7929		0.32	
343	D4052	0.7929		0.32	
344	D4052	0.7928		-0.24	
345	D4052	0.7928		-0.24	
346	D1298	0.792813		-0.17	
347	D4052	0.7928		-0.24	
349		-----		-----	
357	D4052	0.79289		0.26	
372	D4052	0.7928		-0.24	
395	D4052	0.7926	R(0.05)	-1.36	
396	D4052	0.7929		0.32	
460		-----		-----	
492		-----		-----	
529	D4052	0.79295		0.60	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D4052	0.7929		0.32	
609	D4052	0.7929		0.32	
657	D4052	0.79293		0.49	
663	D4052	0.7928		-0.24	
823	ISO12185	0.7929		0.32	
824	ISO12185	0.7927		-0.80	
825	ISO12185	0.79286		0.09	
840	D4052	0.79287		0.15	
848	D4052	0.7928		-0.24	
849	D4052	0.7929		0.32	
852	D4052	0.7928		-0.24	
853	D4052	0.7928		-0.24	
855	D4052	0.7928		-0.24	
857	D4052	0.79288		0.21	
858	D4052	0.7928		-0.24	
859	D4052	0.7928		-0.24	
860	D4052	0.79282		-0.13	
861	D4052	0.7929		0.32	
862		-----		-----	
863	D4052	0.79285		0.04	
864	D4052	0.7929		0.32	
866	D4052	0.7928		-0.24	
870	ISO12185	0.7928		-0.24	
871	D4052	0.7928		-0.24	
872		-----		-----	
902	D4052	0.7929		0.32	
912	D4052	0.7928		-0.24	
913		-----		-----	
963	ISO12185	0.7927		-0.80	
970	D4052	0.7928		-0.24	
974	D4052	0.7928		-0.24	
994	ISO12185	0.7928		-0.24	
997	ISO12185	0.7928		-0.24	
1004		-----		-----	
1007	D4052	0.7929	C	0.32	first reported 0.7914
1009	D4052	0.79301		0.93	
1010	D4052	0.7929		0.32	
1029	D4052	0.7929		0.32	
1041		-----		-----	
1120		-----		-----	
1149	D4052	0.7926	R(0.05)	-1.36	
1181	D4052	0.7929		0.32	
1189	ISO12185	0.7928	C	-0.24	first reported 0.7881
1204	D4052	0.7928		-0.24	
1237	ISO12185	0.7926	R(0.05)	-1.36	
1264	D4052	0.7927		-0.80	
1342	D4052	0.79288		0.21	
1354		-----		-----	
1465	D4052	0.79288		0.21	

lab	method	value	mark	z(targ)	remarks
1510	ISO12185	0.7928		-0.24	
1530	ISO12185	0.79270		-0.80	
1656	D4052	0.7926	C,R(0.05)	-1.36	first reported 0.7923
1707	D4052	0.7929		0.32	
1728	D4052	0.79290		0.32	
1862		-----		-----	
1935	D4052	0.79295		0.60	
6008	D4052	0.79288		0.21	
6059	ISO12185	0.7931	R(0.05)	1.44	
6070	D4052	0.7929		0.32	
6132	D4052	0.7928		-0.24	
6201	ISO12185	0.7928		-0.24	
6209	D4052	0.7929		0.32	
6210	D4052	0.7926	R(0.05)	-1.36	
6262	ISO12185	0.7929		0.32	
6268	D4052	0.79281		-0.19	
6270	D4052	0.79284		-0.02	
6315		-----		-----	
6329	D4052	0.79283		-0.07	
6338		-----		-----	
6388		-----		-----	
6406	ISO12185	0.7928		-0.24	
6415	D4052	0.7929		0.32	
6423	ISO12185	0.79285		0.04	
7018	D4052	0.7928		-0.24	
	normality	OK			
	n	75			
	outliers	7			
	mean (n)	0.79284			
	st.dev. (n)	0.000065			
	R(calc.)	0.00018			
	st.dev.(ISO12185:96)	0.000179			
	R(ISO12185:96)	0.0005			Compare R(ASTM D4052:18a) = 0.0005

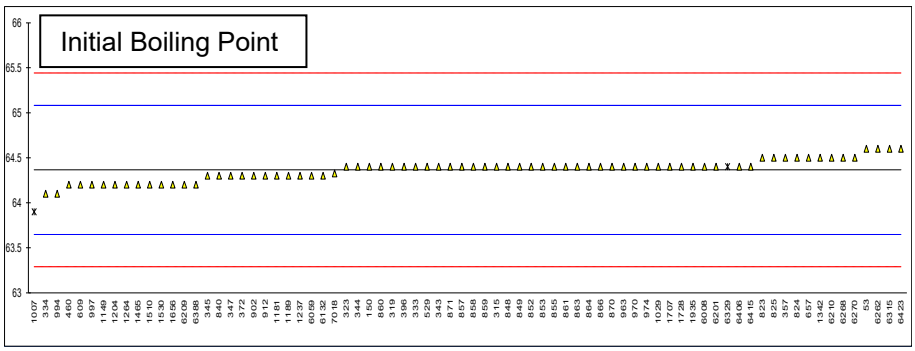


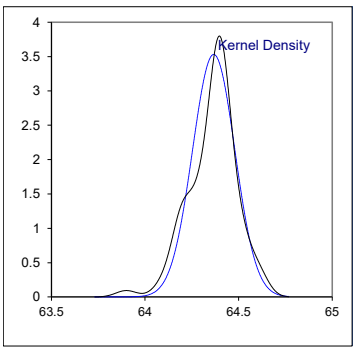


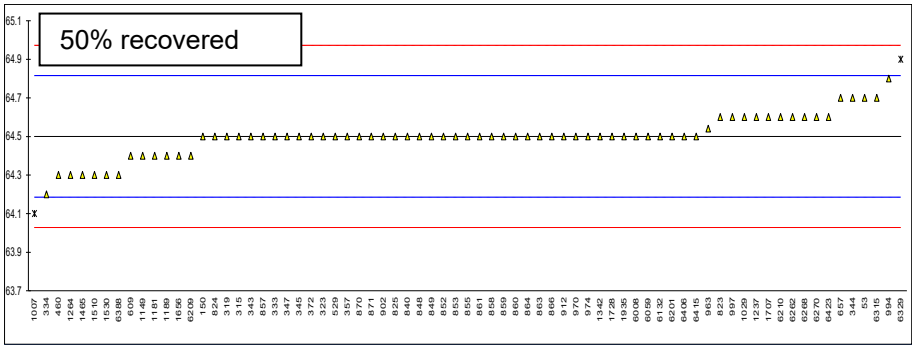
Determination of Initial Boiling point, 50% recovered and Dry Point on sample #21160; results in °C

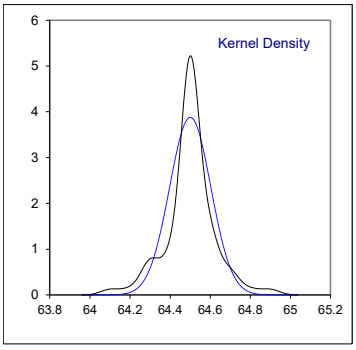
lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
53	D1078-automated	64.6		0.65	64.7		1.27	65.3		1.14	0.7
150	D1078-automated	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
171		-----		-----	-----		-----	-----		-----	-----
315	D1078-automated	64.4		0.09	64.5		0.00	65.1		0.34	0.7
316		-----		-----	-----		-----	-----		-----	-----
319	D1078-automated	64.4		0.09	64.5		0.00	65.1		0.34	0.7
323	D1078-automated	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
333	D1078-automated	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
334	D1078-automated	64.1		-0.74	64.2		-1.91	64.5		-2.08	0.4
335		-----		-----	-----		-----	-----		-----	-----
343	D1078-automated	64.4		0.09	64.5		0.00	65.2		0.74	0.8
344	D1078-automated	64.4		0.09	64.7		1.27	64.9		-0.47	-----
345	D1078-automated	64.3		-0.19	64.5		0.00	64.7		-1.27	0.4
346		-----		-----	-----		-----	-----		-----	-----
347	D1078-automated	64.3		-0.19	64.5		0.00	64.8		-0.87	0.5
349		-----		-----	-----		-----	-----		-----	-----
357	D1078-automated	64.5		0.37	64.5		0.00	65.2		0.74	0.7
372	D1078-automated	64.3		-0.19	64.5		0.00	65.2		0.74	0.9
395		-----		-----	-----		-----	-----		-----	-----
396	D1078-manual	64.4		0.09	-----		-----	64.8		-0.87	0.4
460	D1078-automated	64.2		-0.46	64.3		-1.27	64.9		-0.47	0.7
492		-----		-----	-----		-----	-----		-----	-----
529	D1078-automated	64.4		0.09	64.5		0.00	65.2		0.74	0.8
551		-----		-----	-----		-----	-----		-----	-----
554		-----		-----	-----		-----	-----		-----	-----
557		-----		-----	-----		-----	-----		-----	-----
608		-----		-----	-----		-----	-----		-----	-----
609	D1078	64.2		-0.46	64.4		-0.64	64.8		-0.87	0.1
657	D1078-automated	64.5		0.37	64.7		1.27	65.2		0.74	0.7
663		-----		-----	-----		-----	-----		-----	-----
823	D1078-automated	64.5		0.37	64.6		0.63	65.1		0.34	0.6
824	D1078-automated	64.5		0.37	64.5		0.00	65.2		0.74	0.7
825	D1078-automated	64.5		0.37	64.5		0.00	65.2		0.74	0.7
840	D1078-automated	64.3		-0.19	64.5		0.00	65.0		-0.06	0.7
848	D1078-manual	64.4		0.09	64.5		0.00	65.1		0.34	0.7
849	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
852	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
853	D1078-manual	64.4		0.09	64.5		0.00	64.9		-0.47	0.5
855	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
857	D1078-manual	64.4		0.09	64.5		0.00	64.9		-0.47	0.5
858	D1078-automated	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
859	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
860	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
861	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
862		-----		-----	-----		-----	-----		-----	-----
863	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
864	D1078-automated	64.4		0.09	64.5		0.00	65.1		0.34	0.7
866	D1078-automated	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
870	D1078-manual	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
871	D1078-manual	64.4		0.09	64.5		0.00	65		-0.06	0.6
872		-----		-----	-----		-----	-----		-----	-----
902	D1078-automated	64.3		-0.19	64.5		0.00	65.0		-0.06	0.7
912	D1078-manual	64.3		-0.19	64.5		0.00	65.1		0.34	-----
913		-----		-----	-----		-----	-----		-----	-----
963	D1078-automated	64.40		0.09	64.54		0.25	65.0		-0.06	0.60
970	D1078-automated	64.4		0.09	64.5		0.00	64.8		-0.87	0.4
974	D1078-automated	64.4		0.09	64.5		0.00	64.8		-0.87	0.4
994	D1078-manual	64.1		-0.74	64.8		1.90	65.1		0.34	1.0
997	D1078-manual	64.2		-0.46	64.6		0.63	65.1		0.34	0.9
1004		-----		-----	-----		-----	-----		-----	-----
1007	D1078-automated	63.9	R(0.01)	-1.30	64.1	R(0.05)	-2.55	64.4	ex	-2.48	0.5
1009		-----		-----	-----		-----	-----		-----	-----
1010		-----		-----	-----		-----	-----		-----	-----
1029	D1078-automated	64.4		0.09	64.6		0.63	65.3		1.14	-----
1041		-----		-----	-----		-----	-----		-----	-----
1120		-----		-----	-----		-----	-----		-----	-----
1149	D1078-automated	64.20		-0.46	64.40		-0.64	64.95		-0.27	0.75
1181	D1078-automated	64.3		-0.19	64.4		-0.64	65.0		-0.06	0.7
1189	D1078-automated	64.3		-0.19	64.4		-0.64	64.7		-1.27	0.4
1204	D1078-automated	64.2		-0.46	-----		-----	65.0		-0.06	0.8
1237	D1078-manual	64.3		-0.19	64.6		0.63	65.0		-0.06	0.7
1264	D1078-automated	64.2		-0.46	64.3		-1.27	64.7		-1.27	0.5
1342	D1078-automated	64.5		0.37	64.5		0.00	65.0		-0.06	0.5
1354		-----		-----	-----		-----	-----		-----	-----
1465	D1078-automated	64.2		-0.46	64.3		-1.27	64.9		-0.47	0.7

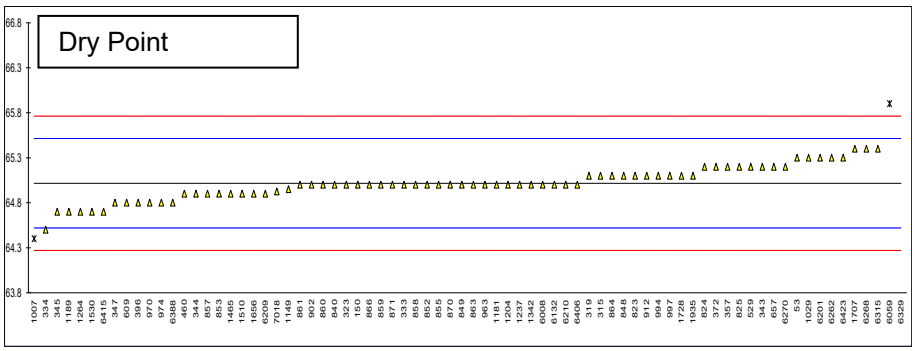
lab	method	IBP	mark	z(targ)	50% rec.	mark	z(targ)	DP	mark	z(targ)	range
1510		64.2		-0.46	64.3		-1.27	64.9		-0.47	0.7
1530	D1078-automated	64.20		-0.46	64.30		-1.27	64.70		-1.27	0.5
1656	D1078-automated	64.2		-0.46	64.4		-0.64	64.9		-0.47	0.7
1707	D1078-manual	64.4		0.09	64.6		0.63	65.4		1.55	1.0
1728	D1078-manual	64.4		0.09	64.5		0.00	65.1		0.34	0.7
1862		-----		-----	-----		-----	-----		-----	-----
1935	D1078-manual	64.4		0.09	64.5		0.00	65.1		0.34	0.7
6008	D1078-automated	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
6059	D1078-automated	64.3		-0.19	64.5		0.00	65.9	R(0.01)	3.56	-----
6070		-----		-----	-----		-----	-----		-----	-----
6132	D1078-automated	64.3		-0.19	64.5		0.00	65.0		-0.06	0.7
6201	D1078-automated	64.4		0.09	64.5		0.00	65.3		1.14	0.9
6209	D1078	64.2		-0.46	64.4		-0.64	64.9		-0.47	0.7
6210	D1078	64.5		0.37	64.6		0.63	65		-0.06	0.5
6262	D1078-automated	64.6		0.65	64.6		0.63	65.3		1.14	0.7
6268	D1078-manual	64.5		0.37	64.6		0.63	65.4		1.55	0.9
6270	D1078-manual	64.5		0.37	64.6		0.63	65.2		0.74	0.7
6315		64.6		0.65	64.7		1.27	65.4		1.55	0.8
6329		64.4	ex	0.09	64.9	R(0.05)	2.54	69.4	R(0.01)	17.64	5.0
6338		-----		-----	-----		-----	-----		-----	-----
6388	D1078-automated	64.2		-0.46	64.3		-1.27	64.8		-0.87	0.6
6406	D1078-automated	64.4		0.09	64.5		0.00	65.0		-0.06	0.6
6415	D1078-automated	64.4		0.09	64.5		0.00	64.7		-1.27	0.2
6423	D1078	64.6		0.65	64.6		0.63	65.3		1.14	0.7
7018	D1078-manual	64.325		-0.12	-----		-----	64.925		-0.37	0.6
	normality	OK			suspect			OK			
	n	74			71			73			
	outliers	1 (+1ex)			2			2 (+1ex)			
	mean (n)	64.37			64.50			65.02			
	st.dev. (n)	0.114			0.103			0.181			
	R(calc.)	0.32			0.29			0.51			
	st.dev.(D1078-A:11)	0.359			0.157			0.248			
	R(D1078-A:11)	1.00			0.44			0.70			
Compare											
	R(D1078-M:11)	0.69			0.42			0.85			

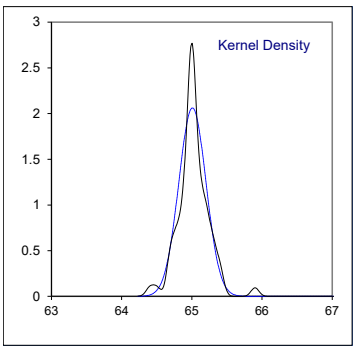

Initial Boiling Point


Kernel Density


50% recovered


Kernel Density


Dry Point

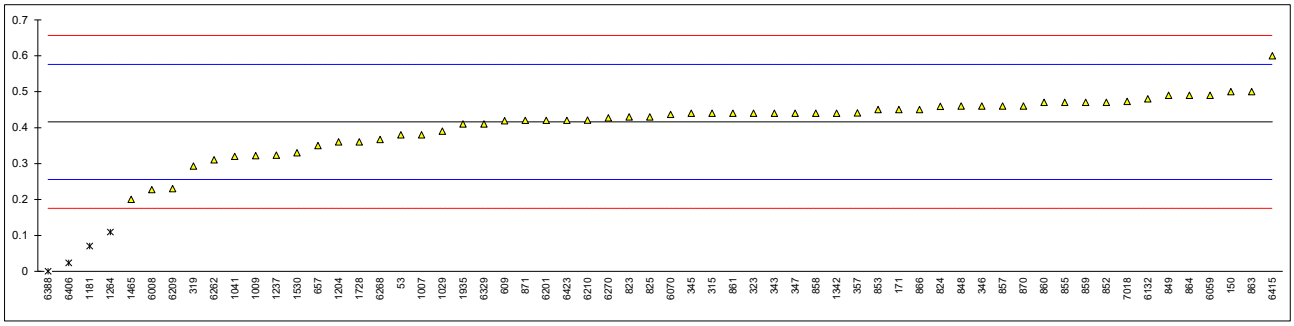

Kernel Density

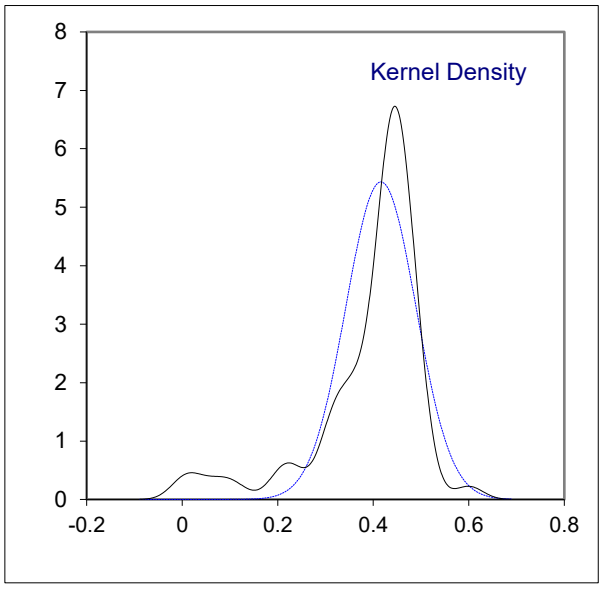
Determination of Iron as Fe on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E394	0.38		-0.45	
150	E394	0.50		1.05	
171	E394	0.45		0.42	
315	E394	0.44		0.30	
316		-----		-----	
319	E394	0.2929		-1.54	
323	E394	0.44		0.30	
333		-----		-----	
334		-----		-----	
335		-----		-----	
343	E394	0.44		0.30	
344	E394	>0.2		-----	
345	E394	0.44		0.30	
346	E394	0.46		0.55	
347	E394	0.44		0.30	
349		-----		-----	
357	E394	0.441		0.31	
372		-----		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
529	E394	0-429		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	E394	0.419		0.04	
657	E394	0.35	C	-0.82	first reported 0.05
663		-----		-----	
823	E394	0.43		0.17	
824	E394	0.459		0.54	
825	E394	0.43		0.17	
840		-----		-----	
848	E394	0.460		0.55	
849	E394	0.49		0.92	
852	E394	0.47		0.67	
853	E394	0.45		0.42	
855	E394	0.47		0.67	
857	E394	0.46		0.55	
858	E394	0.44		0.30	
859	E394	0.47		0.67	
860	E394	0.47		0.67	
861	E394	0.44		0.30	
862		-----		-----	
863	E394	0.50		1.05	
864	E394	0.49		0.92	
866	E394	0.45		0.42	
870	E394	0.46		0.55	
871	E394	0.42		0.05	
872		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963		-----		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E394	<0.1	C	-----	first reported 0.026
1004		-----		-----	
1007	E394	0.38		-0.45	
1009	In house	0.32175		-1.18	
1010		-----		-----	
1029	E394	0.39		-0.32	
1041	E394	0.32		-1.20	
1120		-----		-----	
1149		-----		-----	
1181	E394	0.07	C,R(0.01)	-4.32	first reported 0.72
1189		-----	W	-----	test result withdrawn reported <0.003
1204	E394	0.36		-0.70	
1237	E394	0.323		-1.16	
1264	E394	0.109	C,R(0.01)	-3.83	first reported 0.166
1342	E394	0.44		0.30	
1354		-----		-----	
1465	E394	0.200		-2.69	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	E394	0.33		-1.07	
1656		-----		-----	
1707		-----		-----	
1728	E394	0.36		-0.70	
1862		-----		-----	
1935	E394	0.41		-0.08	
6008	E394	0.227		-2.36	
6059	E394	0.49		0.92	
6070	E394	0.4367		0.26	
6132	E394	0.48		0.80	
6201	E394	0.420		0.05	
6209	E394	0.23		-2.32	
6210	E394	0.421		0.06	
6262	E394	0.31		-1.32	
6268	E394	0.367		-0.61	
6270	E394	0.427		0.14	
6315		-----		-----	
6329	E394	0.41		-0.08	
6338		-----		-----	
6388	E394	0	R(0.01)	-5.19	
6406	E394	0.023	C,R(0.01)	-4.90	first reported 0.033
6415	E394	0.60		2.29	
6423	E394	0.42		0.05	
7018	E394	0.473		0.71	

normality	suspect
n	56
outliers	4
mean (n)	0.4160
st.dev. (n)	0.07343
R(calc.)	0.2056
st.dev.(E394:15)	0.08017
R(E394:15)	0.2245





Determination of Miscibility with water (Hydrocarbons) on sample #21160;

lab	method	value	mark	z(targ)	remarks
53	D1722	Pass		-----	
150	D1722	Pass		-----	
171	D1722	Pass		-----	
315	D1722	fails		-----	
316		-----		-----	
319	D1722	pass test		-----	
323	D1722	passes		-----	
333	D1722	pass test		-----	
334		-----		-----	
335		-----		-----	
343	D1722	FAIL		-----	
344	D1722	No Pass		-----	
345	D1722	Fail test		-----	
346	D1722	Fail		-----	
347	D1722	Fail		-----	
349		-----		-----	
357	D1722	Pass		-----	
372	D1722	passes test		-----	
395	D1722	PASS		-----	
396	D1722	Pass		-----	
460	D1722	pass		-----	
492		-----		-----	
529	D1722	pass		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D1722	Passes test		-----	
609	D1722	Pass Test		-----	
657	D1722	Pass		-----	
663	D1722	Passes test		-----	
823	D1722	Pass		-----	
824	D1722	PASS		-----	
825	D1722	passes Test		-----	
840	D1722	Passes		-----	
848	D1722	pass		-----	
849	D1722	PASS		-----	
852	D1722	pass		-----	
853	D1722	Pass		-----	
855	D1722	Fail		-----	
857	D1722	Fails test		-----	
858	D1722	pass		-----	
859	D1722	Pass		-----	
860	D1722	Pass		-----	
861	D1722	fail		-----	
862		-----		-----	
863	D1722	fails test		-----	
864	D1722	Fail		-----	
866	D1722	Pass		-----	
870	D1722	Fail		-----	
871	D1722	pass		-----	
872		-----		-----	
902	D1722	PASS		-----	
912	D1722	pass		-----	
913		-----		-----	
963	D1722	Pass		-----	
970	D1722	Pass		-----	
974		-----		-----	
994	D1722	pass		-----	
997	D1722	pass		-----	
1004		-----		-----	
1007	D1722	P		-----	
1009	D1722	Pass		-----	
1010	D1722	Pass		-----	
1029	D1722	Passes test		-----	
1041	D1722	pass		-----	
1120		-----		-----	
1149	D1722	PASS		-----	
1181	D1722	Pass		-----	
1189	D1722	pass		-----	
1204	D1722	Pass		-----	
1237	D1722	pass		-----	
1264	D1722	Pass		-----	
1342	D1722	pass		-----	
1354		-----		-----	
1465	D1722	Pass		-----	

lab	method	value	mark	z(targ)	remarks
1510	D1722	Pass		-----	
1530	D1722	Pass		-----	
1656	D1722	Pass		-----	
1707	D1722	passes		-----	
1728	D1722	PASS		-----	
1862		-----		-----	
1935	D1722	Fail		-----	
6008	D1722	PASS		-----	
6059	D1722	Pass		-----	
6070	D1722	PASS		-----	
6132	D1722	Pass		-----	
6201	D1722	complete		-----	
6209	D1722	Pass		-----	
6210	D1722	Pass		-----	
6262	D1722	Pass		-----	
6268	D1722	Pass		-----	
6270	D1722	Pass		-----	
6315	D1722	passed		-----	
6329	D1722	Passes Test		-----	
6338		-----		-----	
6388	D1722	Pass		-----	
6406	D1722	Pass		-----	
6415	D1722	Pass		-----	
6423	D1722	Pass		-----	
7018	D1722	passes test		-----	
	Pass	70			
	Fail	13			

Determination of Permanganate Time Test at 15°C on sample #21160; results in minutes

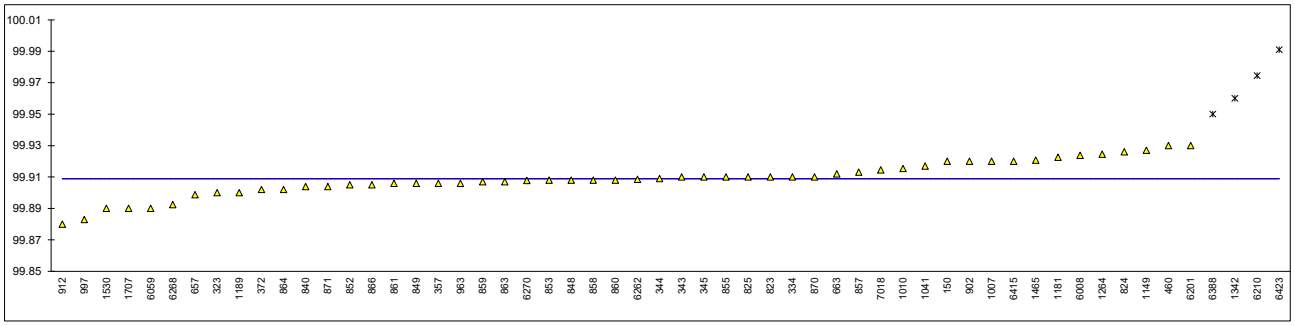
lab	method	value	mark	z(targ)	remarks
53	D1363	5		-----	
150	D1363	10		-----	
171	D1363	5		-----	
315	D1363	10		-----	
316		-----		-----	
319	D1363	4		-----	
323	D1363	<20		-----	
333	D1363	<15		-----	
334	D1363	<15		-----	
335	D1363	<15		-----	
343	D1363	5		-----	
344	D1363	4		-----	
345	D1363	5		-----	
346	D1363	5		-----	
347	D1363	5		-----	
349		-----		-----	
357	D1363	5		-----	
372	D1363	<60		-----	
395	D1363	5		-----	
396	D1363	5		-----	
460	D1363	5		-----	
492		-----		-----	
529	D1363	4.07		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	D1363	<5		-----	
609	D1363	<5		-----	
657		-----		-----	
663	D1363	<5		-----	
823	D1363	4		-----	
824	D1363	4		-----	
825	D1363	4		-----	
840		-----		-----	
848	D1363	5		-----	
849	D1363	5		-----	
852	D1363	5		-----	
853	D1363	5		-----	
855	D1363	5		-----	
857	D1363	4		-----	
858	D1363	5		-----	
859	D1363	5		-----	
860	D1363	5		-----	
861	D1363	5		-----	
862		-----		-----	
863	D1363	4.5		-----	
864	D1363	4		-----	
866	D1363	4		-----	
870	D1363	5		-----	
871	D1363	4		-----	
872		-----		-----	
902	D1363	5		-----	
912	D1363	<5		-----	
913		-----		-----	
963	D1363	6		-----	
970	D1363	7		-----	
974	D1363	7		-----	
994	D1363	4.5		-----	
997	D1363	4		-----	
1004		-----		-----	
1007	D1363	4		-----	
1009	D1363	6		-----	
1010	D1363	4		-----	
1029	D1363	<5		-----	
1041	D1363	<10		-----	
1120		-----		-----	
1149	D1363	4		-----	
1181	D1363	5		-----	
1189	D1363	4	C	-----	first reported 45
1204	D1363	5.87		-----	
1237	D1363	4		-----	
1264	D1363	<30		-----	
1342	D1363	8		-----	
1354		-----		-----	
1465	D1363	5		-----	

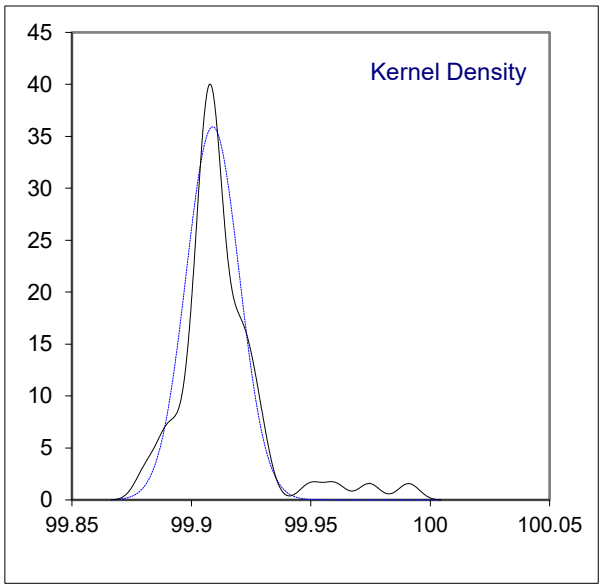
lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	D1363	>60		-----	possibly a false negative test result?
1656	D1363	>50		-----	possibly a false negative test result?
1707	D1363	5		-----	
1728	D1363	6		-----	
1862		-----		-----	
1935	D1363	5		-----	
6008	D1363	5		-----	
6059	D1363	10		-----	
6070	D1363	4		-----	
6132	D1363	<5		-----	
6201	D1363	5		-----	
6209	D1363	10		-----	
6210	D1363	10		-----	
6262	D1363	7		-----	
6268	D1363	3		-----	
6270	D1363	Less than1		-----	
6315	D1363	6		-----	
6329	D1363	6		-----	
6338		-----		-----	
6388	D1363	65		-----	possibly a false negative test result?
6406		-----		-----	
6415	D1363	2		-----	
6423	D1363	5		-----	
7018	D1363	7		-----	
	n	76			
	mean (n)	<15			

Determination of Purity by GC as received on sample #21160; results in %M/M

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	99.92		-----	
171		-----		-----	
315		-----		-----	
316		-----		-----	
319		-----		-----	
323	IMPCA001	99.90		-----	
333		-----		-----	
334	IMPCA001	99.91		-----	
335		-----		-----	
343	IMPCA001	99.91		-----	
344	IMPCA001	99.909		-----	
345	IMPCA001	99.91		-----	
346		-----		-----	
347		-----		-----	
349		-----		-----	
357	IMPCA001	99.906		-----	
372	IMPCA001	99.902		-----	
395		-----		-----	
396		-----		-----	
460	IMPCA001	99.93	C	-----	first reported 99.99
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	IMPCA001	99.8987	C	-----	first reported 99.9467
663	IMPCA001	99.912		-----	
823	IMPCA001	99.91		-----	
824	IMPCA001	99.926		-----	
825	IMPCA001	99.91		-----	
840	IMPCA001	99.904		-----	
848	IMPCA001	99.908		-----	
849	IMPCA001	99.906		-----	
852	IMPCA001	99.905		-----	
853	IMPCA001	99.908		-----	
855	IMPCA001	99.91		-----	
857	IMPCA001	99.913		-----	
858	IMPCA001	99.908		-----	
859	IMPCA001	99.907		-----	
860	IMPCA001	99.908		-----	
861	IMPCA001	99.906		-----	
862		-----		-----	
863	IMPCA001	99.907		-----	
864	IMPCA001	99.902		-----	
866	IMPCA001	99.905		-----	
870	IMPCA001	99.91		-----	
871	IMPCA001	99.904		-----	
872		-----		-----	
902	IMPCA001	99.92		-----	
912	IMPCA001	99.88		-----	
913		-----		-----	
963	IMPCA001	99.906		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	99.883		-----	
1004		-----		-----	
1007	IMPCA001	99.92		-----	
1009		-----	W	-----	test result withdrawn reported 99.9795
1010	IMPCA001	99.9154		-----	
1029		-----		-----	
1041	IMPCA001	99.9169		-----	
1120		-----		-----	
1149	IMPCA001	99.927		-----	
1181	IMPCA001	99.92252		-----	
1189	IMPCA001	99.90		-----	
1204		-----		-----	
1237		-----		-----	
1264	IMPCA001	99.9245	C	-----	first reported 99.9905
1342	IMPCA001	99.96	R(0.05)	-----	
1354		-----		-----	
1465	IMPCA001	99.9207		-----	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	IMPCA001	99.890		-----	
1656		-----		-----	
1707	IMPCA001	99.89		-----	
1728		-----		-----	
1862		-----		-----	
1935		-----		-----	
6008	IMPCA001	99.9238		-----	
6059	IMPCA001	99.89		-----	
6070		-----		-----	
6132		-----		-----	
6201	IMPCA001	99.93		-----	
6209		-----		-----	
6210	IMPCA001	99.9745	R(0.01)	-----	
6262	IMPCA001	99.9085		-----	
6268	IMPCA001	99.8924		-----	
6270	IMPCA001	99.9078		-----	
6315		-----		-----	
6329		-----		-----	
6338		-----		-----	
6388	IMPCA001	99.95	R(0.05)	-----	
6406		-----		-----	
6415	IMPCA001	99.92		-----	
6423	IMPCA001	99.991	R(0.01)	-----	
7018	IMPCA	99.9145		-----	
	normality	OK			
	n	52			
	outliers	4			
	mean (n)	99.90897			
	st.dev. (n)	0.011112			
	R(calc.)	0.03111			
	st.dev.(lit)	unknown			
	R(lit)	unknown			Compare R(iis20C06) = 0.01107

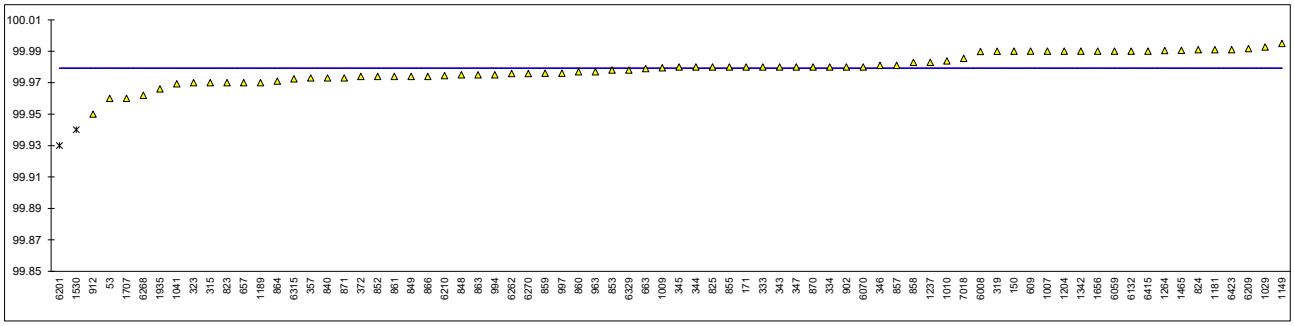


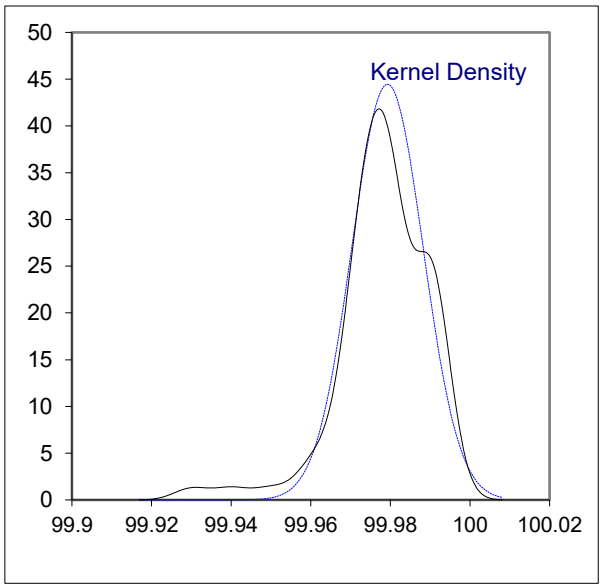


Determination of Purity by GC on dry basis on sample #21160; results in %M/M

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	99.96		-----	
150	IMPCA001	99.99		-----	
171	IMPCA001	99.98		-----	
315	IMPCA001	99.97		-----	
316		-----		-----	
319	IMPCA001	99.98990		-----	
323	IMPCA001	99.97		-----	
333	IMPCA001	99.98		-----	
334	IMPCA001	99.98		-----	
335		-----		-----	
343	IMPCA001	99.98		-----	
344	IMPCA001	99.98		-----	
345	IMPCA001	99.98		-----	
346	IMPCA001	99.9810		-----	
347	IMPCA001	99.98		-----	
349		-----		-----	
357	IMPCA001	99.973		-----	
372	IMPCA001	99.974		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	IMPCA001	99.99		-----	
657	IMPCA001	99.97		-----	
663	IMPCA001	99.979		-----	
823	IMPCA001	99.97		-----	
824	IMPCA001	99.991		-----	
825	IMPCA001	99.98		-----	
840	IMPCA001	99.973		-----	
848	IMPCA001	99.975		-----	
849	IMPCA001	99.974		-----	
852	IMPCA001	99.974		-----	
853	IMPCA001	99.978		-----	
855	IMPCA001	99.98		-----	
857	IMPCA001	99.981		-----	
858	IMPCA001	99.983		-----	
859	IMPCA001	99.976		-----	
860	IMPCA001	99.977		-----	
861	IMPCA001	99.974		-----	
862		-----		-----	
863	IMPCA001	99.975		-----	
864	IMPCA001	99.971		-----	
866	IMPCA001	99.974		-----	
870	IMPCA001	99.98		-----	
871	IMPCA001	99.973		-----	
872		-----		-----	
902	IMPCA001	99.98		-----	
912	IMPCA001	99.95		-----	
913		-----		-----	
963	IMPCA001	99.977		-----	
970		-----		-----	
974		-----		-----	
994	IMPCA001	99.975		-----	
997	IMPCA001	99.976		-----	
1004		-----		-----	
1007	IMPCA001	99.99		-----	
1009	IMPCA001	99.9795	C	-----	first reported 99.991
1010	IMPCA001	99.9838		-----	
1029	IMPCA001	99.9927		-----	
1041	IMPCA001	99.9693		-----	
1120		-----		-----	
1149	IMPCA001	99.995		-----	
1181	IMPCA001	99.991		-----	
1189	IMPCA001	99.97		-----	
1204	IMPCA001	99.99		-----	
1237	IMPCA001	99.983		-----	
1264	IMPCA001	99.9905	C	-----	first reported 99.9245
1342	IMPCA001	99.99		-----	
1354		-----		-----	
1465	IMPCA001	99.9906		-----	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	IMPCA001	99.940	R(0.01)	-----	
1656	In house	99.99		-----	
1707	IMPCA001	99.96		-----	
1728		-----		-----	
1862		-----		-----	
1935	IMPCA001	99.966		-----	
6008	IMPCA001	99.9898		-----	
6059	IMPCA001	99.99	C	-----	first reported 99.95
6070	IMPCA001	99.98		-----	
6132	IMPCA001	99.99		-----	
6201	IMPCA001	99.93	C,R(0.01)	-----	first reported 99.85
6209	IMPCA001	99.99166		-----	
6210	IMPCA001	99.9745		-----	
6262	IMPCA001	99.9758		-----	
6268	IMPCA001	99.9620		-----	
6270	IMPCA001	99.9758		-----	
6315	IMPCA001	99.9724		-----	
6329	IMPCA001	99.978		-----	
6338		-----		-----	
6388		-----		-----	
6406		-----		-----	
6415	IMPCA001	99.99		-----	
6423	IMPCA001	99.991		-----	
7018	IMPCA	99.9855		-----	
	normality	OK			
	n	72			
	outliers	2			
	mean (n)	99.97923			
	st.dev. (n)	0.008975			
	R(calc.)	0.02513			
	st.dev.(lit)	unknown			
	R(lit)	unknown			Compare R(iis20C06) = 0.00683



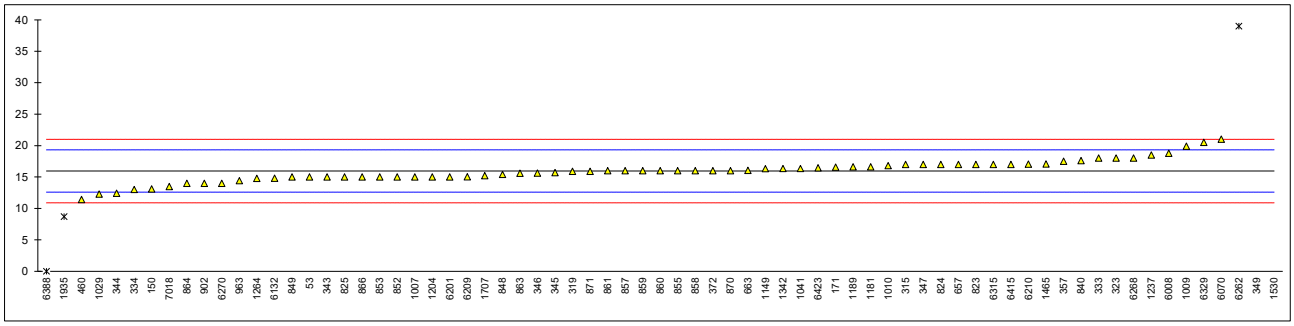


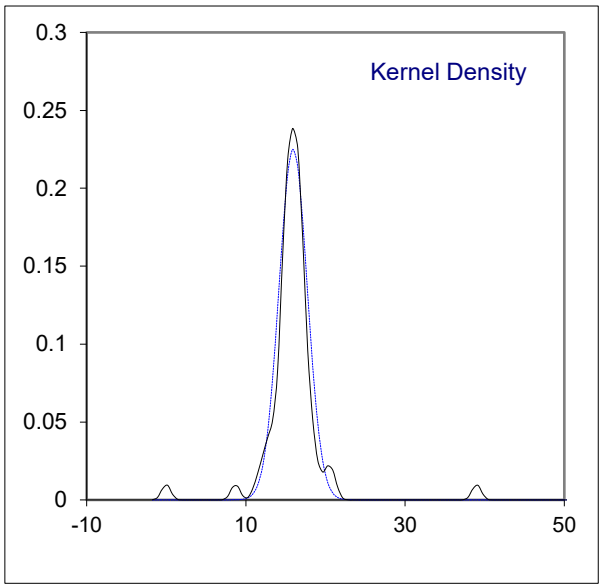
Determination of Acetone on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	15		-0.57	
150	IMPCA001	13.1		-1.70	
171	IMPCA001	16.55		0.35	
315	IMPCA001	17		0.62	
316		-----		-----	
319	IMPCA001	15.9		-0.03	
323	IMPCA001	18		1.22	
333	IMPCA001	18		1.22	
334	IMPCA001	13		-1.76	
335		-----		-----	
343	IMPCA001	15		-0.57	
344	IMPCA001	12.40		-2.11	
345	IMPCA001	15.7		-0.15	
346	IMPCA001	15.615		-0.20	
347	IMPCA001	17		0.62	
349	IMPCA001	79	R(0.01)	37.47	
357	IMPCA001	17.5		0.92	
372	IMPCA001	16		0.03	
395		-----		-----	
396		-----		-----	
460	IMPCA001	11.4		-2.71	
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	IMPCA001	17		0.62	
663	IMPCA001	16.04		0.05	
823	IMPCA001	17		0.62	
824	IMPCA001	17		0.62	
825	IMPCA001	15		-0.57	
840	IMPCA001	17.6		0.98	
848	IMPCA001	15.4		-0.33	
849	IMPCA001	15		-0.57	
852	IMPCA001	15		-0.57	
853	IMPCA001	15		-0.57	
855	IMPCA001	16		0.03	
857	IMPCA001	16		0.03	
858	IMPCA001	16		0.03	
859	IMPCA001	16		0.03	
860	IMPCA001	16		0.03	
861	IMPCA001	16		0.03	
862		-----		-----	
863	IMPCA001	15.6		-0.21	
864	IMPCA001	14		-1.16	
866	IMPCA001	15.0		-0.57	
870	IMPCA001	16		0.03	
871	IMPCA001	15.9		-0.03	
872		-----		-----	
902	IMPCA001	14		-1.16	
912		-----		-----	
913		-----		-----	
963	IMPCA001	14.4		-0.92	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004		-----		-----	
1007	IMPCA001	15		-0.57	
1009	IMPCA001	19.89		2.34	
1010	IMPCA001	16.8		0.50	
1029	IMPCA001	12.27		-2.19	
1041	IMPCA001	16.35		0.24	
1120		-----		-----	
1149	IMPCA001	16.31		0.21	
1181	IMPCA001	16.61761		0.39	
1189	IMPCA001	16.6		0.38	
1204	IMPCA001	15		-0.57	
1237	IMPCA001	18.5		1.51	
1264	IMPCA001	14.780		-0.70	
1342	IMPCA001	16.33		0.22	
1354		-----		-----	
1465	IMPCA001	17.075		0.67	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	IMPCA001	157	R(0.01)	83.84	
1656		-----		-----	
1707	IMPCA001	15.2		-0.45	
1728		-----		-----	
1862		-----		-----	
1935	IMPCA001	8.7	R(0.01)	-4.31	
6008	IMPCA001	18.79		1.69	
6059	IMPCA001	Not detected		-----	
6070	IMPCA001	21		3.00	
6132	IMPCA001	14.79		-0.69	
6201	IMPCA001	15		-0.57	
6209	IMPCA001	15.03165		-0.55	
6210	IMPCA	17.04298		0.65	
6262	IMPCA001	39	R(0.01)	13.70	
6268	IMPCA001	18		1.22	
6270	IMPCA001	14		-1.16	
6315	IMPCA001	17		0.62	
6329	IMPCA001	20.5		2.70	
6338		-----		-----	
6388	IMPCA001	0	R(0.01)	-9.48	
6406		-----		-----	
6415	IMPCA001	17	C	0.62	first reported 42
6423	IMPCA001	16.4695		0.31	
7018	IMPCA	13.484		-1.47	

normality	suspect
n	66
outliers	5
mean (n)	15.954
st.dev. (n)	1.7724
R(calc.)	4.963
st.dev.(Horwitz)	1.6824
R(Horwitz)	4.711



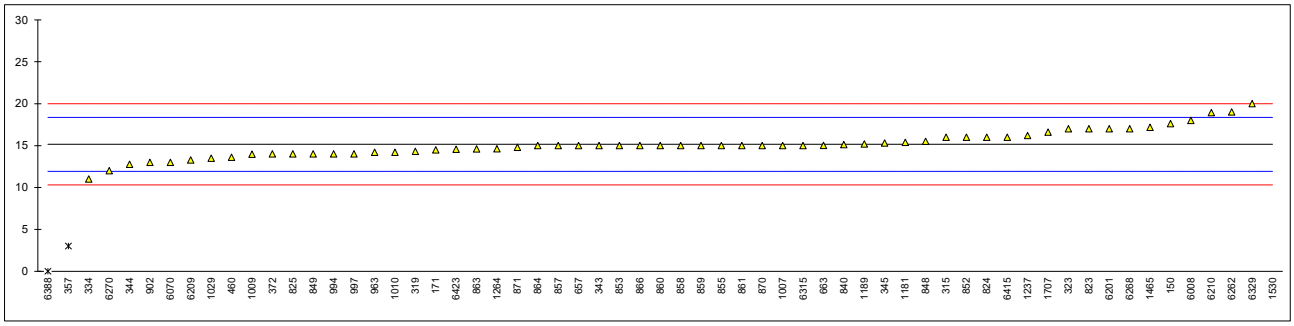


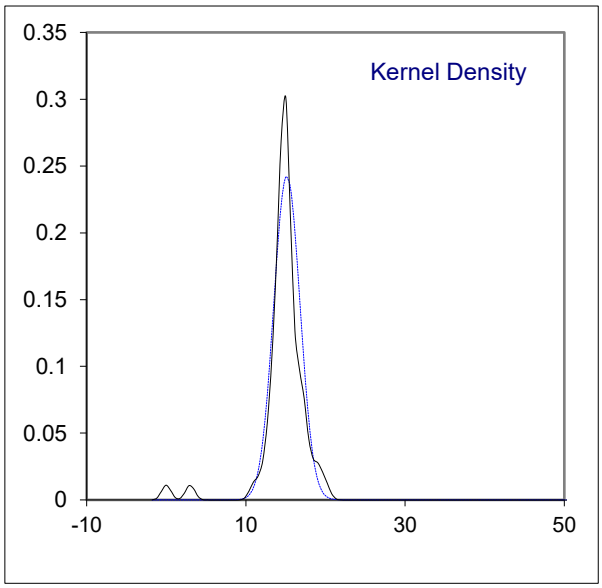
Determination of Benzene on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	17.6		1.52	
171	IMPCA001	14.48		-0.42	
315	IMPCA001	16		0.53	
316		-----		-----	
319	IMPCA001	14.3		-0.53	
323	IMPCA001	17		1.15	
333		-----		-----	
334	IMPCA001	11		-2.58	
335		-----		-----	
343	IMPCA001	15		-0.09	
344	IMPCA001	12.77		-1.48	
345	IMPCA001	15.3		0.09	
346		-----		-----	
347		-----		-----	
349		-----		-----	
357	IMPCA001	3	R(0.01)	-7.55	
372	IMPCA001	14		-0.72	
395		-----		-----	
396		-----		-----	
460	IMPCA001	13.6	C	-0.96	first reported 9.4
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	IMPCA001	15		-0.09	
663	IMPCA001	15.02		-0.08	
823	IMPCA001	17		1.15	
824	IMPCA001	16		0.53	
825	IMPCA001	14		-0.72	
840	IMPCA001	15.1		-0.03	
848	IMPCA001	15.5		0.22	
849	IMPCA001	14		-0.72	
852	IMPCA001	16		0.53	
853	IMPCA001	15		-0.09	
855	IMPCA001	15		-0.09	
857	IMPCA001	15		-0.09	
858	IMPCA001	15		-0.09	
859	IMPCA001	15		-0.09	
860	IMPCA001	15		-0.09	
861	IMPCA001	15		-0.09	
862		-----		-----	
863	IMPCA001	14.6		-0.34	
864	IMPCA001	15		-0.09	
866	IMPCA001	15.0		-0.09	
870	IMPCA001	15		-0.09	
871	IMPCA001	14.8		-0.22	
872		-----		-----	
902	IMPCA001	13		-1.34	
912		-----		-----	
913		-----		-----	
963	IMPCA001	14.2		-0.59	
970		-----		-----	
974		-----		-----	
994	IMPCA001	14		-0.72	
997	IMPCA001	14		-0.72	
1004		-----		-----	
1007	IMPCA001	15		-0.09	
1009	IMPCA001	13.96		-0.74	
1010	IMPCA001	14.2		-0.59	
1029	IMPCA001	13.49		-1.03	
1041		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA001	15.37354		0.14	
1189	IMPCA001	15.2		0.03	
1204		-----		-----	
1237	IMPCA001	16.2		0.65	
1264	IMPCA001	14.622		-0.33	
1342		-----		-----	
1354		-----		-----	
1465	IMPCA001	17.17		1.25	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	IMPCA001	144	R(0.01)	80.01	
1656		-----		-----	
1707	IMPCA001	16.6		0.90	
1728		-----		-----	
1862		-----		-----	
1935		-----		-----	
6008	IMPCA001	17.99		1.76	
6059	IMPCA001	Not detected		-----	
6070	IMPCA001	13		-1.34	
6132		-----		-----	
6201	IMPCA001	17		1.15	
6209	IMPCA001	13.26872		-1.17	
6210	IMPCA001	18.92171		2.34	
6262	IMPCA001	19	C	2.39	first reported <5
6268	IMPCA001	17		1.15	
6270	IMPCA001	12		-1.96	
6315	IMPCA001	15	C	-0.09	first reported <5
6329	IMPCA001	20.0		3.01	
6338		-----		-----	
6388	IMPCA001	0	R(0.01)	-9.41	
6406		-----		-----	
6415	IMPCA001	16		0.53	
6423	IMPCA001	14.56		-0.37	
7018		-----		-----	

normality	suspect
n	58
outliers	3
mean (n)	15.152
st.dev. (n)	1.6429
R(calc.)	4.600
st.dev.(Horwitz)	1.6103
R(Horwitz)	4.509



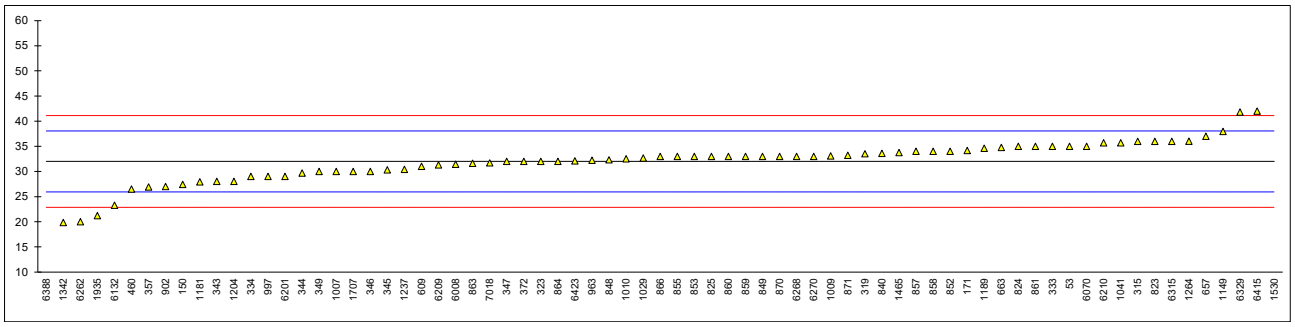


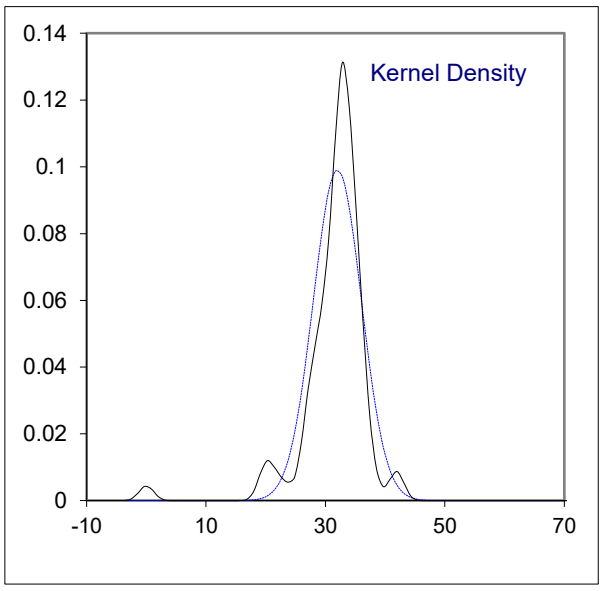
Determination of Ethanol on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	IMPCA001	35		0.99	
150	IMPCA001	27.4		-1.51	
171	IMPCA001	34.16		0.71	
315	IMPCA001	36		1.32	
316		-----		-----	
319	IMPCA001	33.5		0.49	
323	IMPCA001	32		0.00	
333	IMPCA001	35		0.99	
334	IMPCA001	29		-0.99	
335		-----		-----	
343	IMPCA001	28		-1.32	
344	IMPCA001	29.68		-0.76	
345	IMPCA001	30.3		-0.56	
346	IMPCA001	30.016		-0.65	
347	IMPCA001	32		0.00	
349	IMPCA001	30		-0.66	
357	IMPCA001	26.9		-1.68	
372	IMPCA001	32		0.00	
395		-----		-----	
396		-----		-----	
460	IMPCA001	26.5	C	-1.81	first reported 16.3
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	IMPCA001	31		-0.33	
657	IMPCA001	37		1.65	
663	IMPCA001	34.79		0.92	
823	IMPCA001	36		1.32	
824	IMPCA001	35		0.99	
825	IMPCA001	33		0.33	
840	IMPCA001	33.6		0.53	
848	IMPCA001	32.3		0.10	
849	IMPCA001	33		0.33	
852	IMPCA001	34		0.66	
853	IMPCA001	33		0.33	
855	IMPCA001	33		0.33	
857	IMPCA001	34		0.66	
858	IMPCA001	34		0.66	
859	IMPCA001	33		0.33	
860	IMPCA001	33		0.33	
861	IMPCA001	35		0.99	
862		-----		-----	
863	IMPCA001	31.6		-0.13	
864	IMPCA001	32		0.00	
866	IMPCA001	33.0		0.33	
870	IMPCA001	33		0.33	
871	IMPCA001	33.2		0.39	
872		-----		-----	
902	IMPCA001	27		-1.65	
912		-----		-----	
913		-----		-----	
963	IMPCA001	32.2		0.07	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	IMPCA001	29	C	-0.99	first reported 42
1004		-----		-----	
1007	IMPCA001	30		-0.66	
1009	IMPCA001	33.08		0.36	
1010	IMPCA001	32.5		0.16	
1029	IMPCA001	32.65		0.21	
1041	IMPCA001	35.70		1.22	
1120		-----		-----	
1149	E346	37.96		1.96	
1181	IMPCA001	27.92996		-1.34	
1189	IMPCA001	34.6		0.86	
1204	IMPCA001	28		-1.32	
1237	IMPCA001	30.4		-0.53	
1264	IMPCA001	36.023		1.32	
1342	IMPCA001	19.84		-4.00	
1354		-----		-----	
1465	IMPCA001	33.75		0.58	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	IMPCA001	284	R(0.01)	82.92	
1656		-----		-----	
1707	IMPCA001	30		-0.66	
1728		-----		-----	
1862		-----		-----	
1935	IMPCA001	21.2		-3.55	
6008	IMPCA001	31.43		-0.19	
6059	IMPCA001	Not detected		-----	
6070	IMPCA001	35		0.99	
6132	IMPCA001	23.26		-2.88	
6201	IMPCA001	29		-0.99	
6209	IMPCA001	31.30471		-0.23	
6210	IMPCA001	35.67058		1.21	
6262	IMPCA001	20		-3.95	
6268	IMPCA001	33		0.33	
6270	IMPCA001	33		0.33	
6315	IMPCA001	36		1.32	
6329	IMPCA001	41.8		3.22	
6338		-----		-----	
6388	IMPCA001	0	R(0.01)	-10.53	
6406		-----		-----	
6415	IMPCA001	42	C	3.29	first reported 17
6423	IMPCA001	32.0885		0.03	
7018	IMPCA	31.706		-0.10	

normality	not OK
n	71
outliers	2
mean (n)	32.001
st.dev. (n)	4.0304
R(calc.)	11.285
st.dev.(Horwitz)	3.0390
R(Horwitz)	8.509



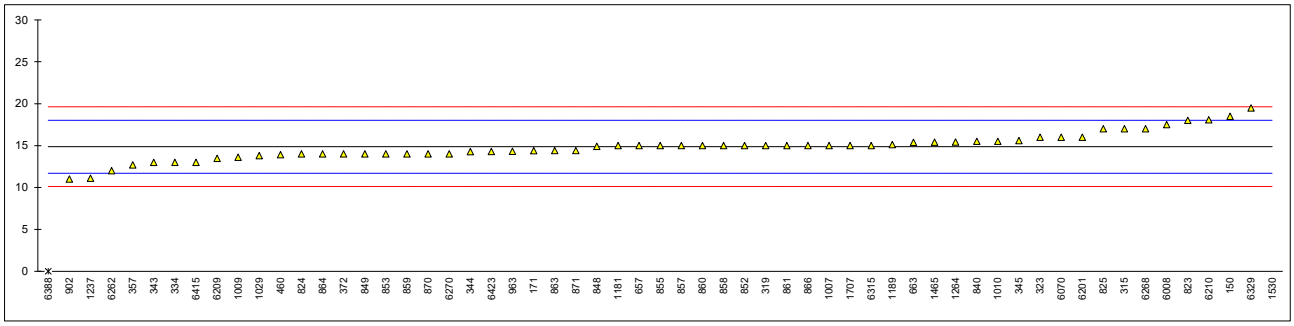


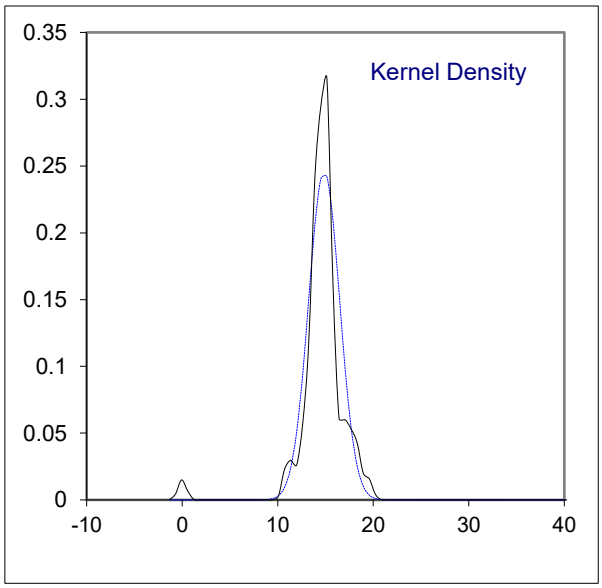
Determination of Toluene on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	IMPCA001	18.5		2.30	
171	IMPCA001	14.37		-0.31	
315	IMPCA001	17		1.35	
316		-----		-----	
319	IMPCA001	15.0		0.09	
323	IMPCA001	16		0.72	
333		-----		-----	
334	IMPCA001	13		-1.17	
335		-----		-----	
343	IMPCA001	13		-1.17	
344	IMPCA001	14.27		-0.37	
345	IMPCA001	15.6		0.47	
346		-----		-----	
347		-----		-----	
349		-----		-----	
357	IMPCA001	12.7		-1.36	
372	IMPCA001	14		-0.54	
395		-----		-----	
396		-----		-----	
460	IMPCA001	13.9	C	-0.61	first reported 9.3
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	IMPCA001	15		0.09	
663	IMPCA001	15.37		0.32	
823	IMPCA001	18		1.98	
824	IMPCA001	14		-0.54	
825	IMPCA001	17		1.35	
840	IMPCA001	15.5		0.41	
848	IMPCA001	14.9		0.03	
849	IMPCA001	14		-0.54	
852	IMPCA001	15		0.09	
853	IMPCA001	14		-0.54	
855	IMPCA001	15		0.09	
857	IMPCA001	15		0.09	
858	IMPCA001	15		0.09	
859	IMPCA001	14		-0.54	
860	IMPCA001	15		0.09	
861	IMPCA001	15		0.09	
862		-----		-----	
863	IMPCA001	14.4		-0.29	
864	IMPCA001	14		-0.54	
866	IMPCA001	15.0		0.09	
870	IMPCA001	14		-0.54	
871	IMPCA001	14.4		-0.29	
872		-----		-----	
902	IMPCA001	11		-2.44	
912		-----		-----	
913		-----		-----	
963	IMPCA001	14.3		-0.35	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004		-----		-----	
1007	IMPCA001	15		0.09	
1009	IMPCA001	13.59		-0.80	
1010	IMPCA001	15.5		0.41	
1029	IMPCA001	13.79		-0.67	
1041		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181	IMPCA001	14.99597		0.09	
1189	IMPCA001	15.1		0.15	
1204		-----		-----	
1237	IMPCA001	11.1		-2.37	
1264	IMPCA001	15.408		0.35	
1342		-----		-----	
1354		-----		-----	
1465	IMPCA001	15.40		0.34	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	IMPCA001	159	R(0.01)	91.01	
1656		-----		-----	
1707	IMPCA001	15		0.09	
1728		-----		-----	
1862		-----		-----	
1935		-----		-----	
6008	IMPCA001	17.50		1.67	
6059	IMPCA001	Not detected		-----	
6070	IMPCA001	16		0.72	
6132		-----		-----	
6201	IMPCA001	16		0.72	
6209	IMPCA001	13.47469		-0.87	
6210	IMPCA001	18.07063		2.03	
6262	IMPCA001	12		-1.80	
6268	IMPCA001	17		1.35	
6270	IMPCA001	14		-0.54	
6315	IMPCA001	15		0.09	
6329	IMPCA001	19.5		2.93	
6338		-----		-----	
6388	IMPCA001	0	R(0.01)	-9.38	
6406		-----		-----	
6415	IMPCA001	13		-1.17	
6423	IMPCA001	14.29		-0.36	
7018		-----		-----	

normality	suspect
n	57
outliers	2
mean (n)	14.858
st.dev. (n)	1.6230
R(calc.)	4.544
st.dev.(Horwitz)	1.5838
R(Horwitz)	4.435



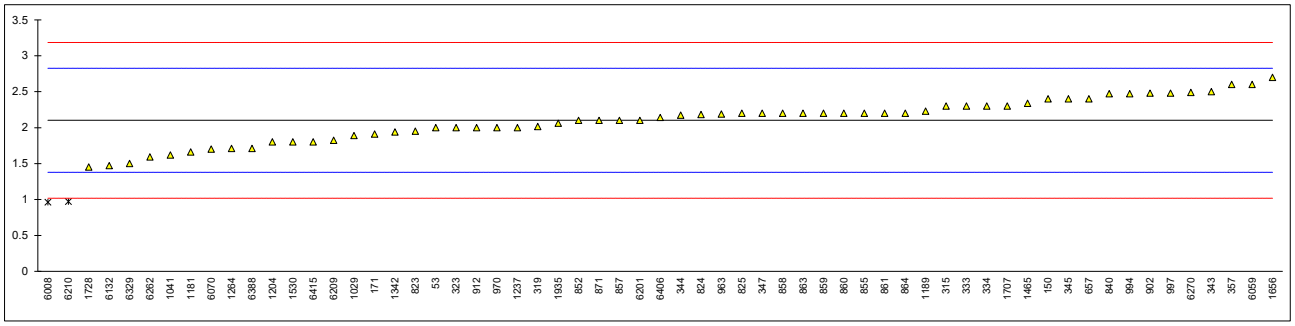


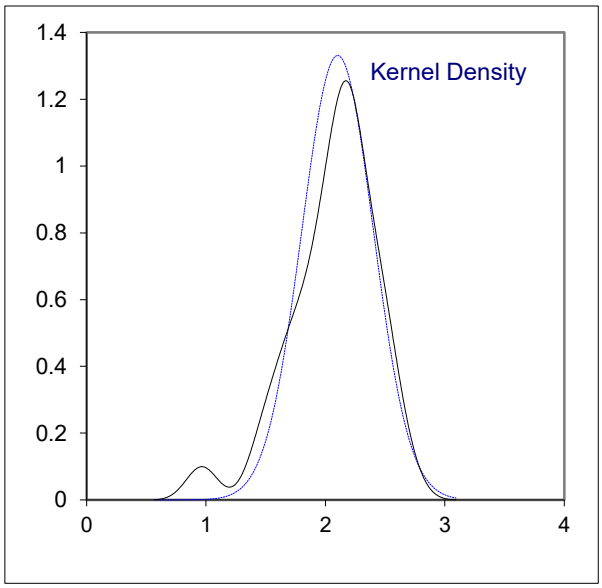
Determination of Total Sulfur on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	D5453	2.0		-0.28	
150	D5453	2.4		0.82	
171	D5453	1.91		-0.53	
315	D5453	2.3		0.55	
316		-----		-----	
319	D5453	2.014		-0.24	
323	D5453	2		-0.28	
333	D5453	2.3		0.55	
334	D5453	2.3		0.55	
335		-----		-----	
343	D5453	2.5		1.10	
344	D5453	2.173		0.20	
345	ISO20846	2.4		0.82	
346		-----		-----	
347	D5453	2.2		0.27	
349		-----		-----	
357	D5453	2.60		1.38	
372	D5453	>0.5		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	D5453	2.4		0.82	
663		-----		-----	
823	D5453	1.95		-0.42	
824	D5453	2.18		0.22	
825	D5453	2.2		0.27	
840	D5453	2.47		1.02	
848	D5453	na		-----	
849		-----		-----	
852	D5453	2.1		-0.01	
853		-----		-----	
855	D5453	2.2		0.27	
857	D5453	2.1		-0.01	
858	D5453	2.2		0.27	
859	D5453	2.2		0.27	
860	D3120	2.2		0.27	
861	D5453	2.2		0.27	
862		-----		-----	
863	D5453	2.2		0.27	
864	D5453	2.2		0.27	
866		-----		-----	
870		-----		-----	
871	D5453	2.1		-0.01	
872		-----		-----	
902	D5453	2.48		1.04	
912	D5453	2		-0.28	
913		-----		-----	
963	D5453	2.19		0.24	
970	D5453	2.0		-0.28	
974		-----		-----	
994	D5453	2.47		1.02	
997	D5453	2.48		1.04	
1004		-----		-----	
1007		-----		-----	
1009		-----		-----	
1010		-----		-----	
1029	D5453	1.89		-0.59	
1041	D5453	1.619		-1.34	
1120		-----		-----	
1149		-----		-----	
1181	D5453	1.66		-1.22	
1189	D5453	2.23		0.35	
1204	D5453	1.8		-0.84	
1237	ISO20846	2.0		-0.28	
1264	D5453	1.71		-1.09	
1342	D5453	1.94		-0.45	
1354		-----		-----	
1465	D5453	2.3365		0.65	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	D5453	1.8		-0.84	
1656	D5453	2.7		1.65	
1707	D5453	2.3		0.55	
1728	D5453	1.45		-1.80	
1862		-----		-----	
1935	D5453	2.06		-0.12	
6008	D5453	0.961	R(0.05)	-3.16	
6059	D5453	2.6		1.38	
6070	D5453	1.7		-1.11	
6132	D5453	1.47		-1.75	
6201	D5453	2.1		-0.01	
6209	D5453	1.823		-0.77	
6210		0.97	R(0.05)	-3.13	
6262	ISO20846	1.59		-1.42	
6268		-----		-----	
6270	D5453	2.489		1.07	
6315		-----		-----	
6329	D5453	1.5		-1.67	
6338		-----		-----	
6388	D5453	1.71		-1.09	
6406	D5453	2.14		0.10	
6415	D5453	1.8		-0.84	
6423		-----		-----	
7018		-----		-----	

normality	OK
n	59
outliers	2
mean (n)	2.102
st.dev. (n)	0.2997
R(calc.)	0.839
st.dev.(D5453:19a)	0.3615
R(D5453:19a)	1.012



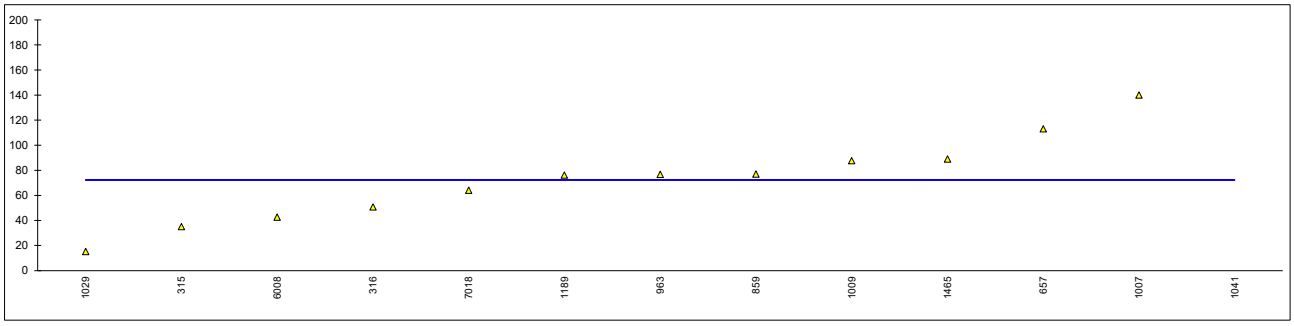


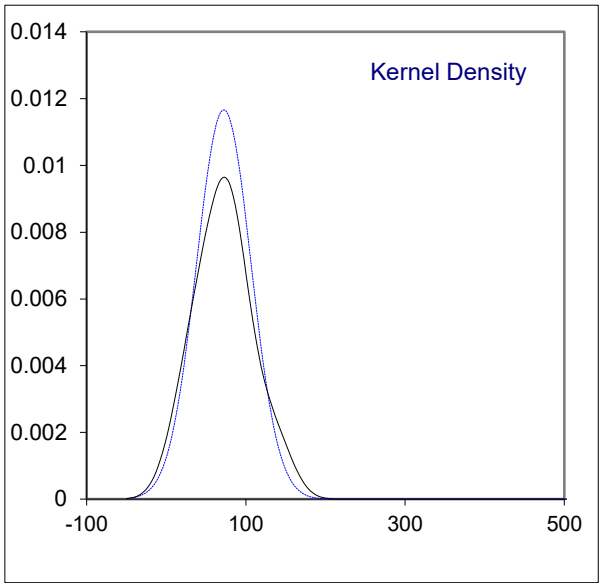
Determination of Trimethylamine (TMA) on sample #21160; results in µg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150		-----		-----	
171		-----		-----	
315	E346	35		-----	
316	INH-601	50.7		-----	
319		-----		-----	
323		-----		-----	
333		-----		-----	
334		-----		-----	
335		-----		-----	
343		-----		-----	
344		-----		-----	
345		-----		-----	
346		-----		-----	
347		-----		-----	
349		-----		-----	
357		-----		-----	
372		-----		-----	
395		-----		-----	
396		-----		-----	
460		-----		-----	
492		-----		-----	
529		-----		-----	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609		-----		-----	
657	E346	113		-----	
663		-----		-----	
823		-----		-----	
824		-----		-----	
825		-----		-----	
840		-----		-----	
848	E346	na		-----	
849		-----		-----	
852		-----		-----	
853		-----		-----	
855		-----		-----	
857		-----		-----	
858		-----		-----	
859	E346	77		-----	
860	E346	NA		-----	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864		-----		-----	
866		-----		-----	
870		-----		-----	
871	E346	N/A		-----	
872		-----		-----	
902		-----		-----	
912		-----		-----	
913		-----		-----	
963	E346	76.8		-----	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997		-----		-----	
1004		-----		-----	
1007	E346	140		-----	
1009	In house	87.59		-----	
1010		-----		-----	
1029	E346	15.25		-----	
1041	E346	1254	C,G(0.01)	-----	first reported 992
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1189	E346	76.1		-----	
1204		-----		-----	
1237		-----		-----	
1264		-----		-----	
1342		-----		-----	
1354		-----		-----	
1465	E346	88.981		-----	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530		-----		-----	
1656		-----		-----	
1707		-----		-----	
1728		-----		-----	
1862		-----		-----	
1935		-----		-----	
6008	E346	42.7		-----	
6059		-----		-----	
6070		-----		-----	
6132		-----		-----	
6201		-----		-----	
6209		-----		-----	
6210		-----		-----	
6262		-----		-----	
6268		-----		-----	
6270		-----		-----	
6315		-----		-----	
6329		-----		-----	
6338		-----		-----	
6388		-----		-----	
6406		-----		-----	
6415		-----		-----	
6423		-----		-----	
7018	E346	64		-----	

normality	OK
n	12
outliers	1
mean (n)	72.26
st.dev. (n)	34.200
R(calc.)	95.76
st.dev.(E346:08e1)	(9.76)
R(E346:08e1)	(27.31)



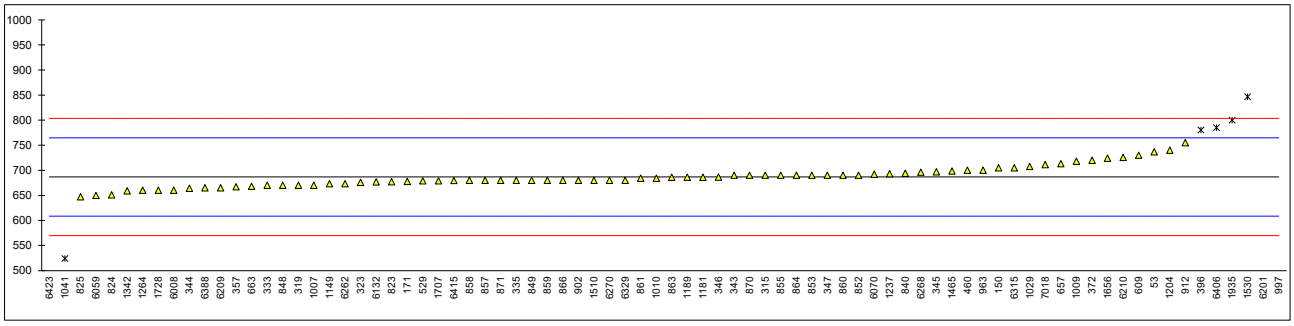


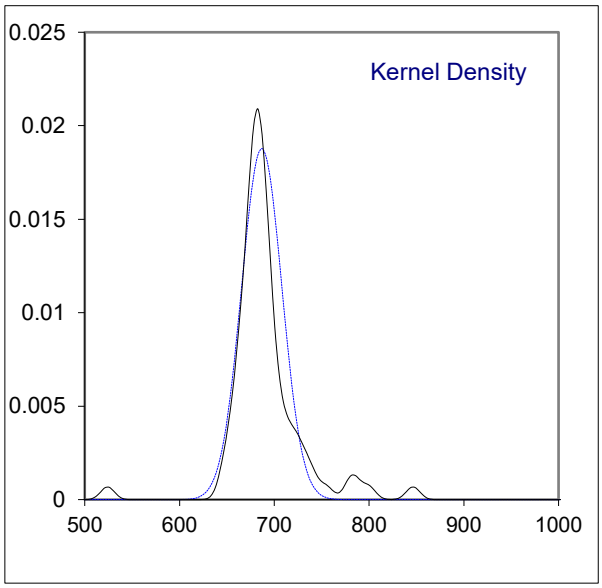
Determination of Water, Coulometric on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53	E1064	737		1.29	
150	E1064	705		0.47	
171	E1064	677.8		-0.23	
315	E1064	690		0.08	
316		-----		-----	
319	E1064	670	C	-0.43	first reported 0.067
323	E1064	676		-0.28	
333	E1064	670		-0.43	
334		-----		-----	
335	E1064	680		-0.17	
343	E1064	690		0.08	
344	E1064	664		-0.59	
345	E1064	697		0.26	
346	E1064	686.4		-0.01	
347	E1064	690		0.08	
349		-----		-----	
357	E1064	667		-0.51	
372	E1064	720		0.85	
395		-----		-----	
396	E1064	780	C,R(0.01)	2.39	first reported 803
460	E1064	700	C	0.34	first reported 0.07
492		-----		-----	
529	E1064	678.78		-0.21	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	E1064	730		1.11	
657	E1064	713	C	0.67	first reported 313
663	E1064	668		-0.48	
823	E1064	677		-0.25	
824	E1064	651		-0.92	
825	E1064	647		-1.02	
840	E1064	694		0.18	
848	E1064	670		-0.43	
849	E1064	680		-0.17	
852	E1064	690		0.08	
853	E1064	690		0.08	
855	E1064	690		0.08	
857	E1064	680		-0.17	
858	E1064	680		-0.17	
859	E1064	680		-0.17	
860	E1064	690		0.08	
861	E1064	684		-0.07	
862		-----		-----	
863	E1064	686		-0.02	
864	E1064	690		0.08	
866	E1064	680		-0.17	
870	E1064	690		0.08	
871	E1064	680		-0.17	
872		-----		-----	
902	E1064	680		-0.17	
912	E1064	755		1.75	
913		-----		-----	
963	E1064	700		0.34	
970		-----		-----	
974		-----		-----	
994		-----		-----	
997	E1064	1100	C,R(0.01)	10.59	first reported 931
1004		-----		-----	
1007	E1064	670		-0.43	
1009	E1064	717.8	C	0.79	first reported 0.7178
1010	E1064	684		-0.07	
1029	E1064	707.67		0.53	
1041		524	R(0.01)	-4.17	
1120		-----		-----	
1149	E1064	673.0		-0.35	
1181	E1064	686.009		-0.02	
1189	E1064	686		-0.02	
1204	E1064	740		1.36	
1237	E1064	693		0.16	
1264	E1064	660		-0.69	
1342	E1064	659		-0.71	
1354		-----		-----	
1465	E1064	698.4		0.30	

lab	method	value	mark	z(targ)	remarks
1510	E1064	680		-0.17	
1530	E1064	846.5	R(0.01)	4.09	
1656	E1064	724		0.95	
1707	E1064	679		-0.20	
1728	E1064	660		-0.69	
1862		-----		-----	
1935	E1064	799.75	R(0.01)	2.90	
6008	E1064	660		-0.69	
6059	E1064	650		-0.94	
6070	E1064	692.1		0.14	
6132	E1064	676.845		-0.26	
6201	E1064	1060	R(0.01)	9.57	
6209	E1064	665.05		-0.56	
6210	E1064	725.75		1.00	
6262	E1064	673		-0.35	
6268	E1064	696.0		0.24	
6270	E1064	680		-0.17	
6315	ISO12937	705		0.47	
6329	E1064	680	C	-0.17	first reported 68
6338		-----		-----	
6388	E1064	665		-0.56	
6406	E1064	785	C,R(0.01)	2.52	first reported 1207
6415	E1064	679.5		-0.19	
6423	E1064	0.773	R(0.01)	-17.59	
7018	E1064	711.2		0.62	

normality	suspect
n	72
outliers	8
mean (n)	686.83
st.dev. (n)	21.252
R(calc.)	59.51
st.dev.(E1064:16)	39.002
R(E1064:16)	109.21



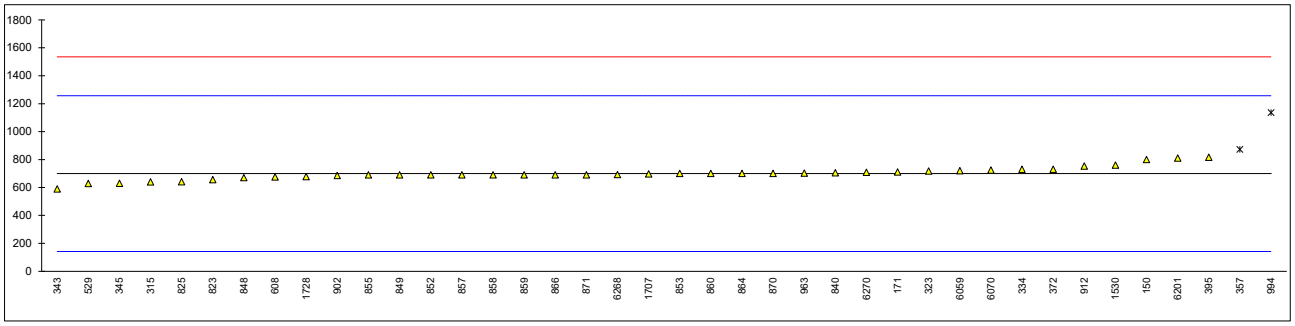


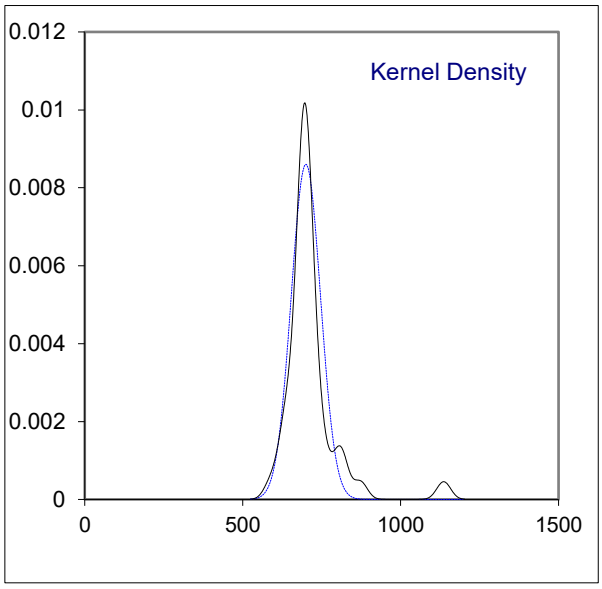
Determination of Water, Volumetric on sample #21160; results in mg/kg

lab	method	value	mark	z(targ)	remarks
53		-----		-----	
150	E203	800		0.36	
171	E203	710		0.04	
315	E203	640		-0.21	
316		-----		-----	
319		-----		-----	
323	E203	718		0.07	
333		-----		-----	
334	E203	730		0.11	
335		-----		-----	
343	E203	590		-0.39	
344		-----		-----	
345	E203	630		-0.25	
346		-----		-----	
347		-----		-----	
349		-----		-----	
357	E203	872	R(0.05)	0.62	
372	E203	730		0.11	
395	E203	816.2		0.42	
396		-----		-----	
460		-----		-----	
492		-----		-----	
529	E203	628.87		-0.25	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608	E203	676		-0.09	
609		-----		-----	
657		-----		-----	
663		-----		-----	
823	E203	656		-0.16	
824		-----		-----	
825	E203	641		-0.21	
840	E203	705		0.02	
848	E203	670		-0.11	
849	D1364	690		-0.04	
852	GB/T6283	690		-0.04	
853	E203	700		0.00	
855	E203	690		-0.04	
857	E203	690		-0.04	
858	E203	690		-0.04	
859	E203	690		-0.04	
860	E203	700		0.00	
861		-----		-----	
862		-----		-----	
863		-----		-----	
864	E203	700		0.00	
866	E203	690		-0.04	
870	E203	700		0.00	
871	E203	690		-0.04	
872		-----		-----	
902	E203	685		-0.05	
912	E203	753		0.19	
913		-----		-----	
963	E203	703		0.01	
970		-----		-----	
974		-----		-----	
994	E203	1136	R(0.01)	1.57	
997		-----		-----	
1004		-----		-----	
1007		-----		-----	
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041		-----		-----	
1120		-----		-----	
1149		-----		-----	
1181		-----		-----	
1189		-----		-----	
1204		-----		-----	
1237		-----		-----	
1264		-----		-----	
1342		-----		-----	
1354		-----		-----	
1465		-----		-----	

lab	method	value	mark	z(targ)	remarks
1510		-----		-----	
1530	E203	760.4		0.22	
1656		-----		-----	
1707	D1364	697		-0.01	
1728	E203	678		-0.08	
1862		-----		-----	
1935		-----		-----	
6008		-----		-----	
6059	E203	720		0.07	
6070	E203	724.8		0.09	
6132		-----		-----	
6201	E203	810		0.40	
6209		-----		-----	
6210		-----		-----	
6262		-----		-----	
6268	E203	691.5		-0.03	
6270	E203	708		0.03	
6315		-----		-----	
6329		-----		-----	
6338		-----		-----	
6388		-----		-----	
6406		-----		-----	
6415		-----		-----	
6423		-----		-----	
7018		-----		-----	

normality	suspect
n	38
outliers	2
mean (n)	699.78
st.dev. (n)	46.364
R(calc.)	129.82
st.dev.(E203:16)	278.571
R(E203:16)	780

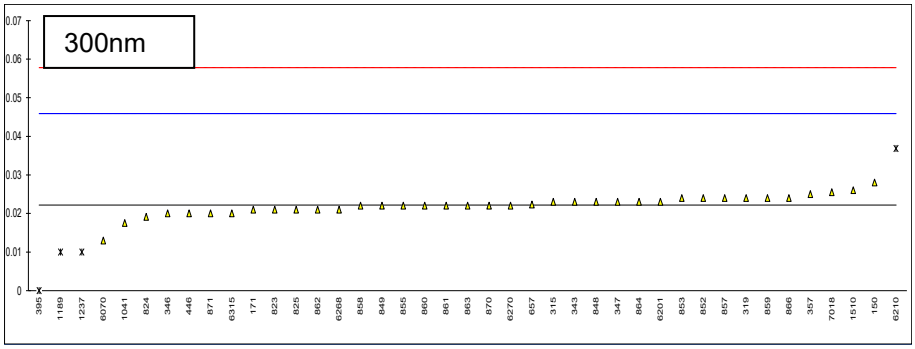


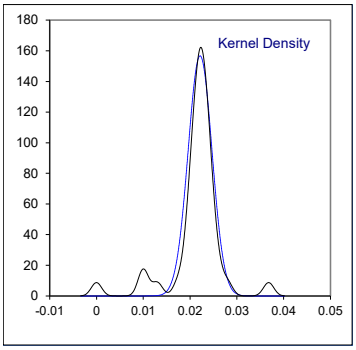


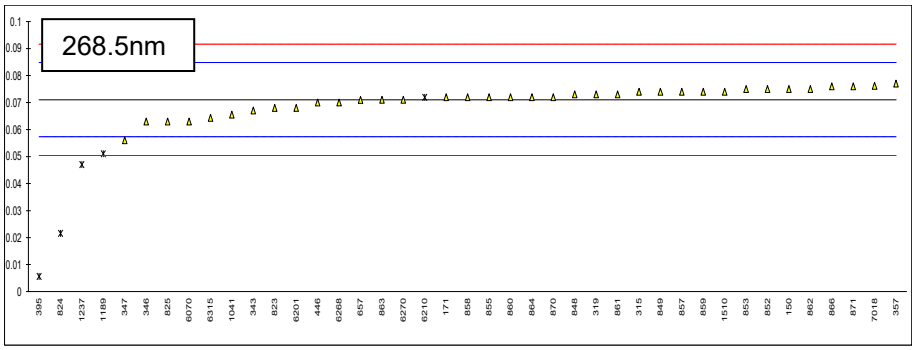
Determination of UV Absorbance (50 mm cuvette) on sample #21161

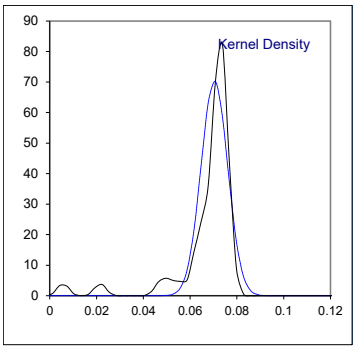
lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Fail
150	IMPCA004	0.028	0.075	0.144	0.317	0.681	1.273	Pass
171	IMPCA004	0.021	0.072	0.1389 C	0.305	0.651	1.254	Pass
315	IMPCA004	0.023	0.074	0.150	0.327	0.709	1.370	-----
319	IMPCA004	0.024	0.073	0.144	0.319	0.676	1.324	Pass
323		-----	-----	-----	-----	-----	-----	Pass
343	IMPCA004	0.023 C	0.067	0.134	-----	-----	1.226	Pass
346	IMPCA004	0.020	0.063	0.136	-----	-----	1.294	Pass
347	IMPCA004	0.023	0.056	0.136	-----	-----	1.266	Pass
357	IMPCA004	0.025	0.077	0.146	0.319	0.677	1.304	Fail
395	IMPCA004	0.0000 C,R1	0.0056 C,R1	0.0588 C,R1	-----	0.5537 R5	1.1567 ex,C	Pass
396		-----	-----	-----	-----	-----	-----	-----
446	IMPCA004	0.02	0.07	0.14	0.33	0.68	1.31	Pass
529		-----	-----	-----	-----	-----	-----	-----
609		-----	-----	-----	-----	-----	-----	-----
657	IMPCA004	0.02228	0.07098	0.1414	0.3180	0.6872	1.340	Pass
663		-----	-----	-----	-----	-----	-----	-----
823	IMPCA004	0.021	0.068	0.135	0.306	0.657	1.264	Pass
824	IMPCA004	0.0191	0.0215 R1	0.1018 R1	0.2965	0.6772	1.2965	Pass
825	IMPCA004	0.021	0.063	0.132	0.306	0.669	1.284	Pass
848	IMPCA004	0.023	0.073	0.140	0.302	0.637	1.217	Fail
849	IMPCA004	0.022	0.074	0.138	0.297	0.632	1.204	Fail
852	IMPCA004	0.024	0.075	0.138	0.297	0.625	1.217	Fail
853	IMPCA004	0.024	0.075	0.140	0.310	0.648	1.216	Fail
855	IMPCA004	0.022	0.072	0.140	0.300	0.638	1.216	Pass
857	IMPCA004	0.024	0.074	0.139	0.298	0.633	1.215	Fail
858	IMPCA004	0.022	0.072	0.135	0.298	0.635	1.224	Fail
859	IMPCA004	0.024	0.074	0.137	0.296	0.635	1.216	Fail
860	IMPCA004	0.022	0.072	0.133	0.296	0.635	1.211	Fail
861	IMPCA004	0.022	0.073	0.139	0.300	0.639	1.190	Fail
862	IMPCA004	0.021	0.075	0.139	0.303	0.637	1.203	Fail
863	IMPCA004	0.022	0.071	0.135	0.298	0.633	1.225	Fail
864	IMPCA004	0.023	0.072	0.138	0.303	0.646	1.212	Pass
866	IMPCA004	0.024	0.076	0.139	0.298	0.636	1.220	Fail
870	IMPCA004	0.022	0.072	0.139	0.302	0.638	1.216	Pass
871	IMPCA004	0.020	0.076	0.131	0.292	0.626	1.185	Fail
872		-----	-----	-----	-----	-----	-----	-----
902		-----	-----	-----	-----	-----	-----	-----
912		-----	-----	-----	-----	-----	-----	-----
913		-----	-----	-----	-----	-----	-----	-----
963		-----	-----	-----	-----	-----	-----	-----
994		-----	-----	-----	-----	-----	-----	Pass
1004		-----	-----	-----	-----	-----	-----	-----
1007		-----	-----	-----	-----	-----	-----	-----
1041	IMPCA004	0.0175 C	0.0655 C	0.1385 C	0.3155 C	0.671 C	1.2595 C	Pass
1189	IMPCA004	0.010 C,R1	0.051 ex,C	0.118 C,R5	0.283 ex,C	0.629 ex,C	1.478 R1	Pass
1237	IMPCA004	0.010 R1	0.047 R1	0.117 R5	-----	-----	1.285 ex	-----
1264		-----	-----	-----	-----	-----	-----	-----
1342		-----	-----	-----	-----	-----	-----	-----
1354		-----	-----	-----	-----	-----	-----	-----
1510	IMPCA004	0.026	0.074	0.149	-----	0.747 R5	0.1404 R1	Pass
1656		-----	-----	-----	-----	-----	-----	-----
6070	IMPCA004	0.013	0.063	0.144	0.315	0.691	1.359	Pass
6201	IMPCA004	0.023	0.068	0.147	0.333	0.699	1.198	Fail
6209		-----	-----	-----	-----	-----	-----	-----
6210	IMPCA004	0.0368 R1	0.0719 ex	0.2228 R1	0.4576 R1	0.8789 R1	1.485 R1	PASS
6262		-----	-----	-----	-----	-----	-----	-----
6268	IMPCA004	0.021	0.070	0.144	0.311	0.636	1.184	Fail
6270	IMPCA004	0.022	0.071	0.143	0.317	0.685	1.323	Fail
6315	IMPCA004	0.020 C	0.0643	0.1272	0.2945	0.6553	1.305	Pass
6423		-----	-----	-----	-----	-----	-----	-----
7018	IMPCA004	0.0255	0.07616	0.142	0.3052	0.6397	1.2832	Pass
normality		not OK	not OK	not OK	OK	OK	OK	
n		37	36	36	33	33	36	24 Pass
outliers		4	3 (+2ex)	5	1 (+1ex)	3 (+1ex)	3 (+ 2ex)	17 Fail
mean (n)		0.02215	0.07103	0.13922	0.30681	0.65498	1.25289	
st.dev. (n)		0.002545	0.004684	0.004938	0.010927	0.023902	0.052057	
R(calc.)		0.00713	0.01311	0.01383	0.03060	0.06693	0.14576	
st.dev.(IMPCA004:15		0.011864	0.006874	0.005022	unknown	unknown	0.1282491	
R(IMPCA004:15)		0.03322	0.01925	0.01406	unknown	unknown	0.35958	

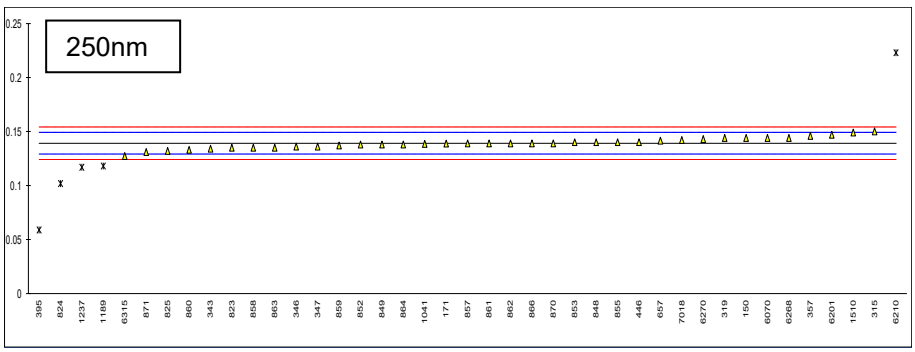
lab 171: first reported 0.0138
lab 395: first reported cuvette 10mm, 0.0000, 0.0059, 0.0166, ---, 0.1163, 0.2416, Pass
lab 1041: first reported 0.003, 0.0135, 0.0275, 0.063, 0.134, 0.2515
lab 1189: first reported 0.015, 0.095, 0.178, 0.358, 0.77
lab 6315: first reported 0.0168 (0.020 is average 0.017 0.023)

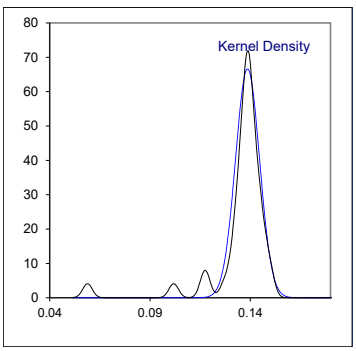

300nm

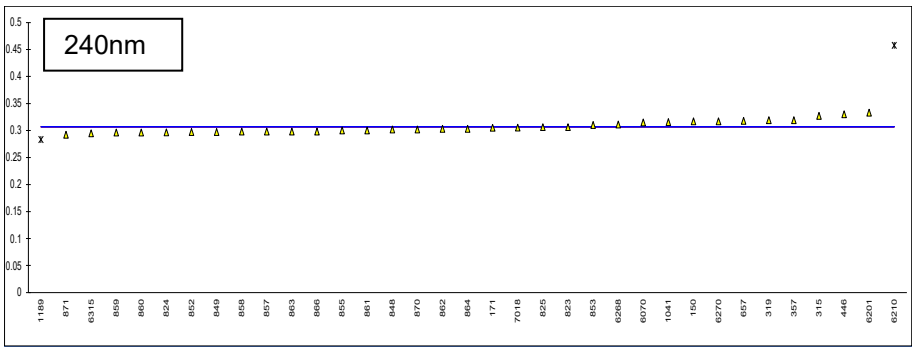

Kernel Density

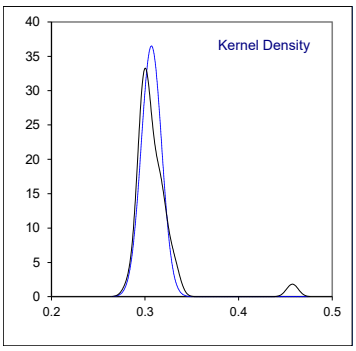

268.5nm

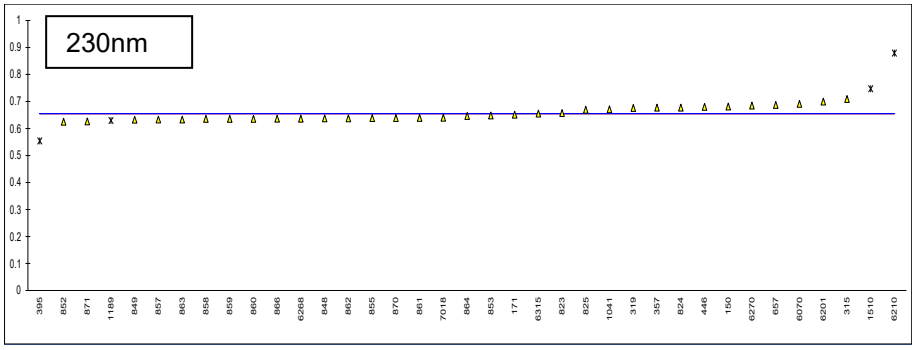

Kernel Density

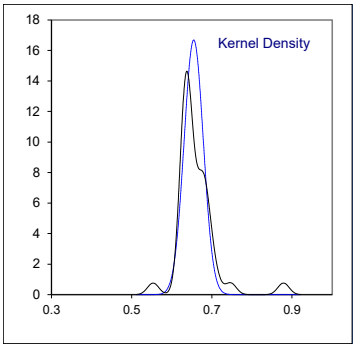

250nm

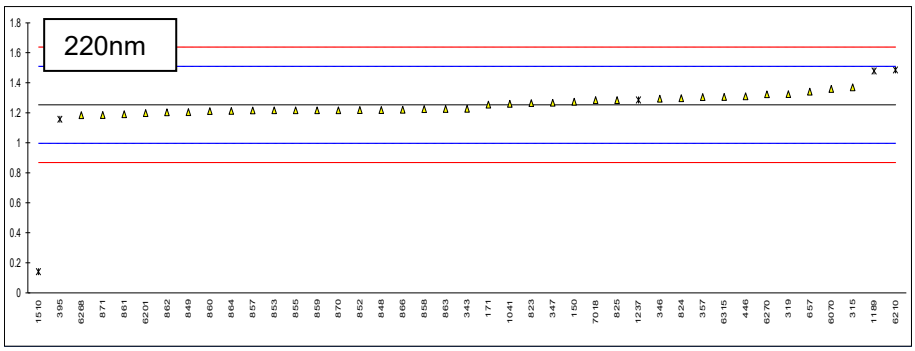

Kernel Density

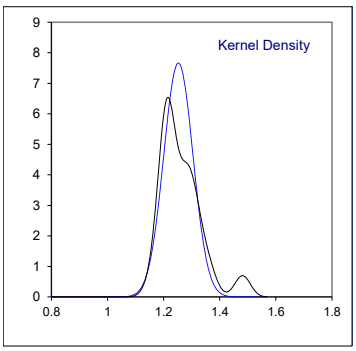

240nm


Kernel Density


230nm


Kernel Density


220nm
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1510 395 6268 871 861 6201 862 849 860 864 857 853 855 859 870 852 848 866 858 863 343 171 1041 823 347 150 7018 825 1237 346 824 357 6315 446 6270 319 657 6070 315 1189 6210


Kernel Density
9
8
7
6
5
4
3
2
1
0
0.8 1 1.2 1.4 1.6 1.8

z-scores UV Absorbance (50 mm cuvette)

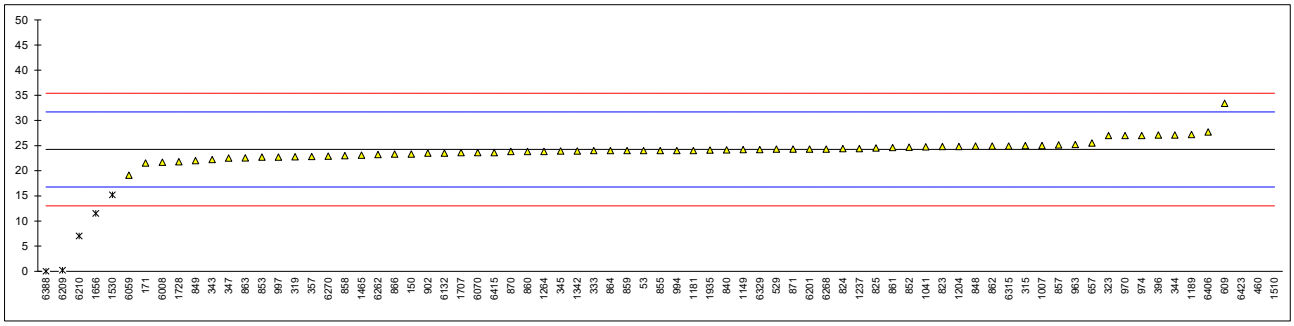
lab	300nm	268.5nm	250nm	240nm	230nm	220nm
150	0.49	0.58	0.95	-----	-----	0.16
171	-0.10	0.14	-0.06	-----	-----	0.01
315	0.07	0.43	2.15	-----	-----	0.91
319	0.16	0.29	0.95	-----	-----	0.55
323	-----	-----	-----	-----	-----	-----
343	0.07	-0.59	-1.04	-----	-----	-0.21
346	-0.18	-1.17	-0.64	-----	-----	0.32
347	0.07	-2.19	-0.64	-----	-----	0.10
357	0.24	0.87	1.35	-----	-----	0.40
395	-1.87	-9.52	-16.01	-----	-----	-0.75
396	-----	-----	-----	-----	-----	-----
446	-0.18	-0.15	0.15	-----	-----	0.45
529	-----	-----	-----	-----	-----	-----
609	-----	-----	-----	-----	-----	-----
657	0.01	-0.01	0.43	-----	-----	0.68
663	-----	-----	-----	-----	-----	-----
823	-0.10	-0.44	-0.84	-----	-----	0.09
824	-0.26	-7.20	-7.45	-----	-----	0.34
825	-0.10	-1.17	-1.44	-----	-----	0.24
848	0.07	0.29	0.15	-----	-----	-0.28
849	-0.01	0.43	-0.24	-----	-----	-0.38
852	0.16	0.58	-0.24	-----	-----	-0.28
853	0.16	0.58	0.15	-----	-----	-0.29
855	-0.01	0.14	0.15	-----	-----	-0.29
857	0.16	0.43	-0.04	-----	-----	-0.30
858	-0.01	0.14	-0.84	-----	-----	-0.23
859	0.16	0.43	-0.44	-----	-----	-0.29
860	-0.01	0.14	-1.24	-----	-----	-0.33
861	-0.01	0.29	-0.04	-----	-----	-0.49
862	-0.10	0.58	-0.04	-----	-----	-0.39
863	-0.01	0.00	-0.84	-----	-----	-0.22
864	0.07	0.14	-0.24	-----	-----	-0.32
866	0.16	0.72	-0.04	-----	-----	-0.26
870	-0.01	0.14	-0.04	-----	-----	-0.29
871	-0.18	0.72	-1.64	-----	-----	-0.53
872	-----	-----	-----	-----	-----	-----
902	-----	-----	-----	-----	-----	-----
912	-----	-----	-----	-----	-----	-----
913	-----	-----	-----	-----	-----	-----
963	-----	-----	-----	-----	-----	-----
994	-----	-----	-----	-----	-----	-----
1004	-----	-----	-----	-----	-----	-----
1007	-----	-----	-----	-----	-----	-----
1041	-0.39	-0.80	-0.14	-----	-----	0.05
1189	-1.02	-2.91	-4.23	-----	-----	1.76
1237	-1.02	-3.50	-4.43	-----	-----	0.25
1264	-----	-----	-----	-----	-----	-----
1342	-----	-----	-----	-----	-----	-----
1354	-----	-----	-----	-----	-----	-----
1510	0.32	0.43	1.95	-----	-----	-8.67
1656	-----	-----	-----	-----	-----	-----
6070	-0.77	-1.17	0.95	-----	-----	0.83
6201	0.07	-0.44	1.55	-----	-----	-0.43
6209	-----	-----	-----	-----	-----	-----
6210	1.24	0.13	16.64	-----	-----	1.81
6262	-----	-----	-----	-----	-----	-----
6268	-0.10	-0.15	0.95	-----	-----	-0.54
6270	-0.01	0.00	0.75	-----	-----	0.55
6315	-0.18	-0.98	-2.39	-----	-----	0.41
6423	-----	-----	-----	-----	-----	-----
7018	0.28	0.75	0.55	-----	-----	0.24

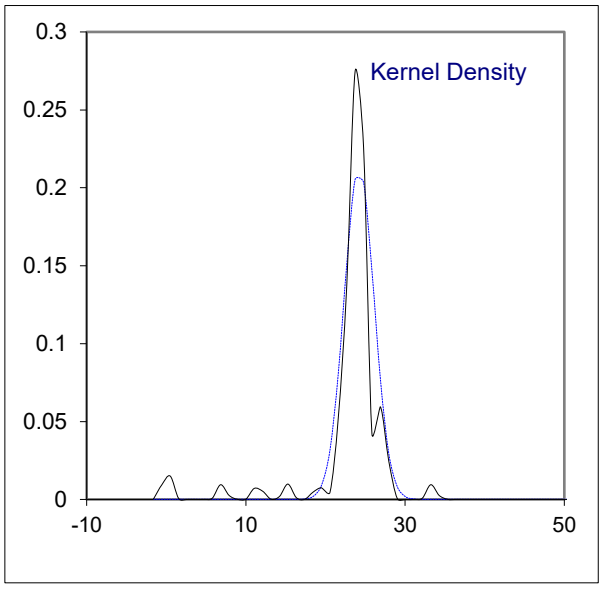
Determination of Nonvolatile matter on sample #21162; results in mg/100 mL

lab	method	value	mark	z(targ)	remarks
53	D1353	24		-0.06	
150	D1353	23.3		-0.25	
171	D1353	21.5		-0.73	
315	D1353	25		0.21	
316		-----		-----	
319	D1353	22.76		-0.39	
323	D1353	27.0		0.74	
333	D1353	24.0		-0.06	
334		-----		-----	
335		-----		-----	
343	D1353	22.2		-0.54	
344	D1353	27.11		0.77	
345	D1353	23.9		-0.09	
346		-----		-----	
347	D1353	22.5		-0.46	
349		-----		-----	
357	D1353	22.8		-0.38	
372	D1353	>0.8		-----	
395		-----		-----	
396	D1353	27.1		0.77	
460	D1353	210	R(0.01)	49.77	
492		-----		-----	
529	D1353	24.3		0.02	
551		-----		-----	
554		-----		-----	
557		-----		-----	
608		-----		-----	
609	D1353	33.4		2.46	
657	D1353	25.5	C	0.34	first reported <1
663		-----		-----	
823	D1353	24.8		0.15	
824	D1353	24.4		0.05	
825	D1353	24.5		0.07	
840	D1353	24.13		-0.02	
848	D1353	24.9		0.18	
849	D1353	22		-0.60	
852	D1353	24.7		0.13	
853	D1353	22.7		-0.41	
855	D1353	24.0		-0.06	
857	D1353	25.1		0.24	
858	D1353	23.0		-0.33	
859	D1353	24.0		-0.06	
860	D1353	23.8		-0.11	
861	D1353	24.6		0.10	
862	D1353	24.9		0.18	
863	D1353	22.55		-0.45	
864	D1353	24.0		-0.06	
866	D1353	23.3		-0.25	
870	D1353	23.8		-0.11	
871	D1353	24.3		0.02	
872		-----		-----	
902	D1353	23.5		-0.19	
912		-----		-----	
913		-----		-----	
963	D1353	25.2		0.26	
970	D1353	27		0.74	
974	D1353	27		0.74	
994	D1353	24		-0.06	
997	D1353	22.7		-0.41	
1004		-----		-----	
1007	D1353	25	C	0.21	first reported 0.025
1009		-----		-----	
1010		-----		-----	
1029		-----		-----	
1041	D1353	24.75		0.14	
1120		-----		-----	
1149	D1353	24.20		-0.01	
1181	D1353	24		-0.06	
1189	D1353	27.2		0.80	
1204	D1353	24.8		0.15	
1237	D1353	24.4		0.05	
1264	D1353	23.8		-0.11	
1342	D1353	23.9		-0.09	
1354		-----		-----	
1465	D1353	23.1		-0.30	

lab	method	value	mark	z(targ)	remarks
1510	D1353	266	R(0.01)	64.77	
1530	D1353	15.2	R(0.01)	-2.42	
1656	D1353	11.5	C,R(0.01)	-3.41	first reported <1
1707	D1353	23.6		-0.17	
1728	D1353	21.8		-0.65	
1862		-----		-----	
1935	D1353	24.1		-0.03	
6008	D1353	21.7		-0.68	
6059	D1353	19.1		-1.37	
6070	D1353	23.6		-0.17	
6132	D1353	23.5		-0.19	
6201	D1353	24.3	C	0.02	first reported 243
6209	D1353	0.2	R(0.01)	-6.44	
6210	D1353	7	R(0.01)	-4.61	
6262	D1353	23.2		-0.27	
6268	D1353	24.3		0.02	
6270	D1353	22.9		-0.35	
6315	D1353	24.9		0.18	
6329	D1353	24.2		-0.01	
6338		-----		-----	
6388	EN15691	0	R(0.01)	-6.49	
6406	D1353	27.7		0.93	
6415	D1353	23.6		-0.17	
6423	D1353	168	R(0.01)	38.52	
7018		-----		-----	

normality	not OK
n	67
outliers	8
mean (n)	24.222
st.dev. (n)	1.8766
R(calc.)	5.254
st.dev.(D1353:13)	3.7328
R(D1353:13)	10.452





APPENDIX 2

Determination of UV Absorbance (10 mm cuvette) on sample #21161, not evaluated

lab	method	300nm	268.5nm	250nm	240nm	230nm	220nm	Pass/Fail
902	IMPCA004	0.0034	0.0124	0.0246	0.0566	0.1291	0.2525	
963	IMPCA004	0.006	0.017	0.036	0.08	0.169	0.305	Pass
1007	IMPCA004	0.003	0.0011	0.025	0.063	0.137	0.261	Pass
1656	IMPCA004	0.0000	0.011	0.046	0.123	0.244	0.378	Pass
6262	IMPCA004	<0.001	0.029	0.090	0.264	0.602	0.630	Pass

APPENDIX 3

Number of participants per country

1 lab in	ALGERIA
1 lab in	AZERBAIJAN
2 labs in	BELGIUM
3 labs in	BRAZIL
3 labs in	CANADA
1 lab in	CHILE
16 labs in	CHINA, People's Republic
1 lab in	ESTONIA
2 labs in	FINLAND
3 labs in	FRANCE
1 lab in	GEORGIA
4 labs in	GERMANY
2 labs in	INDIA
1 lab in	IRAN, Islamic Republic of
2 labs in	ITALY
2 labs in	JAPAN
3 labs in	KOREA, Republic of
4 labs in	MALAYSIA
1 lab in	MEXICO
6 labs in	NETHERLANDS
2 labs in	NEW ZEALAND
1 lab in	NORWAY
1 lab in	OMAN
1 lab in	ROMANIA
2 labs in	RUSSIAN FEDERATION
3 labs in	SAUDI ARABIA
2 labs in	SINGAPORE
1 lab in	SLOVENIA
6 labs in	SPAIN
1 lab in	THAILAND
1 lab in	TRINIDAD and TOBAGO W.I.
2 labs in	TURKEY
1 lab in	UNITED ARAB EMIRATES
4 labs in	UNITED KINGDOM
12 labs in	UNITED STATES OF AMERICA
1 lab in	VENEZUELA
1 lab in	VIETNAM

APPENDIX 4

Abbreviations

C	= final test result after checking of first reported suspect test result
D(0.01)	= outlier in Dixon's outlier test
D(0.05)	= straggler in Dixon's outlier test
G(0.01)	= outlier in Grubbs' outlier test
G(0.05)	= straggler in Grubbs' outlier test
DG(0.01)	= outlier in Double Grubbs' outlier test
DG(0.05)	= straggler in Double Grubbs' outlier test
R(0.01)	= outlier in Rosner's outlier test
R(0.05)	= straggler in Rosner's outlier test
E	= calculation difference between reported test result and result calculated by iis
W	= test result withdrawn on request of participant
ex	= test result excluded from statistical evaluation
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected
fr.	= first reported
f+?	= possibly a false positive test result?
f-?	= possibly a false negative test result?
SDS	= Safety Data Sheet

Literature

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