# Results of Proficiency Test
## PAH in Polymers
## February 2015

Organised by: Institute for Interlaboratory Studies
Spijkenisse, the Netherlands

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# 1 INTRODUCTION

Poly Aromatic Hydrocarbons (PAH) are often, not intentionally, introduced in plastic and rubber with processing additives of plastics and rubber. As essential raw materials of consumer components in articles under REACH, plastics and rubbers PAH risk shall be identified. Enterprises shall strictly monitor PAH in high-risk materials, to ensure that the products comply with regulation requirements and with trust of consumers. As early as 2008, the Board of Technical Work Equipment and Consumer Products (AtAV) of Germany includes 16 types of PAH in GS certification. On December 7, 2013, Regulation (EU) 1272/2013 was published and new PAH requirements have been added under entry 50 of ANNEX XVII of REACH.

Regretfully, no certified reference materials (CRMs) for PAH in polymers are available to optimise the determination of PAH. As an alternative, participation in a proficiency test may enable the laboratories to check their performance and thus to increase this comparability. Therefore, a proficiency testing scheme (laboratory-evaluating interlaboratory study) for the determination of PAH was started by the Institute for Interlaboratory Studies.
In the international interlaboratory study of February 2015, 84 laboratories from 22 different countries participated (See appendix 3). In this report the results of the proficiency test are presented and discussed. This report is also electronically available through the iis internet site ww.iisnl.com.

# 2 SET UP

The Institute for Interlaboratory Studies in Spijkenisse was the organizer of this proficiency test. It was decided to send 1 rubber sample (approximately 3 gram), positive on PAH, and labelled #15009. Participants were requested to report rounded and unrounded test results. These unrounded test results were preferably used for statistical evaluation. The participants were asked to report the analytical results using the indicated units on the report form.

## 2.1 QUALITY SYSTEM

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, has implemented a quality system based on ISO/IEC 17043:2010. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on a regular basis by sending out questionnaires.

## 2.2 PROTOCOL

The protocol followed in the organisation of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3). The protocol can be downloaded from iis website http://www.iisnl.com.

## 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

A suitable rubber, positive on PAH, was obtained from the market via a third party laboratory. Samples of approx. 3 gram were prepared, by cutting it. Six stratified randomly selected samples were tested using an in house test method to check the homogeneity of the batch. See the following table for the test results.

| PAH | n | Average in mg/kg | %RSD |
|---|---|---|---|
| Acenaphthylene | 6 | 11.4 | 3.5 |
| Acenaphthene | 6 | 16.0 | 3.0 |
| Fluorene | 6 | 47.2 | 2.4 |
| Phenanthrene | 6 | 221.2 | 2.8 |
| Anthracene | 6 | 57.0 | 2.9 |
| Fluoranthene | 6 | 208.0 | 2.6 |
| Pyrene | 6 | 168.7 | 2.3 |
| Benzo[a]anthracene | 6 | 102.1 | 1.8 |
| Chrysene | 6 | 105.2 | 2.8 |
| Benzo[b+j]fluoranthene | 6 | 108.6 | 2.9 |
| Benzo[k]fluoranthene | 6 | 32.5 | 4.6 |
| Benzo[e]pyrene | 6 | 6.3 | 2.9 |
| Benzo[a]pyrene | 6 | 80.8 | 3.0 |
| Indeno[123-cd]pyrene | 6 | 58.4 | 2.3 |
| Dibenzo[a,h]anthracene | 6 | 13.0 | 3.0 |
| Benzo[g,h,i]perylene | 6 | 53.0 | 2.5 |

table 1: homogeneity test results of subsamples #15009

For the determination of PAH content an in house method was used. The RSD% is in good agreement with the usual RSD% of the laboratory that performed the homogeneity tests. Therefore, homogeneity of the subsamples was assumed.

Approx. 3 grams of sample #15009 was sent to each of the participating laboratories on January 21, 2015.

### 2.5 ANALYSES

The participants were requested to determine the concentration of 16 PAH, applying the analysis procedure that is routinely used in the laboratory. To get comparable results a detailed report form, on which the unit was prescribed, was sent together with the sample. Also, a letter of instructions was added to the package. The laboratories were also requested to report some of the test conditions that the laboratory has used.

## 3 RESULTS

During four weeks after sample despatch, the results of the individual laboratories were received. The original reported results are tabulated per component in appendix 1 of this report. The laboratories are presented by their code numbers.
Directly after deadline, a reminder fax was sent to those laboratories that had not yet reported any results at that moment.
Shortly after the deadline, the available results were screened for suspect data. A result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the results. Additional or corrected results are used for data analysis and original results are placed under 'Remarks' in the result tables in appendix 1.

### 3.1 STATISTICS

The protocol followed in the organisation of this proficiency test is described in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of April 2014 (iis-protocol, version 3.3).

For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded results. Results reported as '<…' or '>…' were not used in the statistical evaluation.

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

According to ISO 5725 the original results per determination were submitted to Dixon’s and/or Grubbs' and/or Rosner’s outlier tests. Outliers are marked by D(0.01) for the Dixon’s test, by G(0.01) or DG(0.01) for the Grubbs’ test and by R(0.01) for the Rosner’s test (ref. 15). 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. When the uncertainty passed the evaluation no remarks are made in the report. However, when the uncertainty failed the evaluation it is mentioned in the report and it will have consequences for the evaluation of the test results.

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

### 3.2 GRAPHICS

In order to visualise the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported analysis results are plotted. The corresponding laboratory numbers are 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 standard. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle. Furthermore, Kernel Density Graphs were made. This method is for producing a smooth density approximation to a set of data that avoids some problems associated with histograms (see appendix 3; nos.13 and 14). Also a normal Gauss curve was projected over the Kernel Density Graph for reference.

### 3.3 Z-SCORES

To evaluate the performance of the participating laboratories, the z-scores were calculated. As it was decided to evaluate the performance of the participants in this proficiency test (PT) against the literature requirements, e.g. ASTM reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the spread of this interlaboratory study. The target standard deviation was calculated from the literature reproducibility by division with 2.8.

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.

In case no literature reproducibility was available, other target values were used. In some cases literature repeatability is available; in other cases a reproducibility of a former iis proficiency test could be used and also the Horwitz equation can be used to estimate target reproducibility.

The z-scores were calculated according to:

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

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

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

## 4 EVALUATION

During the execution of this proficiency test no reporting problems occurred. Fourteen participants reported the test results after the final reporting date. Five participants did not report any test results. Finally, 78 participants did report 1365 numerical results. Observed were 57 outlying results, which is 4.2% of the numerical results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

A significant number of test results reported by the laboratories 551, 622, 2104, 2139, 2190, 2300, 2390, 2488, 2489, 2532, 3149, 3154, 3163 and 3220 were deviating and/or statistical outliers. As the eighteen individual PAH test results of a laboratory are not independent, it was decided to reject all of the test results of these laboratories for the statistical evaluation.

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

### 4.1 EVALUATION PER COMPONENT

In this section, the results are discussed per sample. All statistical results reported on the foam sample are summarised in appendix 1 and analytical details are summarised in appendix 2.

Regretfully, in the common test method ZEK01.4-08 (and AfPS GS 2014:01) no precision data are mentioned. Neither in any other relevant standard test method for the determination of PAH. The reproducibility requirements based on the Horwitz equation were considered to be too strict to be used as target (see appendix 1). Therefore, the target reproducibility was estimated by calculation of the average RSD% of 17 PAH (naphthalene was not included), after exclusion of the statistical outliers and all other reported test results of the 14 laboratories, as explained above. This could be done because the RSD% of each of the 17 PAH showed a significant similarity. This similarity was also observed during the homogeneity testing.

Therefore, the calculated reproducibility for each PAH was compared with the reproducibility estimated by using the average RSD% of 17 PAH multiplied by 2.8 (17.5%*2.8 ≈ 49%).

Naphthalene: The determination of this PAH at a concentration level of 14.5 mg/kg appears to be very problematic. The test results reported by the participants vary from 0.9 – 35.46 mg/kg. No statistical outliers were observed but fourteen test results were excluded (see above). The observed reproducibility after rejection of the suspect data is not at all in agreement with the estimated target reproducibility. This may (partly) be explained by the volatility of naphthalene.

Acenaphthylene: The determination of this PAH at a concentration level of 7.7 mg/kg appears to be problematic. The test results reported by the participants vary from 2 – 46.5 mg/kg. Three statistical outliers were observed and eleven other test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility.

Acenaphthene: The determination of this PAH at a concentration level of 10.3 mg/kg appears to be problematic. The test results reported by the participants vary from 4.92 – 16.95 mg/kg. No statistical outliers were observed but fourteen test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility.

Fluorene: The determination of this PAH at a concentration level of 32.5 mg/kg may not be problematic. The test results reported by the participants vary from 9.2 – 57.69 mg/kg. Two statistical outliers were observed and twelve other test results were excluded. The observed reproducibility after rejection of the suspect data is in full agreement with the estimated target reproducibility.

Phenanthrene: The determination of this PAH at a concentration level of 188 mg/kg may not be problematic. The test results reported by the participants vary from 57.1 – 281.11 mg/kg. Six statistical outliers were observed and eight other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility.

Anthracene: The determination of this PAH at a concentration level of 46.6 mg/kg may not be problematic. The test results reported by the participants vary from 25.91 – 190.2 mg/kg. One statistical outlier was observed and thirteen other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility.

Fluoranthene: The determination of this PAH at a concentration level of 188 mg/kg may not be problematic. The test results reported by the participants vary from 107 – 270.14 mg/kg. Four statistical outliers were observed and ten other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility.

Pyrene: The determination of this PAH at a concentration level of 149 mg/kg may not be problematic. The test results reported by the participants vary from 80.5 – 213.41 mg/kg. Two statistical outliers were observed and ten other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility.

Benzo[a]anthracene: The determination of this PAH at a concentration level of 82.3 mg/kg may not be problematic. The test results reported by the participants vary from 39.71 – 148 mg/kg. One statistical outlier was observed and fourteen other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility.

Chrysene: The determination of this PAH at a concentration level of 89.9 mg/kg may not be problematic. The test results reported by the participants vary from 42.7 – 612.28 mg/kg. Six statistical outliers were observed and eight other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility.

Benzo[b]fluoranthene: The determination of this PAH at a concentration level of 63.0 mg/kg may not be problematic. The test results reported by the participants vary from 26.17 – 112.18 mg/kg. Six statistical outliers were observed and six other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility (see also “sum of [b], [j] and [k] of Benzofluoranthene”).

Benzo[j]fluoranthene: The determination of this PAH at a concentration level of 27.9 mg/kg may to be problematic. The test results reported by the participants vary from 6.5 – 122.51 mg/kg. Three statistical outliers were observed and seven other test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility (see also “sum of [b], [j] and [k] of Benzofluoranthene”).

Benzo[k]fluoranthene: The determination of this PAH at a concentration level of 26.3 mg/kg appears to be problematic. The test results reported by the participants vary from 11.61 – 380.81 mg/kg. Four statistical outliers were observed and nine other test results were excluded. The observed reproducibility after rejection of the suspect data is not in agreement with the estimated target reproducibility (see also “sum of [b], [j] and [k] of Benzofluoranthene”).

Benzo[e]pyrene: The determination of this PAH at a concentration level of 51.9 mg/kg may not be problematic. The test results reported by the participants vary from 22.93 – 124.96 mg/kg. One statistical outlier was observed and eleven other test results were excluded. The observed reproducibility after rejection of the suspect data is in full agreement with the estimated target reproducibility.

Benzo[a]pyrene: The determination of this PAH at a concentration level of 55.5 mg/kg may not be problematic. The test results reported by the participants vary from 28.09 – 89.03 mg/kg. Four statistical outliers were observed and eleven other test results were excluded. The observed reproducibility after rejection of the suspect data is in good agreement with the estimated target reproducibility.

Indeno[123-cd]pyrene: The determination of this PAH at a concentration level of 35.3 mg/kg may not be problematic. The test results reported by the participants vary from 8.0 – 224.42 mg/kg. Three statistical outliers were observed and ten other test results were excluded. The observed reproducibility after rejection of the suspect data is in full agreement with the estimated target reproducibility.

Dibenzo[a,h]anthracene: The determination of this PAH at a concentration level of 10.1 mg/kg may not be problematic. The test results reported by the participants vary from 4.67 – 64.51 mg/kg. Nine statistical outliers were observed and five other test results were excluded. The observed reproducibility after rejection of the suspect data is in full agreement with the estimated target reproducibility.

Benzo[g,h,i]perylene: The determination of this PAH at a concentration level of 41.9 mg/kg may not be problematic. The test results reported by the participants vary from 20.34 – 65.41 mg/kg. One statistical outlier was observed and twelve other test results were excluded. The observed reproducibility after rejection of the suspect data is in full agreement with the estimated target reproducibility.

Sum of [b],[j],[k]Benzofluoranthene: A number of participants reported the sum of the three Benzofluoranthenes as mentioned in test method ZEK01.4-08. The

summation may not be problematic. The test results reported by the participants vary from 10.374 – 163.8 mg/kg. One statistical outlier was observed and one test result was excluded. The observed reproducibility after rejection of the suspect data is in agreement with the estimated target reproducibility.

### 4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibility as declared by the relevant standard method and the reproducibility as found for the group of participating laboratories.

The number of significant test results, the average result, the calculated reproducibility (standard deviation*2.8) and the estimated target reproducibility are presented in the next table.

| Parameter | unit | n | Average | 2.8 * sd | R(target) |
|---|---|---|---|---|---|
| Naphthalene | mg/kg | 63 | 14.5 | 22.2 | 7.1 |
| Acenaphthylene | mg/kg | 62 | 7.7 | 6.9 | 3.8 |
| Acenaphthene | mg/kg | 64 | 10.30 | 7.4 | 5.0 |
| Fluorene | mg/kg | 64 | 32.5 | 16.5 | 15.9 |
| Phenanthrene | mg/kg | 64 | 188.4 | 62.2 | 92.3 |
| Anthracene | mg/kg | 64 | 46.6 | 20.3 | 22.8 |
| Fluoranthene | mg/kg | 64 | 188.3 | 55.5 | 92.3 |
| Pyrene | mg/kg | 64 | 149.3 | 46.5 | 73.2 |
| Benzo[a]anthracene | mg/kg | 63 | 82.3 | 40.9 | 40.3 |
| Chrysene | mg/kg | 64 | 89.9 | 37.9 | 44.1 |
| Benzo[b]fluoranthene | mg/kg | 54 | 63.0 | 25.1 | 30.8 |
| Benzo[j]fluoranthene | mg/kg | 51 | 27.9 | 17.4 | 13.7 |
| Benzo[k]fluoranthene | mg/kg | 56 | 26.3 | 15.7 | 12.9 |
| Benzo[e]pyrene | mg/kg | 64 | 51.9 | 25.5 | 25.4 |
| Benzo[a]pyrene | mg/kg | 63 | 55.5 | 20.8 | 27.2 |
| Indeno[123-cd]pyrene | mg/kg | 64 | 35.3 | 18.8 | 19.8 |
| Dibenzo[a,h]anthracene | mg/kg | 60 | 10.1 | 4.7 | 5.0 |
| Benzo[g,h,i]perylene | mg/kg | 64 | 41.8 | 19.9 | 20.5 |
| Sum of [b],[j],[k] benzofluoranthene | mg/kg | 8 | 102.6 | 79.2 | 87.1 |

table 3: reproducibility of PAH in sample #15009

Without further statistical calculations, it can be concluded that the group of participating laboratories may have problems with the analysis of PAH in rubber at these levels.
See also the discussion in paragraphs 4.1 and 5.

### 4.3 EVALUATION OF THE TEST METHODS USED

Almost all participants reported to have used ZEK01.4-08 (or AfPS GS 2014:01) as test method. Regretfully no precision data is mentioned in this test method. Therefore an alternative reproducibility was estimated.

## 5 DISCUSSION

A number of different test methods were reported to have been used. Most often “ZEK01.4-08 or AfPS GS 2014:01 (61 laboratories) was mentioned as test method used, followed by in house (11 laboratories). Regretfully no specific details were requested to support the data, therefore it is difficult to judge the performance of each laboratory on this PAH determination especially on the extraction of the PAH from the rubber.

It can be concluded that the observed spread in this interlaboratory study may not be caused by just one critical point in the analysis. Each participating laboratory will have to evaluate its performance in this study and decide about any corrective actions if necessary. Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and the quality of the analytical results.

## APPENDIX 1

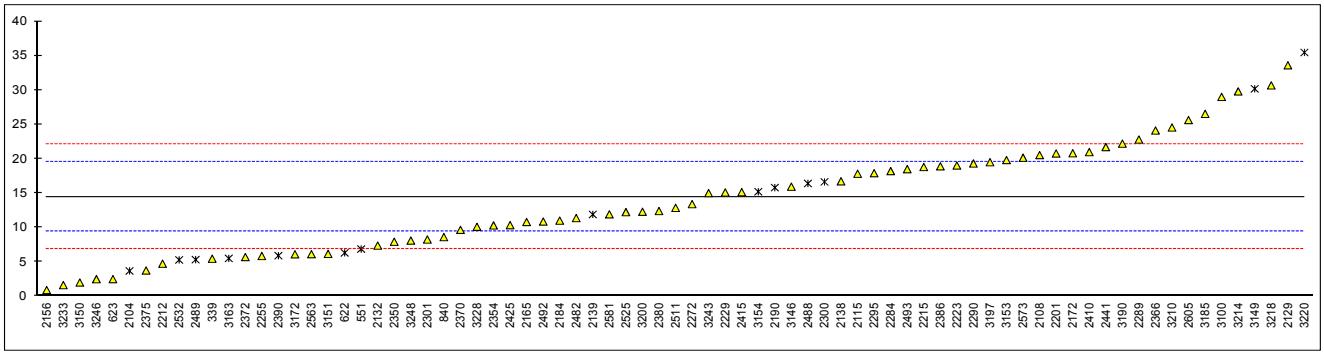
Determination of Naphthalene in sample #15009; results in mg/kg

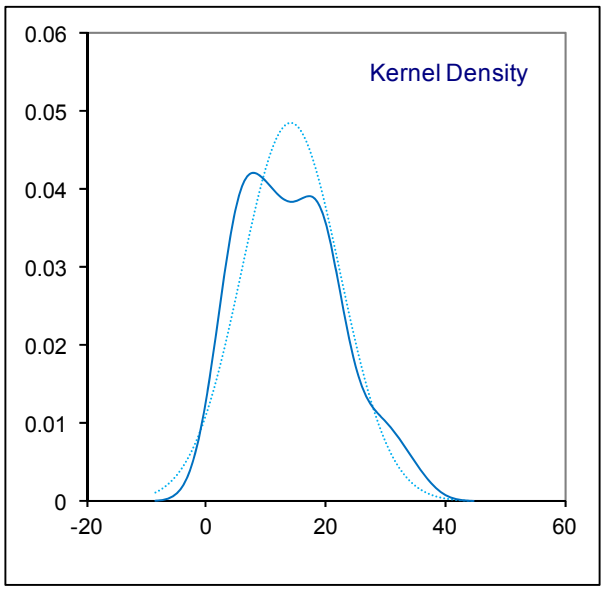
| lab | method | Value | mark | z(targ) | remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 5.462 | | -3.56 | |
| 551 | in house | 6.86 | ex | -3.01 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 6.31 | ex | -3.23 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 2.49 | | -4.73 | |
| 840 | AfPS GS 2014:01 PAK | 8.6 | | -2.32 | |
| 2104 | INH-GCMS | 3.67597 | ex | -4.26 | Result excluded, see §4.1 |
| 2108 | in house | 20.53 | | 2.38 | |
| 2115 | ZEK01.4-08 | 17.82 | | 1.32 | |
| 2129 | INH-505 | 33.60 | | 7.54 | |
| 2132 | ZEK01.4-08 | 7.37 | | -2.81 | |
| 2138 | ZEK01.4-08 | 16.72 | | 0.88 | |
| 2139 | | 11.90 | ex | -1.02 | Result excluded, see §4.1 |
| 2156 | ZEK01.4-08 | 0.9 | | -5.36 | |
| 2165 | ZEK01.4-08 | 10.8 | | -1.45 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 20.8 | | 2.49 | |
| 2184 | ZEK01.4-08 | 11 | | -1.37 | |
| 2190 | ZEK01.4-08 | 15.8 | ex | 0.52 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 20.77 | | 2.48 | |
| 2212 | ZEK01.4-08 | 4.73 | | -3.85 | |
| 2215 | ZEK01.4-08 | 18.8 | | 1.70 | |
| 2223 | INH-48001 | 19.02 | | 1.79 | |
| 2229 | ZEK01.4-08 | 15.10 | | 0.24 | |
| 2255 | ZEK01.4-08 | 5.85 | | -3.41 | |
| 2272 | ISO/TS16190 | 13.4 | C | -0.43 | First reported 0.799 |
| 2284 | AfPS GS 2014:01 PAK | 18.20 | | 1.47 | |
| 2289 | ZEK01.4-08 | 22.8 | | 3.28 | |
| 2290 | ZEK01.4-08 | 19.312 | | 1.90 | |
| 2295 | ZEK01-08 | 17.9 | | 1.35 | |
| 2300 | in house | 16.63 | ex | 0.85 | Result excluded, see §4.1 |
| 2301 | LFGB | 8.252 | | -2.46 | |
| 2350 | ZEK01.4-08 | 7.92587 | | -2.59 | |
| 2354 | ZEK01.4-08 | 10.30 | | -1.65 | |
| 2366 | ZEK01.4-08 | 24.11 | | 3.80 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 9.66 | | -1.90 | |
| 2372 | ZEK01.4-08 | 5.696 | | -3.47 | |
| 2375 | ZEK01.4-08 | 3.74 | | -4.24 | |
| 2380 | ZEK01.4-08 | 12.39 | | -0.83 | |
| 2386 | ZEK01.4-08 | 18.9 | | 1.74 | |
| 2390 | ZEK01.4-08 | 5.8951 | ex | -3.39 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 20.97 | | 2.56 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 15.14 | | 0.26 | |
| 2425 | ZEK01.4-08 | 10.34 | | -1.64 | |
| 2441 | ZEK01.4-08 | 21.7 | | 2.85 | |
| 2482 | ZEK01.4-08 | 11.37 | | -1.23 | |
| 2488 | ZEK | 16.4043 | ex | 0.76 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 5.320 | ex | -3.62 | Result excluded, see §4.1 |
| 2492 | in house | 10.868 | | -1.43 | |
| 2493 | ZEK01.2-08 | 18.49 | | 1.58 | |
| 2494 | | ----- | | ----- | |
| 2511 | ZEK01.4-08 | 12.86 | | -0.64 | |
| 2525 | ZEK01.4-08 | 12.23 | | -0.89 | |
| 2532 | ZEK01.4-08 | 5.284 | ex | -3.63 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 6.12 | | -3.30 | |
| 2573 | ZEK | 20.148 | | 2.23 | |
| 2581 | ZEK01.4-08 | 11.9125 | | -1.01 | |
| 2605 | ZEK01.4-08 | 25.63 | | 4.40 | |
| 3100 | AfPS GS 2014:01 | 29.0 | | 5.73 | |
| 3146 | AfPS GS 2014:01 | 15.94 | | 0.57 | |
| 3149 | ZEK01.4-08 | 30.18 | ex | 6.19 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 2.00 | | -4.93 | |
| 3151 | ZEK01.4-08 | 6.16 | | -3.28 | |
| 3153 | ZEK01.4-08 | 19.81 | | 2.10 | |
| 3154 | ZEK01.4-08 | 15.20 | ex | 0.28 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 5.5 | ex | -3.54 | Result excluded, see §4.1 |
| 3172 | ZEK | 6.10 | | -3.31 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 26.53 | | 4.75 | |
| 3190 | ZEK01.4-08 | 22.20 | | 3.04 | |
| 3197 | ZEK | 19.50 | | 1.98 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 12.29 | | -0.87 | |
| 3210 | CEN/TC309 | 24.55 | | 3.97 | |
| 3214 | ZEK01.4-08 | 29.8 | | 6.04 | |
| 3218 | AfPS GS 2014:01 PAK | 30.67 | | 6.38 | |
| 3220 | ZEK01.4-08 | 35.46 | ex | 8.27 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 10.1 | | -1.73 | |
| 3233 | in house | 1.62 | | -5.08 | |
| 3243 | INH-GC/MS | 15 | | 0.20 | |
| 3246 | ZEK01.4-08 | 2.48 | | -4.74 | |
| 3248 | ZEK01.4-08 | 8.1 | | -2.52 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 63 |
| | outliers | 0 (+14excl) |
| | mean (n) | 14.485 |
| | st.dev. (n) | 7.9399 |
| | R(calc.) | 22.232 |
| | R(target) | 7.098 |

Compare R(Horwitz) = 4.340



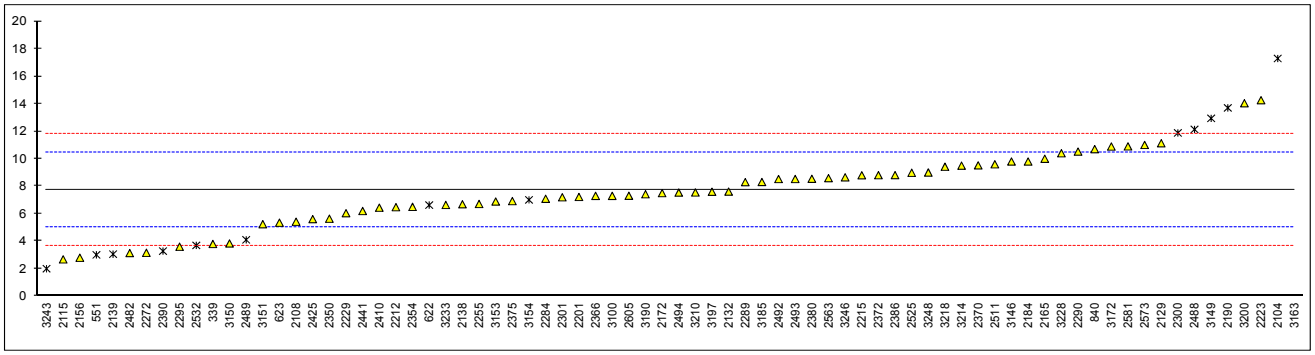
## Determination of Acenaphthylene in sample #15009; results in mg/kg

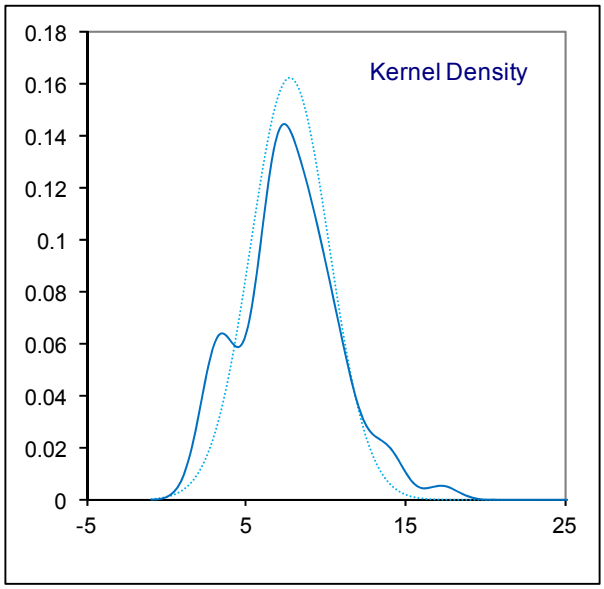
| lab | method | value | mark | z(targ) | remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 3.802 | | -2.91 | |
| 551 | in house | 3.01 | ex | -3.49 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 6.63 | ex | -0.82 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 5.35 | | -1.76 | |
| 840 | AfPS GS 2014:01 PAK | 10.7 | | 2.19 | |
| 2104 | INH-GCMS | 17.29200 | R(0.01) | 7.06 | |
| 2108 | in house | 5.42 | | -1.71 | |
| 2115 | ZEK01.4-08 | 2.68 | | -3.74 | |
| 2129 | INH-505 | 11.13 | | 2.51 | |
| 2132 | ZEK01.4-08 | 7.61 | | -0.09 | |
| 2138 | ZEK01.4-08 | 6.69 | | -0.77 | |
| 2139 | | 3.06 | C,ex | -3.45 | First reported 0.61. Result excluded, see §4.1 |
| 2156 | ZEK01.4-08 | 2.8 | | -3.65 | |
| 2165 | ZEK01.4-08 | 10.0 | | 1.67 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 7.50 | | -0.18 | |
| 2184 | ZEK01.4-08 | 9.8 | | 1.52 | |
| 2190 | ZEK01.4-08 | 13.7 | ex | 4.40 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 7.22 | | -0.38 | |
| 2212 | ZEK01.4-08 | 6.48 | | -0.93 | |
| 2215 | ZEK01.4-08 | 8.8 | | 0.78 | |
| 2223 | INH-48001 | 14.26 | | 4.82 | |
| 2229 | ZEK01.4-08 | 6.04 | | -1.25 | |
| 2255 | ZEK01.4-08 | 6.71 | | -0.76 | |
| 2272 | ISO/TS16190 | 3.160 | | -3.38 | |
| 2284 | AfPS GS 2014:01 PAK | 7.09 | | -0.48 | |
| 2289 | ZEK01.4-08 | 8.3 | | 0.42 | |
| 2290 | ZEK01.4-08 | 10.523 | | 2.06 | |
| 2295 | ZEK01-08 | 3.6 | | -3.06 | |
| 2300 | in house | 11.88 | ex | 3.06 | Result excluded, see §4.1 |
| 2301 | LFGB | 7.196 | | -0.40 | |
| 2350 | ZEK01.4-08 | 5.6388 | | -1.55 | |
| 2354 | ZEK01.4-08 | 6.50 | | -0.91 | |
| 2366 | ZEK01.4-08 | 7.30 | | -0.32 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 9.52 | | 1.32 | |
| 2372 | ZEK01.4-08 | 8.803 | | 0.79 | |
| 2375 | ZEK01.4-08 | 6.92 | | -0.60 | |
| 2380 | ZEK01.4-08 | 8.542 | | 0.59 | |
| 2386 | ZEK01.4-08 | 8.81 | | 0.79 | |
| 2390 | ZEK01.4-08 | 3.2827 | ex | -3.29 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 6.44 | | -0.96 | |
| 2413 | | ----- | | ----- | |
| 2415 | | ----- | | ----- | |
| 2425 | ZEK01.4-08 | 5.61 | | -1.57 | |
| 2441 | ZEK01.4-08 | 6.20 | | -1.14 | |
| 2482 | ZEK01.4-08 | 3.14 | | -3.40 | |
| 2488 | ZEK | 12.1335 | ex | 3.25 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 4.102 | ex | -2.69 | Result excluded, see §4.1 |
| 2492 | in house | 8.524 | | 0.58 | |
| 2493 | ZEK01.2-08 | 8.529 | | 0.58 | |
| 2494 | ZEK01.4-08 | 7.54 | | -0.15 | |
| 2511 | ZEK01.4-08 | 9.599 | | 1.37 | |
| 2525 | ZEK01.4-08 | 8.98 | | 0.92 | |
| 2532 | ZEK01.4-08 | 3.697 | ex | -2.98 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 8.59 | | 0.63 | |
| 2573 | ZEK | 11.004 | | 2.41 | |
| 2581 | ZEK01.4-08 | 10.8997 | | 2.33 | |
| 2605 | ZEK01.4-08 | 7.31 | | -0.32 | |
| 3100 | AfPS GS 2014:01 | 7.3 | | -0.32 | |
| 3146 | AfPS GS 2014:01 | 9.799 | | 1.52 | |
| 3149 | ZEK01.4-08 | 12.94 | ex | 3.84 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 3.84 | | -2.88 | |
| 3151 | ZEK01.4-08 | 5.24 | | -1.84 | |
| 3153 | ZEK01.4-08 | 6.89 | | -0.63 | |
| 3154 | ZEK01.4-08 | 7.01 | ex | -0.54 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 46.5 | R(0.01) | 28.63 | |
| 3172 | ZEK | 10.89 | | 2.33 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 8.31 | | 0.42 | |
| 3190 | ZEK01.4-08 | 7.42 | | -0.23 | |
| 3197 | ZEK | 7.60 | | -0.10 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 14.04 | | 4.65 | |
| 3210 | CEN/TC309 | 7.55 | | -0.14 | |
| 3214 | ZEK01.4-08 | 9.5 | | 1.30 | |
| 3218 | AfPS GS 2014:01 PAK | 9.42 | | 1.24 | |
| 3220 | ZEK01.4-08 | n.d. | ex | ----- | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 10.4 | | 1.97 | |
| 3233 | in house | 6.64 | | -0.81 | |
| 3243 | INH-GC/MS | 2 | R(0.01) | -4.24 | |
| 3246 | ZEK01.4-08 | 8.65 | | 0.67 | |
| 3248 | ZEK01.4-08 | 9.0 | | 0.93 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 62 |
| | outliers | 3 (+11excl) |
| | mean (n) | 7.738 |
| | st.dev. (n) | 2.4546 |
| | R(calc.) | 6.873 |
| | R(target) | 3.792 |

Compare R(Horwitz) = 2.548



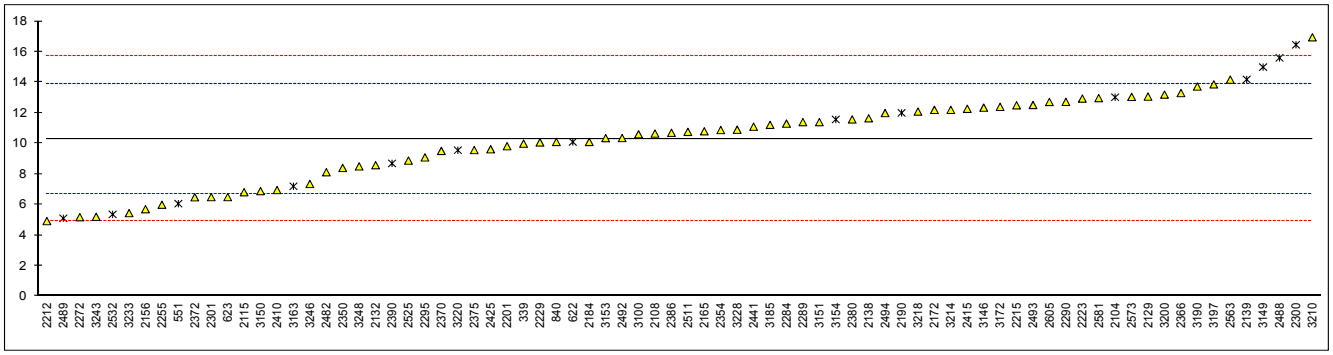
## Determination of Acenaphthene in sample #15009; results in mg/kg

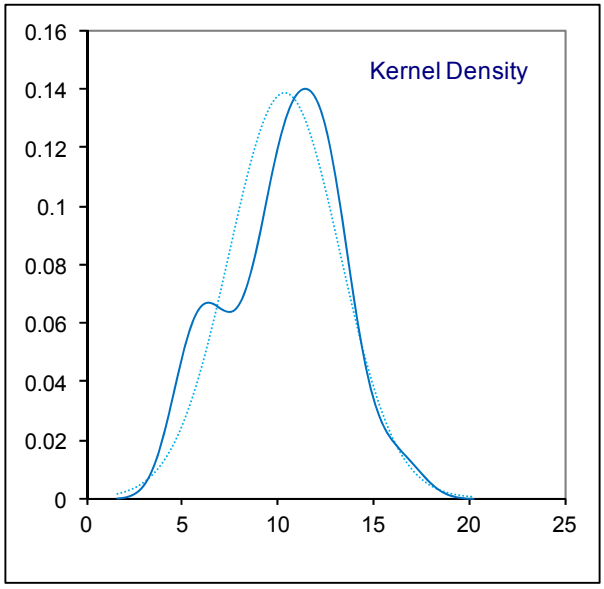
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 9.991 | C | -0.17 | First reported 0.991 |
| 551 | in house | 6.06 | ex | -2.35 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 10.10 | ex | -0.11 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 6.49 | | -2.11 | |
| 840 | AfPS GS 2014:01 PAK | 10.1 | | -0.11 | |
| 2104 | INH-GCMS | 13.02613 | ex | 1.51 | Result excluded, see §4.1 |
| 2108 | in house | 10.65 | | 0.20 | |
| 2115 | ZEK01.4-08 | 6.81 | | -1.94 | |
| 2129 | INH-505 | 13.07 | | 1.54 | |
| 2132 | ZEK01.4-08 | 8.58 | | -0.95 | |
| 2138 | ZEK01.4-08 | 11.65 | | 0.75 | |
| 2139 | | 14.19 | C,ex | 2.16 | First reported 2.84. Result excluded, see §4.1 |
| 2156 | ZEK01.4-08 | 5.7 | | -2.55 | |
| 2165 | ZEK01.4-08 | 10.8 | | 0.28 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 12.2 | | 1.06 | |
| 2184 | ZEK01.4-08 | 10.1 | | -0.11 | |
| 2190 | ZEK01.4-08 | 12.0 | ex | 0.94 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 9.82 | | -0.27 | |
| 2212 | ZEK01.4-08 | 4.92 | | -2.98 | |
| 2215 | ZEK01.4-08 | 12.5 | | 1.22 | |
| 2223 | INH-48001 | 12.94 | | 1.47 | |
| 2229 | ZEK01.4-08 | 10.07 | | -0.13 | |
| 2255 | ZEK01.4-08 | 5.99 | | -2.39 | |
| 2272 | ISO/TS16190 | 5.176 | | -2.84 | |
| 2284 | AfPS GS 2014:01 PAK | 11.30 | | 0.56 | |
| 2289 | ZEK01.4-08 | 11.4 | | 0.61 | |
| 2290 | ZEK01.4-08 | 12.723 | | 1.35 | |
| 2295 | ZEK01-08 | 9.09 | | -0.67 | |
| 2300 | in house | 16.46 | ex | 3.42 | Result excluded, see §4.1 |
| 2301 | LFGB | 6.49 | | -2.11 | |
| 2350 | ZEK01.4-08 | 8.39905 | | -1.05 | |
| 2354 | ZEK01.4-08 | 10.88 | | 0.32 | |
| 2366 | ZEK01.4-08 | 13.30 | | 1.67 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 9.51 | | -0.44 | |
| 2372 | ZEK01.4-08 | 6.477 | | -2.12 | |
| 2375 | ZEK01.4-08 | 9.57 | | -0.40 | |
| 2380 | ZEK01.4-08 | 11.576 | | 0.71 | |
| 2386 | ZEK01.4-08 | 10.7 | | 0.22 | |
| 2390 | ZEK01.4-08 | 8.6959 | ex | -0.89 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 6.95 | | -1.86 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 12.27 | | 1.09 | |
| 2425 | ZEK01.4-08 | 9.62 | | -0.38 | |
| 2441 | ZEK01.4-08 | 11.1 | | 0.44 | |
| 2482 | ZEK01.4-08 | 8.12 | | -1.21 | |
| 2488 | ZEK | 15.6056 | ex | 2.94 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 5.104 | ex | -2.88 | Result excluded, see §4.1 |
| 2492 | in house | 10.354 | | 0.03 | |
| 2493 | ZEK01.2-08 | 12.52 | | 1.23 | |
| 2494 | ZEK01.4-08 | 11.99 | | 0.94 | |
| 2511 | ZEK01.4-08 | 10.761 | | 0.26 | |
| 2525 | ZEK01.4-08 | 8.88 | | -0.79 | |
| 2532 | ZEK01.4-08 | 5.36 | ex | -2.74 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 14.18 | | 2.15 | |
| 2573 | ZEK | 13.051 | | 1.53 | |
| 2581 | ZEK01.4-08 | 12.9714 | | 1.48 | |
| 2605 | ZEK01.4-08 | 12.72 | | 1.34 | |
| 3100 | AfPS GS 2014:01 | 10.6 | | 0.17 | |
| 3146 | AfPS GS 2014:01 | 12.345 | | 1.14 | |
| 3149 | ZEK01.4-08 | 15.00 | ex | 2.61 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 6.88 | | -1.90 | |
| 3151 | ZEK01.4-08 | 11.4 | | 0.61 | |
| 3153 | ZEK01.4-08 | 10.35 | | 0.03 | |
| 3154 | ZEK01.4-08 | 11.57 | ex | 0.71 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 7.2 | ex | -1.72 | Result excluded, see §4.1 |
| 3172 | ZEK | 12.40 | | 1.17 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 11.22 | | 0.51 | |
| 3190 | ZEK01.4-08 | 13.73 | | 1.90 | |
| 3197 | ZEK | 13.87 | | 1.98 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 13.20 | | 1.61 | |
| 3210 | CEN/TC309 | 16.95 | | 3.69 | |
| 3214 | ZEK01.4-08 | 12.2 | | 1.06 | |
| 3218 | AfPS GS 2014:01 PAK | 12.09 | | 0.99 | |
| 3220 | ZEK01.4-08 | 9.56 | ex | -0.41 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 10.9 | | 0.33 | |
| 3233 | in house | 5.44 | | -2.70 | |
| 3243 | INH-GC/MS | 5.2 | | -2.83 | |
| 3246 | ZEK01.4-08 | 7.35 | | -1.64 | |
| 3248 | ZEK01.4-08 | 8.5 | | -1.00 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 0 (+14excl) |
| | mean (n) | 10.298 |
| | st.dev. (n) | 2.6422 |
| | R(calc.) | 7.398 |
| | R(target) | 5.046 |

Compare R(Horwitz) = 3.248



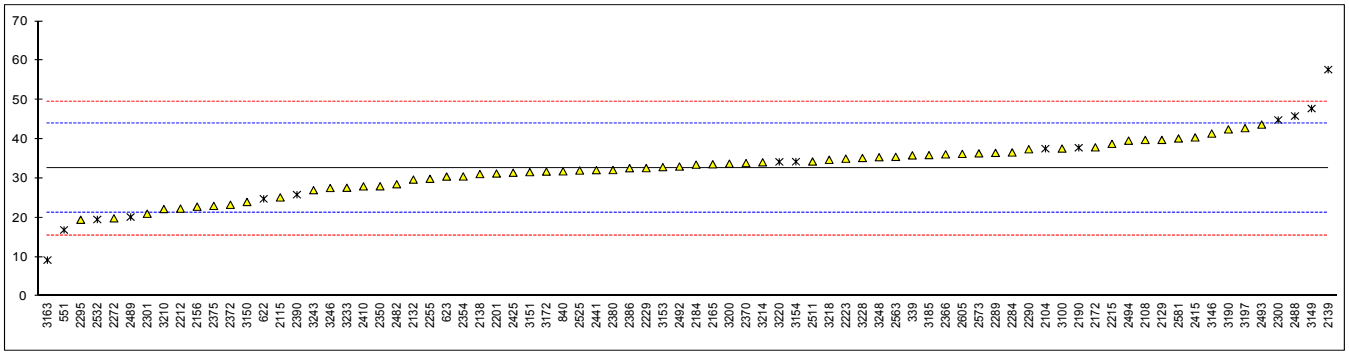
## Determination of Fluorene in sample #15009; results in mg/kg

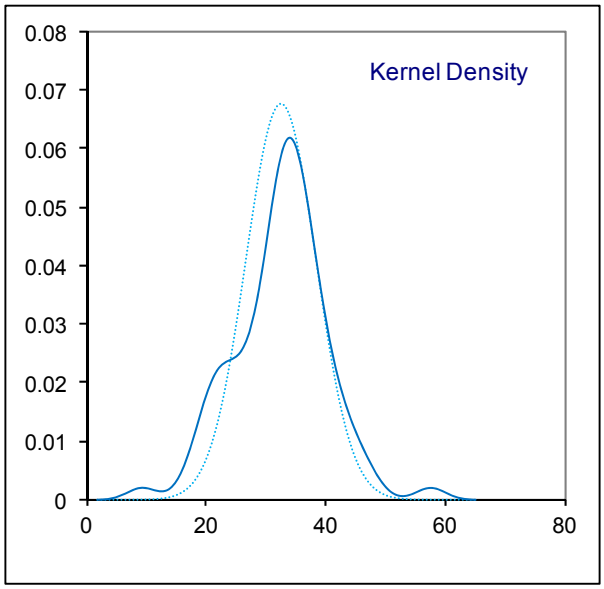
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 35.859 | | 0.59 | |
| 551 | in house | 16.87 | ex | -2.75 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 24.79 | ex | -1.36 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 30.47 | | -0.36 | |
| 840 | AfPS GS 2014:01 PAK | 31.8 | | -0.13 | |
| 2104 | INH-GCMS | 37.56189 | ex | 0.89 | Result excluded, see §4.1 |
| 2108 | in house | 39.79 | | 1.28 | |
| 2115 | ZEK01.4-08 | 25.16 | | -1.29 | |
| 2129 | INH-505 | 39.80 | | 1.28 | |
| 2132 | ZEK01.4-08 | 29.70 | | -0.49 | |
| 2138 | ZEK01.4-08 | 31.10 | | -0.25 | |
| 2139 | | 57.69 | C,R(0.05) | 4.42 | First reported 11.54 |
| 2156 | ZEK01.4-08 | 22.8 | | -1.71 | |
| 2165 | ZEK01.4-08 | 33.6 | | 0.19 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 37.9 | | 0.95 | |
| 2184 | ZEK01.4-08 | 33.5 | | 0.17 | |
| 2190 | ZEK01.4-08 | 37.8 | ex | 0.93 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 31.25 | | -0.22 | |
| 2212 | ZEK01.4-08 | 22.30 | | -1.80 | |
| 2215 | ZEK01.4-08 | 38.8 | | 1.10 | |
| 2223 | INH-48001 | 35.02 | | 0.44 | |
| 2229 | ZEK01.4-08 | 32.62 | | 0.02 | |
| 2255 | ZEK01.4-08 | 29.9 | | -0.46 | |
| 2272 | ISO/TS16190 | 19.835 | | -2.23 | |
| 2284 | AfPS GS 2014:01 PAK | 36.60 | | 0.72 | |
| 2289 | ZEK01.4-08 | 36.5 | | 0.70 | |
| 2290 | ZEK01.4-08 | 37.422 | | 0.86 | |
| 2295 | ZEK01-08 | 19.47 | | -2.29 | |
| 2300 | in house | 44.86 | ex | 2.17 | Result excluded, see §4.1 |
| 2301 | LFGB | 21.004 | | -2.02 | |
| 2350 | ZEK01.4-08 | 27.9968 | | -0.79 | |
| 2354 | ZEK01.4-08 | 30.49 | | -0.36 | |
| 2366 | ZEK01.4-08 | 36.12 | | 0.63 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 33.9 | | 0.24 | |
| 2372 | ZEK01.4-08 | 23.29 | | -1.62 | |
| 2375 | ZEK01.4-08 | 23.00 | | -1.67 | |
| 2380 | ZEK01.4-08 | 32.12 | | -0.07 | |
| 2386 | ZEK01.4-08 | 32.6 | | 0.01 | |
| 2390 | ZEK01.4-08 | 25.8438 | ex | -1.17 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 27.97 | | -0.80 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 40.43 | | 1.39 | |
| 2425 | ZEK01.4-08 | 31.45 | | -0.19 | |
| 2441 | ZEK01.4-08 | 32.1 | | -0.07 | |
| 2482 | ZEK01.4-08 | 28.51 | | -0.70 | |
| 2488 | ZEK | 45.8741 | C,ex | 2.35 | First reported 57.3347. Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 20.160 | ex | -2.17 | Result excluded, see §4.1 |
| 2492 | in house | 33.013 | | 0.09 | |
| 2493 | ZEK01.2-08 | 43.70 | | 1.97 | |
| 2494 | ZEK01.4-08 | 39.61 | | 1.25 | |
| 2511 | ZEK01.4-08 | 34.296 | | 0.31 | |
| 2525 | ZEK01.4-08 | 32.01 | | -0.09 | |
| 2532 | ZEK01.4-08 | 19.54 | ex | -2.28 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 35.49 | | 0.52 | |
| 2573 | ZEK | 36.382 | | 0.68 | |
| 2581 | ZEK01.4-08 | 40.1740 | | 1.35 | |
| 2605 | ZEK01.4-08 | 36.23 | | 0.65 | |
| 3100 | AfPS GS 2014:01 | 37.6 | | 0.89 | |
| 3146 | AfPS GS 2014:01 | 41.42 | | 1.56 | |
| 3149 | ZEK01.4-08 | 47.78 | ex | 2.68 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 24.0 | | -1.50 | |
| 3151 | ZEK01.4-08 | 31.6 | | -0.16 | |
| 3153 | ZEK01.4-08 | 32.88 | | 0.06 | |
| 3154 | ZEK01.4-08 | 34.25 | ex | 0.30 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 9.2 | R(0.05) | -4.10 | |
| 3172 | ZEK | 31.73 | | -0.14 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 35.93 | | 0.60 | |
| 3190 | ZEK01.4-08 | 42.48 | | 1.75 | |
| 3197 | ZEK | 42.80 | | 1.81 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 33.74 | | 0.21 | |
| 3210 | CEN/TC309 | 22.20 | | -1.81 | |
| 3214 | ZEK01.4-08 | 34.1 | | 0.28 | |
| 3218 | AfPS GS 2014:01 PAK | 34.73 | | 0.39 | |
| 3220 | ZEK01.4-08 | 34.2 | C,ex | 0.30 | First reported 72.51. Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 35.2 | | 0.47 | |
| 3233 | in house | 27.62 | | -0.86 | |
| 3243 | INH-GC/MS | 27 | | -0.97 | |
| 3246 | ZEK01.4-08 | 27.55 | | -0.87 | |
| 3248 | ZEK01.4-08 | 35.4 | | 0.51 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 2 (+12excl) |
| | mean (n) | 32.517 |
| | st.dev. (n) | 5.8922 |
| | R(calc.) | 16.498 |
| | R(target) | 15.933 |

Compare R(Horwitz) = 8.626



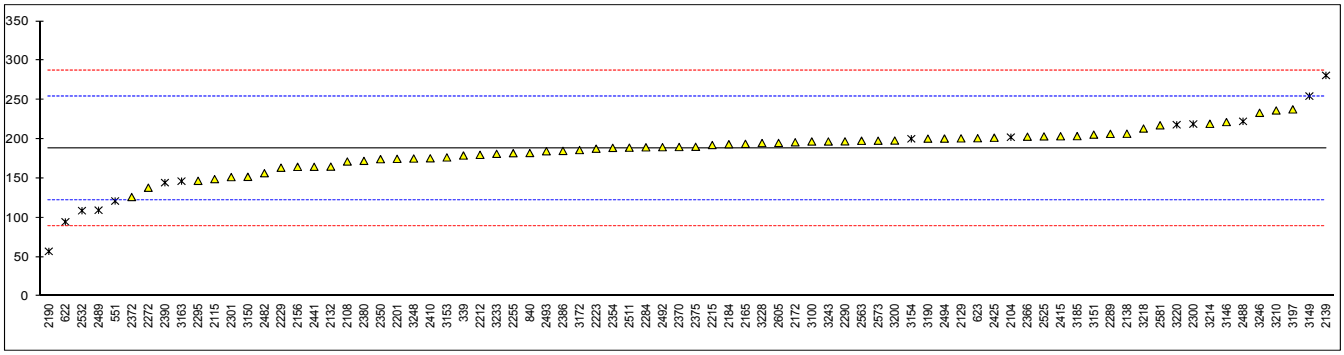
## Determination of Phenanthrene in sample #15009; results in mg/kg

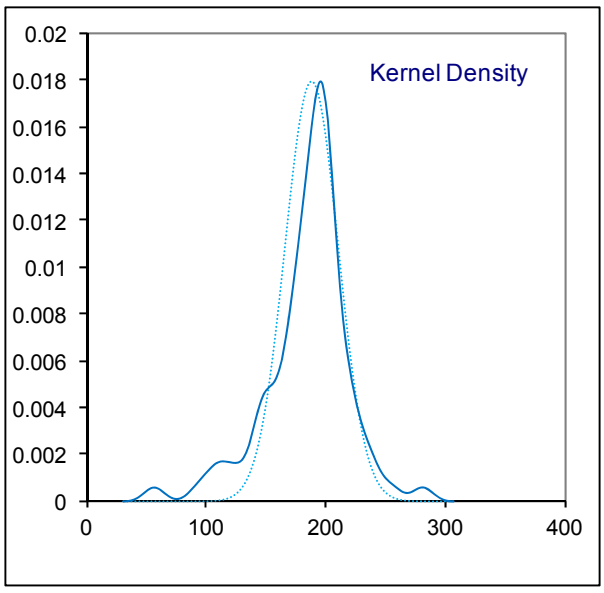
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 179.13 | | -0.28 | |
| 551 | in house | 121.21 | ex | -2.04 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 94.62 | C,R(0.01) | -2.84 | First reported 65.04 |
| 623 | AfPS GS 2014:01 PAK | 201.12 | | 0.39 | |
| 840 | AfPS GS 2014:01 PAK | 182.3 | | -0.18 | |
| 2104 | INH-GCMS | 202.35609 | ex | 0.42 | Result excluded, see §4.1 |
| 2108 | in house | 171.51 | | -0.51 | |
| 2115 | ZEK01.4-08 | 149.08 | | -1.19 | |
| 2129 | INH-505 | 200.93 | | 0.38 | |
| 2132 | ZEK01.4-08 | 165.00 | | -0.71 | |
| 2138 | ZEK01.4-08 | 206.85 | | 0.56 | |
| 2139 | | 281.11 | C,R(0.01) | 2.81 | First reported 56.22 |
| 2156 | ZEK01.4-08 | 164.7 | | -0.72 | |
| 2165 | ZEK01.4-08 | 194 | | 0.17 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 196 | | 0.23 | |
| 2184 | ZEK01.4-08 | 193.5 | | 0.16 | |
| 2190 | ZEK01.4-08 | 57.1 | R(0.01) | -3.98 | |
| 2201 | ZEK01.4-08 | 174.92 | | -0.41 | |
| 2212 | ZEK01.4-08 | 180.0 | | -0.25 | |
| 2215 | ZEK01.4-08 | 192.5 | | 0.13 | |
| 2223 | INH-48001 | 187.8 | | -0.02 | |
| 2229 | ZEK01.4-08 | 163.62 | | -0.75 | |
| 2255 | ZEK01.4-08 | 182.1 | | -0.19 | |
| 2272 | ISO/TS16190 | 138.150 | | -1.52 | |
| 2284 | AfPS GS 2014:01 PAK | 189.60 | | 0.04 | |
| 2289 | ZEK01.4-08 | 206.7 | | 0.56 | |
| 2290 | ZEK01.4-08 | 197.144 | | 0.27 | |
| 2295 | ZEK01-08 | 146.9 | | -1.26 | |
| 2300 | in house | 219.25 | ex | 0.94 | Result excluded, see §4.1 |
| 2301 | LFGB | 151.68 | | -1.11 | |
| 2350 | ZEK01.4-08 | 174.487 | | -0.42 | |
| 2354 | ZEK01.4-08 | 188.88 | | 0.02 | |
| 2366 | ZEK01.4-08 | 203.08 | | 0.45 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 190 | | 0.05 | |
| 2372 | ZEK01.4-08 | 126.3 | | -1.88 | |
| 2375 | ZEK01.4-08 | 190.26 | | 0.06 | |
| 2380 | ZEK01.4-08 | 172.31 | | -0.49 | |
| 2386 | ZEK01.4-08 | 185 | | -0.10 | |
| 2390 | ZEK01.4-08 | 144.5684 | ex | -1.33 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 175.59 | | -0.39 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 203.62 | | 0.46 | |
| 2425 | ZEK01.4-08 | 201.81 | | 0.41 | |
| 2441 | ZEK01.4-08 | 164.8 | | -0.71 | |
| 2482 | ZEK01.4-08 | 156.60 | | -0.96 | |
| 2488 | ZEK | 222.6148 | ex | 1.04 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 109.50 | R(0.01) | -2.39 | |
| 2492 | in house | 189.798 | | 0.04 | |
| 2493 | ZEK01.2-08 | 184.6 | | -0.11 | |
| 2494 | ZEK01.4-08 | 200.69 | C | 0.37 | First reported 256.40 |
| 2511 | ZEK01.4-08 | 189.098 | | 0.02 | |
| 2525 | ZEK01.4-08 | 203.49 | | 0.46 | |
| 2532 | ZEK01.4-08 | 108.87 | R(0.01) | -2.41 | |
| 2563 | ZEK01.4-08 | 197.93 | | 0.29 | |
| 2573 | ZEK | 197.985 | | 0.29 | |
| 2581 | ZEK01.4-08 | 217.5896 | | 0.89 | |
| 2605 | ZEK01.4-08 | 195.14 | | 0.21 | |
| 3100 | AfPS GS 2014:01 | 197 | | 0.26 | |
| 3146 | AfPS GS 2014:01 | 221.7 | | 1.01 | |
| 3149 | ZEK01.4-08 | 254.73 | C,R(0.01) | 2.01 | First reported 260.44 |
| 3150 | DIN15527 | 152 | | -1.10 | |
| 3151 | ZEK01.4-08 | 205.7 | | 0.53 | |
| 3153 | ZEK01.4-08 | 176.71 | | -0.35 | |
| 3154 | ZEK01.4-08 | 200.41 | ex | 0.37 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 146.5 | ex | -1.27 | Result excluded, see §4.1 |
| 3172 | ZEK | 186.11 | | -0.07 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 203.8 | | 0.47 | |
| 3190 | ZEK01.4-08 | 200.65 | | 0.37 | |
| 3197 | ZEK | 237.85 | | 1.50 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 198.21 | | 0.30 | |
| 3210 | CEN/TC309 | 236.5 | | 1.46 | |
| 3214 | ZEK01.4-08 | 219.5 | | 0.94 | |
| 3218 | AfPS GS 2014:01 PAK | 213.48 | | 0.76 | |
| 3220 | ZEK01.4-08 | 218.3 | ex | 0.91 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 195 | | 0.20 | |
| 3233 | in house | 181.25 | | -0.22 | |
| 3243 | INH-GC/MS | 197 | | 0.26 | |
| 3246 | ZEK01.4-08 | 233.49 | | 1.37 | |
| 3248 | ZEK01.4-08 | 175.3 | | -0.40 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 6 (+8 excl) |
| | mean (n) | 188.368 |
| | st.dev. (n) | 22.2155 |
| | R(calc.) | 62.203 |
| | R(target) | 92.300 |

Compare R(Horwitz) = 38.359



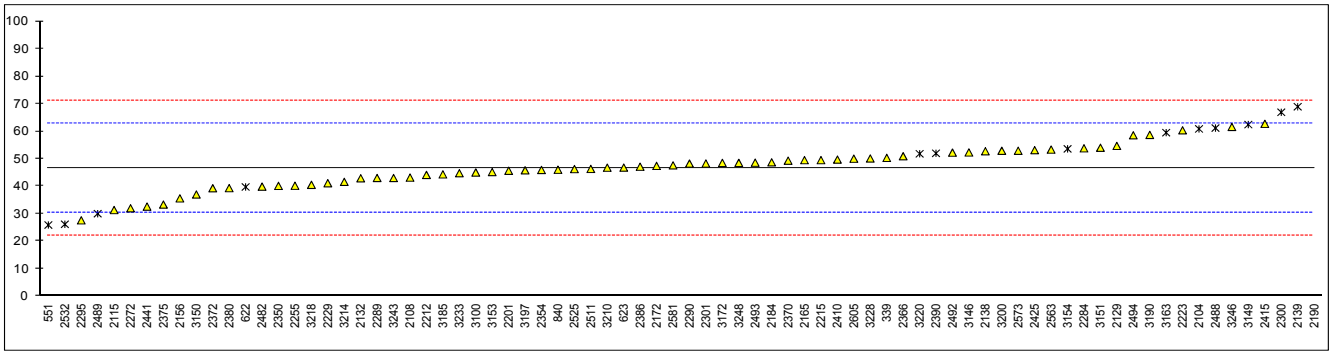
## Determination of Anthracene in sample #15009; results in mg/kg

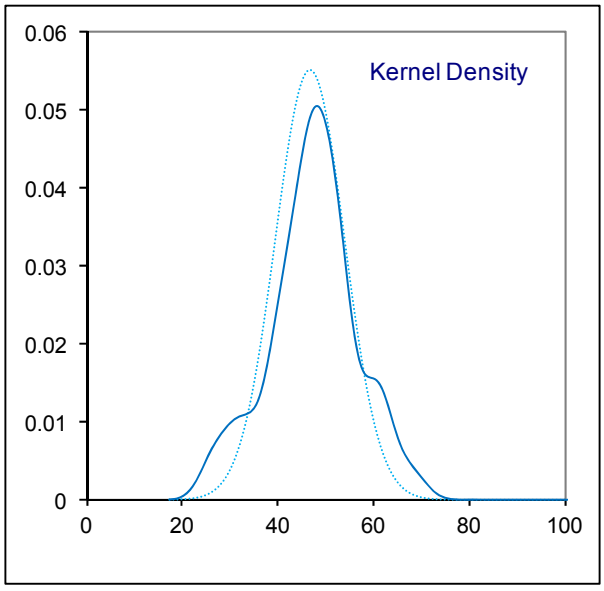
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 50.31 | | 0.45 | |
| 551 | in house | 25.91 | ex | -2.54 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 39.74 | ex | -0.84 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 46.79 | | 0.02 | |
| 840 | AfPS GS 2014:01 PAK | 46.0 | | -0.07 | |
| 2104 | INH-GCMS | 60.85205 | ex | 1.75 | Result excluded, see §4.1 |
| 2108 | in house | 43.15 | | -0.42 | |
| 2115 | ZEK01.4-08 | 31.35 | | -1.87 | |
| 2129 | INH-505 | 54.67 | | 0.99 | |
| 2132 | ZEK01.4-08 | 42.90 | | -0.45 | |
| 2138 | ZEK01.4-08 | 52.74 | | 0.75 | |
| 2139 | | 68.91 | C,ex | 2.74 | First reported 13.78. Result excluded, see §4.1 |
| 2156 | ZEK01.4-08 | 35.6 | | -1.35 | |
| 2165 | ZEK01.4-08 | 49.5 | | 0.36 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 47.4 | | 0.10 | |
| 2184 | ZEK01.4-08 | 48.7 | | 0.26 | |
| 2190 | ZEK01.4-08 | 190.2 | R(0.01) | 17.61 | |
| 2201 | ZEK01.4-08 | 45.64 | | -0.12 | |
| 2212 | ZEK01.4-08 | 44.12 | | -0.30 | |
| 2215 | ZEK01.4-08 | 49.5 | | 0.36 | |
| 2223 | INH-48001 | 60.35 | | 1.69 | |
| 2229 | ZEK01.4-08 | 41.10 | | -0.67 | |
| 2255 | ZEK01.4-08 | 40.2 | | -0.78 | |
| 2272 | ISO/TS16190 | 32.00 | | -1.79 | |
| 2284 | AfPS GS 2014:01 PAK | 53.80 | | 0.88 | |
| 2289 | ZEK01.4-08 | 43.0 | | -0.44 | |
| 2290 | ZEK01.4-08 | 48.234 | | 0.20 | |
| 2295 | ZEK01-08 | 27.6 | | -2.33 | |
| 2300 | in house | 66.90 | ex | 2.49 | Result excluded, see §4.1 |
| 2301 | LFGB | 48.274 | | 0.21 | |
| 2350 | ZEK01.4-08 | 40.142 | | -0.79 | |
| 2354 | ZEK01.4-08 | 45.93 | | -0.08 | |
| 2366 | ZEK01.4-08 | 50.92 | | 0.53 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 49.3 | | 0.33 | |
| 2372 | ZEK01.4-08 | 39.27 | | -0.90 | |
| 2375 | ZEK01.4-08 | 33.34 | | -1.63 | |
| 2380 | ZEK01.4-08 | 39.32 | | -0.89 | |
| 2386 | ZEK01.4-08 | 47.1 | | 0.06 | |
| 2390 | ZEK01.4-08 | 51.9773 | ex | 0.66 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 49.70 | | 0.38 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 62.70 | | 1.97 | |
| 2425 | ZEK01.4-08 | 53.13 | | 0.80 | |
| 2441 | ZEK01.4-08 | 32.6 | | -1.72 | |
| 2482 | ZEK01.4-08 | 39.87 | | -0.83 | |
| 2488 | ZEK | 61.1623 | ex | 1.79 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 30.02 | ex | -2.03 | Result excluded, see §4.1 |
| 2492 | in house | 52.223 | | 0.69 | |
| 2493 | ZEK01.2-08 | 48.58 | | 0.24 | |
| 2494 | ZEK01.4-08 | 58.54 | C | 1.46 | First reported 87.12 |
| 2511 | ZEK01.4-08 | 46.292 | | -0.04 | |
| 2525 | ZEK01.4-08 | 46.25 | | -0.04 | |
| 2532 | ZEK01.4-08 | 26.18 | ex | -2.50 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 53.33 | | 0.83 | |
| 2573 | ZEK | 52.913 | | 0.77 | |
| 2581 | ZEK01.4-08 | 47.5994 | | 0.12 | |
| 2605 | ZEK01.4-08 | 50.03 | | 0.42 | |
| 3100 | AfPS GS 2014:01 | 45.0 | | -0.20 | |
| 3146 | AfPS GS 2014:01 | 52.299 | | 0.70 | |
| 3149 | ZEK01.4-08 | 62.43 | C,ex | 1.94 | First reported 72.57. Result excluded, see §4.1 |
| 3150 | DIN15527 | 37.0 | | -1.18 | |
| 3151 | ZEK01.4-08 | 54 | | 0.91 | |
| 3153 | ZEK01.4-08 | 45.17 | | -0.18 | |
| 3154 | ZEK01.4-08 | 53.59 | ex | 0.86 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 59.5 | ex | 1.58 | Result excluded, see §4.1 |
| 3172 | ZEK | 48.50 | | 0.23 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 44.32 | | -0.28 | |
| 3190 | ZEK01.4-08 | 58.68 | | 1.48 | |
| 3197 | ZEK | 45.80 | | -0.10 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 52.90 | | 0.77 | |
| 3210 | CEN/TC309 | 46.75 | | 0.02 | |
| 3214 | ZEK01.4-08 | 41.6 | | -0.61 | |
| 3218 | AfPS GS 2014:01 PAK | 40.52 | | -0.75 | |
| 3220 | ZEK01.4-08 | 51.8 | C,ex | 0.64 | First reported 252.6. Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 50.1 | | 0.43 | |
| 3233 | in house | 44.75 | | -0.23 | |
| 3243 | INH-GC/MS | 43 | | -0.44 | |
| 3246 | ZEK01.4-08 | 61.57 | | 1.84 | |
| 3248 | ZEK01.4-08 | 48.5 | | 0.23 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 1 (+13excl) |
| | mean (n) | 46.601 |
| | st.dev. (n) | 7.2452 |
| | R(calc.) | 20.287 |
| | R(target) | 22.835 |

Compare R(Horwitz) = 11.710



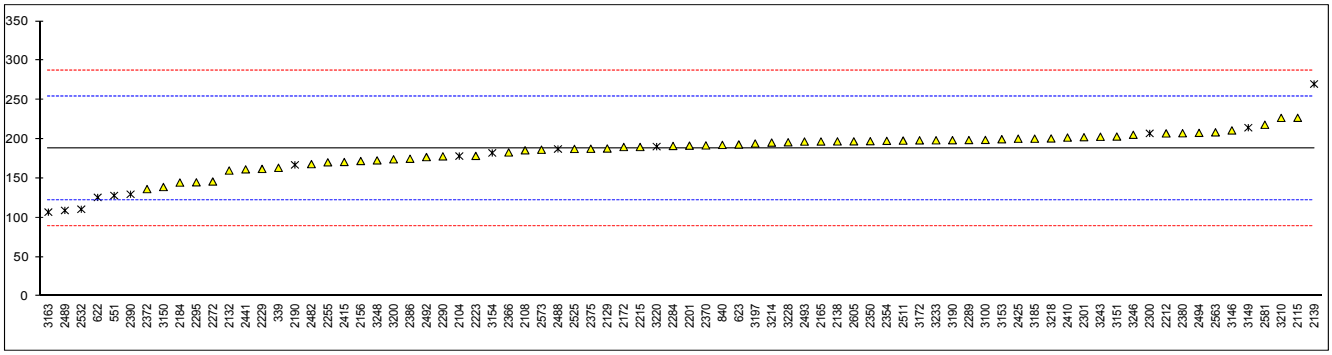
## Determination of Fluoranthene in sample #15009; results in mg/kg

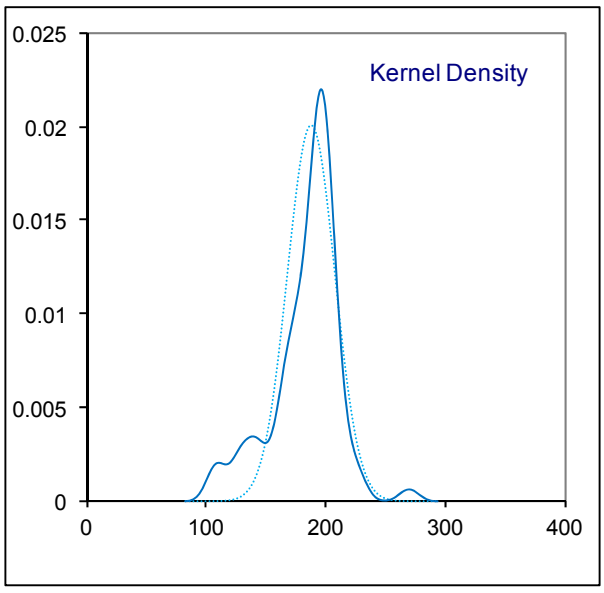
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 163.52 | | -0.75 | |
| 551 | in house | 128.16 | ex | -1.82 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 125.75 | C,ex | -1.90 | First reported 81.96. Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 193.15 | | 0.15 | |
| 840 | AfPS GS 2014:01 PAK | 192.6 | | 0.13 | |
| 2104 | INH-GCMS | 178.39131 | ex | -0.30 | Result excluded, see §4.1 |
| 2108 | in house | 185.78 | | -0.08 | |
| 2115 | ZEK01.4-08 | 227.12 | | 1.18 | |
| 2129 | INH-505 | 188.07 | | -0.01 | |
| 2132 | ZEK01.4-08 | 160.00 | | -0.86 | |
| 2138 | ZEK01.4-08 | 197.09 | | 0.27 | |
| 2139 | | 270.14 | C,R(0.01) | 2.48 | First reported 54.03 |
| 2156 | ZEK01.4-08 | 172.1 | | -0.49 | |
| 2165 | ZEK01.4-08 | 197 | | 0.26 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 190 | | 0.05 | |
| 2184 | ZEK01.4-08 | 144.7 | | -1.32 | |
| 2190 | ZEK01.4-08 | 167.2 | ex | -0.64 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 191.72 | | 0.10 | |
| 2212 | ZEK01.4-08 | 207.3 | | 0.58 | |
| 2215 | ZEK01.4-08 | 190.0 | | 0.05 | |
| 2223 | INH-48001 | 178.6 | | -0.29 | |
| 2229 | ZEK01.4-08 | 162.03 | | -0.80 | |
| 2255 | ZEK01.4-08 | 170.5 | | -0.54 | |
| 2272 | ISO/TS16190 | 146.031 | | -1.28 | |
| 2284 | AfPS GS 2014:01 PAK | 191.30 | | 0.09 | |
| 2289 | ZEK01.4-08 | 198.8 | | 0.32 | |
| 2290 | ZEK01.4-08 | 178.056 | | -0.31 | |
| 2295 | ZEK01-08 | 145.01 | | -1.31 | |
| 2300 | in house | 207.29 | C,ex | 0.58 | First reported 291.82. Result excluded, see §4.1 |
| 2301 | LFGB | 202.48 | | 0.43 | |
| 2350 | ZEK01.4-08 | 197.358 | | 0.28 | |
| 2354 | ZEK01.4-08 | 197.80 | | 0.29 | |
| 2366 | ZEK01.4-08 | 183.08 | | -0.16 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 192 | | 0.11 | |
| 2372 | ZEK01.4-08 | 136.4 | | -1.57 | |
| 2375 | ZEK01.4-08 | 187.74 | | -0.02 | |
| 2380 | ZEK01.4-08 | 207.53 | | 0.58 | |
| 2386 | ZEK01.4-08 | 175 | | -0.40 | |
| 2390 | ZEK01.4-08 | 129.8127 | ex | -1.77 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 201.96 | | 0.42 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 170.89 | | -0.53 | |
| 2425 | ZEK01.4-08 | 200.53 | | 0.37 | |
| 2441 | ZEK01.4-08 | 161.5 | | -0.81 | |
| 2482 | ZEK01.4-08 | 168.18 | | -0.61 | |
| 2488 | ZEK | 187.4096 | ex | -0.03 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 109.18 | R(0.01) | -2.40 | |
| 2492 | in house | 177.133 | | -0.34 | |
| 2493 | ZEK01.2-08 | 196.9 | | 0.26 | |
| 2494 | ZEK01.4-08 | 207.98 | | 0.60 | |
| 2511 | ZEK01.4-08 | 198.132 | | 0.30 | |
| 2525 | ZEK01.4-08 | 187.52 | | -0.02 | |
| 2532 | ZEK01.4-08 | 110.687 | R(0.01) | -2.35 | |
| 2563 | ZEK01.4-08 | 208.62 | | 0.62 | |
| 2573 | ZEK | 186.524 | | -0.05 | |
| 2581 | ZEK01.4-08 | 218.2800 | | 0.91 | |
| 2605 | ZEK01.4-08 | 197.14 | | 0.27 | |
| 3100 | AfPS GS 2014:01 | 199 | | 0.33 | |
| 3146 | AfPS GS 2014:01 | 211.08 | | 0.69 | |
| 3149 | ZEK01.4-08 | 214.51 | ex | 0.80 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 139 | | -1.50 | |
| 3151 | ZEK01.4-08 | 203.3 | | 0.46 | |
| 3153 | ZEK01.4-08 | 199.87 | | 0.35 | |
| 3154 | ZEK01.4-08 | 182.42 | ex | -0.18 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 107 | R(0.01) | -2.47 | |
| 3172 | ZEK | 198.45 | | 0.31 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 200.6 | | 0.37 | |
| 3190 | ZEK01.4-08 | 198.63 | | 0.31 | |
| 3197 | ZEK | 194.40 | | 0.19 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 174.30 | | -0.42 | |
| 3210 | CEN/TC309 | 227 | | 1.18 | |
| 3214 | ZEK01.4-08 | 195.6 | | 0.22 | |
| 3218 | AfPS GS 2014:01 PAK | 200.86 | | 0.38 | |
| 3220 | ZEK01.4-08 | 190.45 | ex | 0.07 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 196 | | 0.23 | |
| 3233 | in house | 198.54 | | 0.31 | |
| 3243 | INH-GC/MS | 203 | | 0.45 | |
| 3246 | ZEK01.4-08 | 205.54 | | 0.52 | |
| 3248 | ZEK01.4-08 | 172.9 | | -0.47 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 4 (+10excl) |
| | mean (n) | 188.269 |
| | st.dev. (n) | 19.8346 |
| | R(calc.) | 55.537 |
| | R(target) | 92.252 |

Compare R(Horwitz) = 38.341



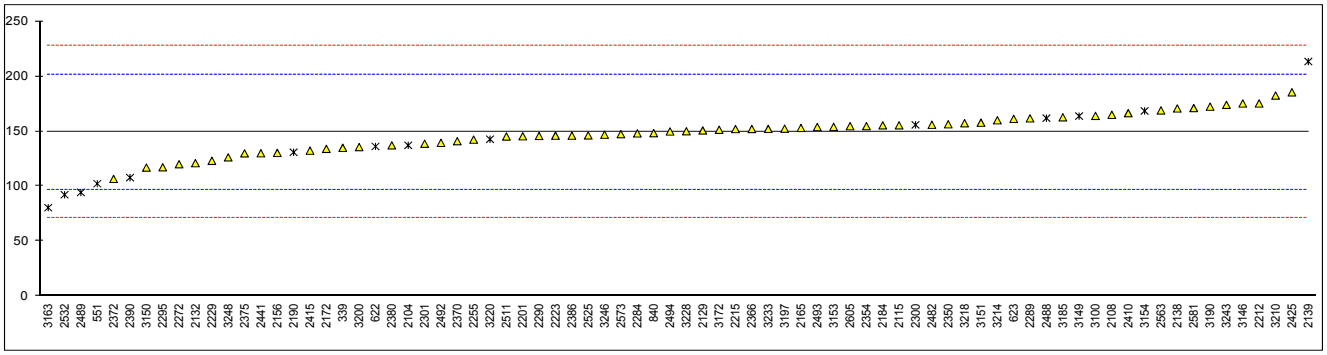
## Determination of Pyrene in sample #15009; results in mg/kg

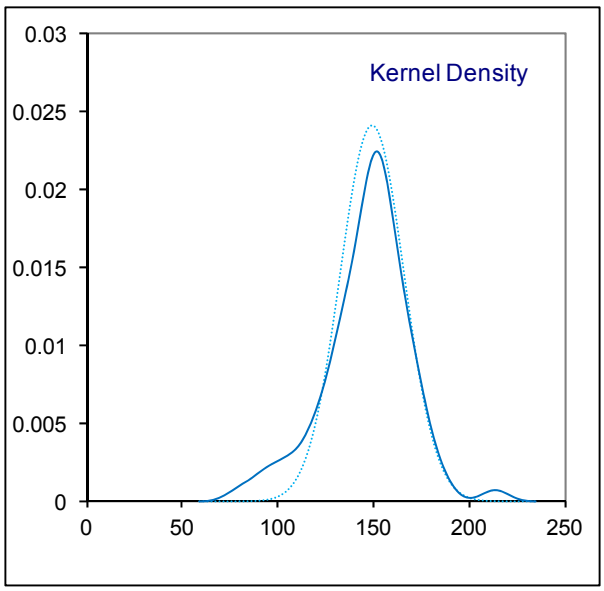
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 134.96 | | -0.55 | |
| 551 | in house | 102.33 | ex | -1.80 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 136.21 | C,ex | -0.50 | First reported 59.66. Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 161.29 | | 0.46 | |
| 840 | AfPS GS 2014:01 PAK | 148.3 | | -0.04 | |
| 2104 | INH-GCMS | 137.24777 | ex | -0.46 | Result excluded, see §4.1 |
| 2108 | in house | 164.97 | | 0.60 | |
| 2115 | ZEK01.4-08 | 155.42 | | 0.23 | |
| 2129 | INH-505 | 150.73 | | 0.05 | |
| 2132 | ZEK01.4-08 | 121.00 | | -1.08 | |
| 2138 | ZEK01.4-08 | 170.72 | | 0.82 | |
| 2139 | | 213.41 | C,R(0.01) | 2.45 | First reported 42.68 |
| 2156 | ZEK01.4-08 | 130.3 | | -0.73 | |
| 2165 | ZEK01.4-08 | 153 | | 0.14 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 134 | | -0.59 | |
| 2184 | ZEK01.4-08 | 155.4 | | 0.23 | |
| 2190 | ZEK01.4-08 | 130.9 | ex | -0.71 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 145.45 | | -0.15 | |
| 2212 | ZEK01.4-08 | 175.3 | | 0.99 | |
| 2215 | ZEK01.4-08 | 152.0 | | 0.10 | |
| 2223 | INH-48001 | 146.0 | | -0.13 | |
| 2229 | ZEK01.4-08 | 123.13 | | -1.00 | |
| 2255 | ZEK01.4-08 | 142.4 | | -0.27 | |
| 2272 | ISO/TS16190 | 120.011 | | -1.12 | |
| 2284 | AfPS GS 2014:01 PAK | 148.04 | | -0.05 | |
| 2289 | ZEK01.4-08 | 161.7 | | 0.47 | |
| 2290 | ZEK01.4-08 | 145.712 | | -0.14 | |
| 2295 | ZEK01-08 | 117.25 | | -1.23 | |
| 2300 | in house | 155.83 | C,ex | 0.25 | First reported 207.05. Result excluded, see §4.1 |
| 2301 | LFGB | 138.68 | | -0.41 | |
| 2350 | ZEK01.4-08 | 156.349 | | 0.27 | |
| 2354 | ZEK01.4-08 | 154.67 | | 0.20 | |
| 2366 | ZEK01.4-08 | 152.08 | | 0.10 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 141 | | -0.32 | |
| 2372 | ZEK01.4-08 | 106.7 | | -1.63 | |
| 2375 | ZEK01.4-08 | 129.91 | | -0.74 | |
| 2380 | ZEK01.4-08 | 137.21 | | -0.46 | |
| 2386 | ZEK01.4-08 | 146 | | -0.13 | |
| 2390 | ZEK01.4-08 | 107.8127 | ex | -1.59 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 166.45 | | 0.65 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 132.33 | | -0.65 | |
| 2425 | ZEK01.4-08 | 185.41 | | 1.38 | |
| 2441 | ZEK01.4-08 | 130.0 | | -0.74 | |
| 2482 | ZEK01.4-08 | 155.91 | | 0.25 | |
| 2488 | ZEK | 161.9144 | ex | 0.48 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 94.340 | ex | -2.10 | Result excluded, see §4.1 |
| 2492 | in house | 139.469 | | -0.38 | |
| 2493 | ZEK01.2-08 | 153.9 | | 0.17 | |
| 2494 | ZEK01.4-08 | 149.83 | C | 0.02 | First reported 280.21 |
| 2511 | ZEK01.4-08 | 145.242 | | -0.16 | |
| 2525 | ZEK01.4-08 | 146.24 | | -0.12 | |
| 2532 | ZEK01.4-08 | 92.286 | ex | -2.18 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 168.96 | | 0.75 | |
| 2573 | ZEK | 147.370 | | -0.08 | |
| 2581 | ZEK01.4-08 | 171.1007 | | 0.83 | |
| 2605 | ZEK01.4-08 | 154.62 | | 0.20 | |
| 3100 | AfPS GS 2014:01 | 164 | | 0.56 | |
| 3146 | AfPS GS 2014:01 | 175.27 | | 0.99 | |
| 3149 | ZEK01.4-08 | 163.75 | ex | 0.55 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 117 | | -1.24 | |
| 3151 | ZEK01.4-08 | 157.8 | | 0.32 | |
| 3153 | ZEK01.4-08 | 154.02 | | 0.18 | |
| 3154 | ZEK01.4-08 | 168.48 | ex | 0.73 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 80.5 | R(0.01) | -2.63 | |
| 3172 | ZEK | 151.36 | | 0.08 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 162.7 | | 0.51 | |
| 3190 | ZEK01.4-08 | 172.35 | | 0.88 | |
| 3197 | ZEK | 152.37 | | 0.12 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 135.62 | | -0.53 | |
| 3210 | CEN/TC309 | 182.5 | | 1.27 | |
| 3214 | ZEK01.4-08 | 160.0 | | 0.41 | |
| 3218 | AfPS GS 2014:01 PAK | 157.32 | | 0.31 | |
| 3220 | ZEK01.4-08 | 142.74 | ex | -0.25 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 150 | | 0.03 | |
| 3233 | in house | 152.12 | | 0.11 | |
| 3243 | INH-GC/MS | 174 | | 0.94 | |
| 3246 | ZEK01.4-08 | 146.89 | | -0.09 | |
| 3248 | ZEK01.4-08 | 126.3 | | -0.88 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 2 (+12excl) |
| | mean (n) | 149.346 |
| | st.dev. (n) | 16.6027 |
| | R(calc.) | 46.487 |
| | R(target) | 73.179 |

Compare R(Horwitz) = 31.494



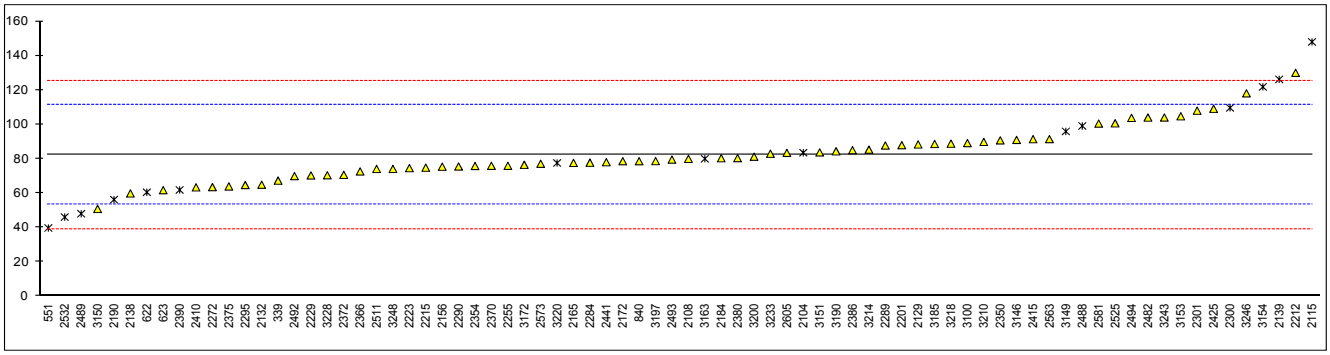
## Determination of Benzo[a]anthracene in sample #15009; results in mg/kg

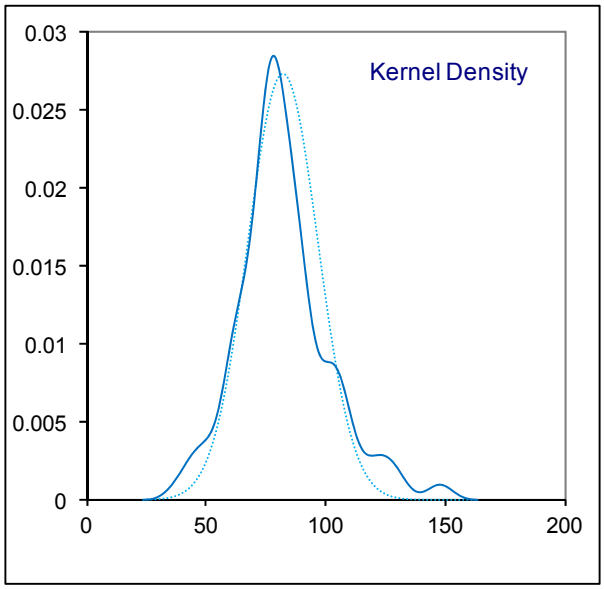
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 67.267 | | -1.04 | |
| 551 | in house | 39.71 | ex | -2.96 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 60.50 | ex | -1.51 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 61.73 | | -1.43 | |
| 840 | AfPS GS 2014:01 PAK | 78.6 | | -0.26 | |
| 2104 | INH-GCMS | 83.51355 | ex | 0.08 | Result excluded, see §4.1 |
| 2108 | in house | 79.96 | | -0.16 | |
| 2115 | ZEK01.4-08 | 148 | C,R(0.05) | 4.56 | First reported 198.64 |
| 2129 | INH-505 | 88.33 | | 0.42 | |
| 2132 | ZEK01.4-08 | 64.90 | | -1.21 | |
| 2138 | ZEK01.4-08 | 59.82 | | -1.56 | |
| 2139 | | 126.20 | C,ex | 3.05 | First reported 25.24. Result excluded, see §4.1 |
| 2156 | ZEK01.4-08 | 75.4 | | -0.48 | |
| 2165 | ZEK01.4-08 | 77.6 | | -0.33 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 78.6 | | -0.26 | |
| 2184 | ZEK01.4-08 | 80.3 | | -0.14 | |
| 2190 | ZEK01.4-08 | 56.2 | ex | -1.81 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 87.91 | | 0.39 | |
| 2212 | ZEK01.4-08 | 130.0 | | 3.31 | |
| 2215 | ZEK01.4-08 | 74.8 | | -0.52 | |
| 2223 | INH-48001 | 74.55 | | -0.54 | |
| 2229 | ZEK01.4-08 | 70.31 | | -0.83 | |
| 2255 | ZEK01.4-08 | 75.9 | | -0.45 | |
| 2272 | ISO/TS16190 | 63.501 | | -1.31 | |
| 2284 | AfPS GS 2014:01 PAK | 77.70 | | -0.32 | |
| 2289 | ZEK01.4-08 | 87.7 | | 0.37 | |
| 2290 | ZEK01.4-08 | 75.521 | | -0.47 | |
| 2295 | ZEK01-08 | 64.71 | | -1.22 | |
| 2300 | in house | 109.61 | ex | 1.89 | Result excluded, see §4.1 |
| 2301 | LFGB | 107.98 | | 1.78 | |
| 2350 | ZEK01.4-08 | 90.694 | | 0.58 | |
| 2354 | ZEK01.4-08 | 75.79 | | -0.45 | |
| 2366 | ZEK01.4-08 | 72.62 | | -0.67 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 75.9 | | -0.45 | |
| 2372 | ZEK01.4-08 | 70.64 | | -0.81 | |
| 2375 | ZEK01.4-08 | 63.90 | | -1.28 | |
| 2380 | ZEK01.4-08 | 80.35 | | -0.14 | |
| 2386 | ZEK01.4-08 | 85.0 | | 0.19 | |
| 2390 | ZEK01.4-08 | 61.8403 | ex | -1.42 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 63.36 | | -1.32 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 91.38 | | 0.63 | |
| 2425 | ZEK01.4-08 | 109.09 | | 1.86 | |
| 2441 | ZEK01.4-08 | 78.0 | | -0.30 | |
| 2482 | ZEK01.4-08 | 103.99 | | 1.50 | |
| 2488 | ZEK | 99.0778 | ex | 1.16 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 48.0 | ex | -2.38 | Result excluded, see §4.1 |
| 2492 | in house | 69.927 | | -0.86 | |
| 2493 | ZEK01.2-08 | 79.51 | | -0.20 | |
| 2494 | ZEK01.4-08 | 103.79 | C | 1.49 | First reported 265.13 |
| 2511 | ZEK01.4-08 | 74.080 | | -0.57 | |
| 2525 | ZEK01.4-08 | 100.63 | | 1.27 | |
| 2532 | ZEK01.4-08 | 46.06 | ex | -2.52 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 91.43 | | 0.63 | |
| 2573 | ZEK | 77.082 | | -0.36 | |
| 2581 | ZEK01.4-08 | 100.4970 | | 1.26 | |
| 2605 | ZEK01.4-08 | 83.43 | | 0.08 | |
| 3100 | AfPS GS 2014:01 | 89.1 | | 0.47 | |
| 3146 | AfPS GS 2014:01 | 90.97 | | 0.60 | |
| 3149 | ZEK01.4-08 | 95.91 | ex | 0.94 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 50.8 | | -2.19 | |
| 3151 | ZEK01.4-08 | 83.7 | | 0.10 | |
| 3153 | ZEK01.4-08 | 104.72 | | 1.55 | |
| 3154 | ZEK01.4-08 | 121.83 | ex | 2.74 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 80 | ex | -0.16 | Result excluded, see §4.1 |
| 3172 | ZEK | 76.48 | | -0.41 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 88.61 | | 0.44 | |
| 3190 | ZEK01.4-08 | 84.34 | | 0.14 | |
| 3197 | ZEK | 78.64 | | -0.26 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 81.20 | | -0.08 | |
| 3210 | CEN/TC309 | 89.8 | | 0.52 | |
| 3214 | ZEK01.4-08 | 85.3 | | 0.21 | |
| 3218 | AfPS GS 2014:01 PAK | 88.81 | | 0.45 | |
| 3220 | ZEK01.4-08 | 77.53 | ex | -0.33 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 70.4 | | -0.83 | |
| 3233 | in house | 82.92 | | 0.04 | |
| 3243 | INH-GC/MS | 104 | | 1.50 | |
| 3246 | ZEK01.4-08 | 118.07 | | 2.48 | |
| 3248 | ZEK01.4-08 | 74.1 | | -0.57 | |

| | | |
|---|---|---|
| | normality | suspect |
| | n | 63 |
| | outliers | 1 (+14excl) |
| | mean (n) | 82.320 |
| | st.dev. (n) | 14.6214 |
| | R(calc.) | 40.940 |
| | R(target) | 40.337 |

Compare R(Horwitz) = 18.988



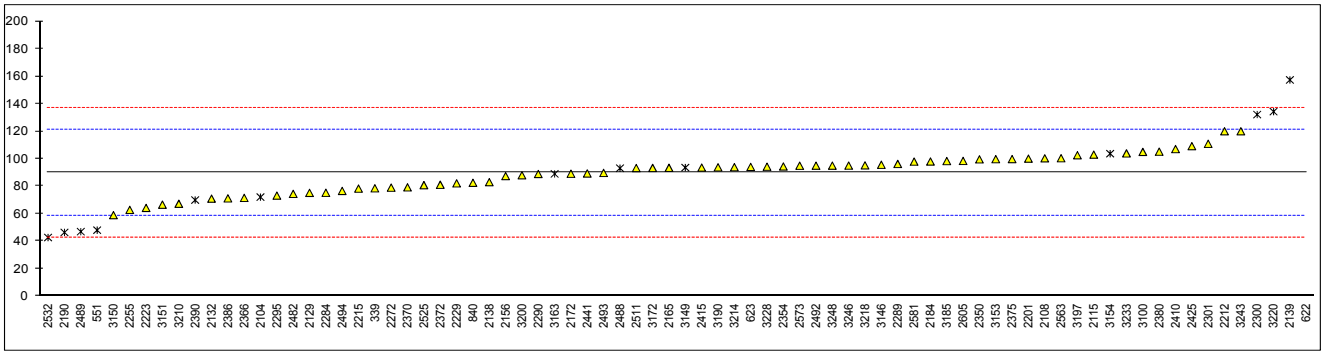
## Determination of Chrysene in sample #15009; results in mg/kg

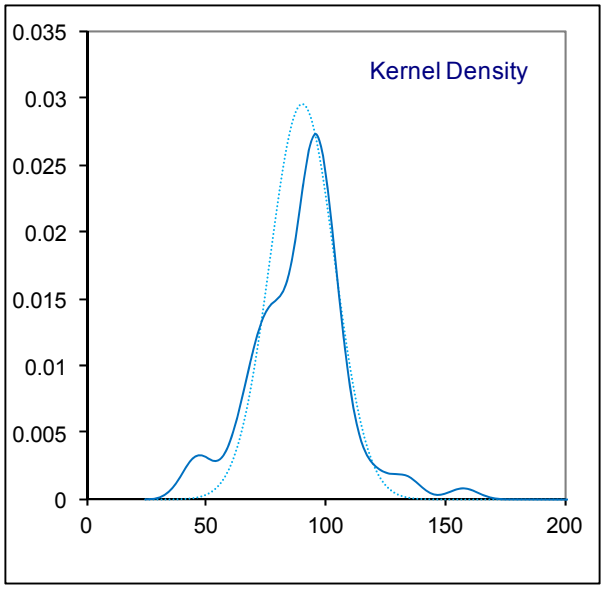
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 78.51 | | -0.73 | |
| 551 | in house | 48.04 | R(0.01) | -2.66 | |
| 622 | ZEK01.2-08 | 612.28 | C,R(0.01) | 33.19 | First reported 358.21 |
| 623 | AfPS GS 2014:01 PAK | 94.06 | | 0.26 | |
| 840 | AfPS GS 2014:01 PAK | 82.5 | | -0.47 | |
| 2104 | INH-GCMS | 72.09670 | ex | -1.13 | Result excluded, see §4.1 |
| 2108 | in house | 100.33 | | 0.66 | |
| 2115 | ZEK01.4-08 | 103.01 | | 0.83 | |
| 2129 | INH-505 | 75.20 | | -0.94 | |
| 2132 | ZEK01.4-08 | 71.00 | | -1.20 | |
| 2138 | ZEK01.4-08 | 82.98 | | -0.44 | |
| 2139 | | 157.32 | C,R(0.05) | 4.28 | First reported 31.46 |
| 2156 | ZEK01.4-08 | 87.4 | | -0.16 | |
| 2165 | ZEK01.4-08 | 93.4 | | 0.22 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 89.1 | | -0.05 | |
| 2184 | ZEK01.4-08 | 98 | | 0.51 | |
| 2190 | ZEK01.4-08 | 46.4 | R(0.01) | -2.77 | |
| 2201 | ZEK01.4-08 | 100.09 | | 0.65 | |
| 2212 | ZEK01.4-08 | 120.0 | | 1.91 | |
| 2215 | ZEK01.4-08 | 78.3 | | -0.74 | |
| 2223 | INH-48001 | 64.22 | | -1.63 | |
| 2229 | ZEK01.4-08 | 82.09 | | -0.50 | |
| 2255 | ZEK01.4-08 | 62.8 | | -1.72 | |
| 2272 | ISO/TS16190 | 79.001 | | -0.69 | |
| 2284 | AfPS GS 2014:01 PAK | 75.25 | | -0.93 | |
| 2289 | ZEK01.4-08 | 96.2 | | 0.40 | |
| 2290 | ZEK01.4-08 | 88.923 | | -0.06 | |
| 2295 | ZEK01-08 | 73.19 | | -1.06 | |
| 2300 | in house | 132.14 | ex | 2.68 | Result excluded, see §4.1 |
| 2301 | LFGB | 110.88 | | 1.33 | |
| 2350 | ZEK01.4-08 | 99.5662 | | 0.61 | |
| 2354 | ZEK01.4-08 | 94.40 | | 0.28 | |
| 2366 | ZEK01.4-08 | 71.52 | | -1.17 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 79.2 | | -0.68 | |
| 2372 | ZEK01.4-08 | 81.08 | | -0.56 | |
| 2375 | ZEK01.4-08 | 99.77 | | 0.63 | |
| 2380 | ZEK01.4-08 | 105.15 | | 0.97 | |
| 2386 | ZEK01.4-08 | 71.2 | | -1.19 | |
| 2390 | ZEK01.4-08 | 69.9591 | ex | -1.27 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 107.04 | | 1.09 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 93.58 | | 0.23 | |
| 2425 | ZEK01.4-08 | 109.19 | | 1.22 | |
| 2441 | ZEK01.4-08 | 89.3 | | -0.04 | |
| 2482 | ZEK01.4-08 | 74.45 | | -0.98 | |
| 2488 | ZEK | 93.1169 | ex | 0.20 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 46.96 | R(0.01) | -2.73 | |
| 2492 | in house | 94.966 | | 0.32 | |
| 2493 | ZEK01.2-08 | 89.69 | | -0.01 | |
| 2494 | ZEK01.4-08 | 76.60 | C | -0.85 | First reported 396.90 |
| 2511 | ZEK01.4-08 | 93.246 | | 0.21 | |
| 2525 | ZEK01.4-08 | 80.80 | | -0.58 | |
| 2532 | ZEK01.4-08 | 42.7 | R(0.01) | -3.00 | |
| 2563 | ZEK01.4-08 | 100.37 | | 0.66 | |
| 2573 | ZEK | 94.947 | | 0.32 | |
| 2581 | ZEK01.4-08 | 97.9309 | | 0.51 | |
| 2605 | ZEK01.4-08 | 98.41 | | 0.54 | |
| 3100 | AfPS GS 2014:01 | 105 | | 0.96 | |
| 3146 | AfPS GS 2014:01 | 95.628 | | 0.36 | |
| 3149 | ZEK01.4-08 | 93.56 | ex | 0.23 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 59.0 | | -1.97 | |
| 3151 | ZEK01.4-08 | 66.6 | | -1.48 | |
| 3153 | ZEK01.4-08 | 99.71 | | 0.62 | |
| 3154 | ZEK01.4-08 | 103.70 | ex | 0.88 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 89 | ex | -0.06 | Result excluded, see §4.1 |
| 3172 | ZEK | 93.32 | | 0.22 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 98.32 | | 0.53 | |
| 3190 | ZEK01.4-08 | 93.78 | | 0.24 | |
| 3197 | ZEK | 102.56 | | 0.80 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 88.00 | | -0.12 | |
| 3210 | CEN/TC309 | 67.25 | | -1.44 | |
| 3214 | ZEK01.4-08 | 93.9 | | 0.25 | |
| 3218 | AfPS GS 2014:01 PAK | 95.20 | | 0.34 | |
| 3220 | ZEK01.4-08 | 134.26 | ex | 2.82 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 94.2 | | 0.27 | |
| 3233 | in house | 103.91 | | 0.89 | |
| 3243 | INH-GC/MS | 120 | | 1.91 | |
| 3246 | ZEK01.4-08 | 95.02 | | 0.32 | |
| 3248 | ZEK01.4-08 | 95.0 | | 0.32 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 6 (+8 excl) |
| | mean (n) | 89.926 |
| | st.dev. (n) | 13.5330 |
| | R(calc.) | 37.893 |
| | R(target) | 44.064 |

Compare R(Horwitz) = 20.468



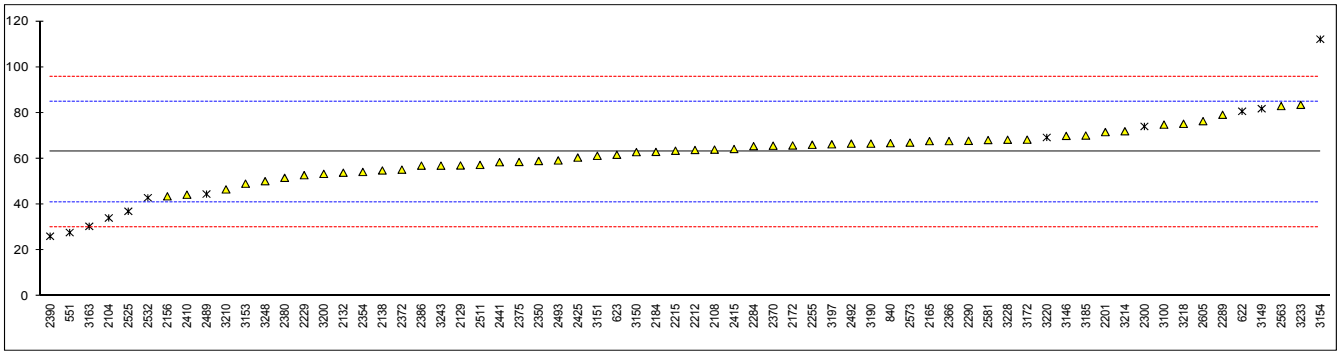
## Determination of Benzo[b]fluoranthene in sample #15009; results in mg/kg

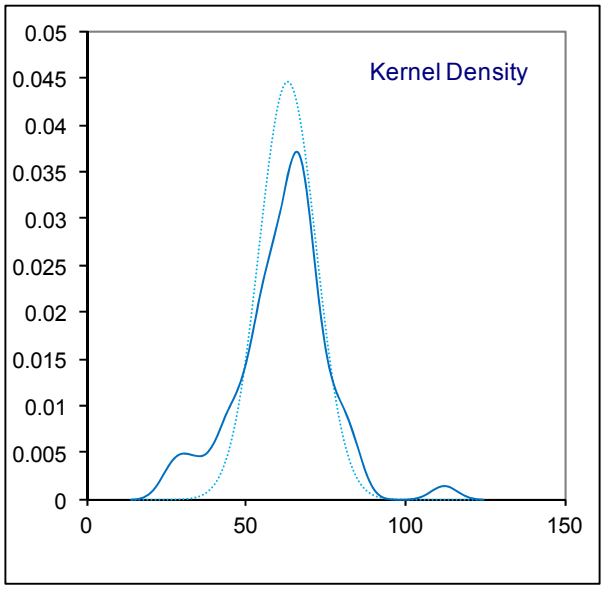
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | | ----- | | ----- | |
| 551 | in house | 27.79 | R(0.05) | -3.19 | |
| 622 | ZEK01.2-08 | 80.71 | ex | 1.61 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 61.73 | | -0.11 | |
| 840 | AfPS GS 2014:01 PAK | 66.8 | | 0.35 | |
| 2104 | INH-GCMS | 34.15097 | R(0.05) | -2.61 | |
| 2108 | in house | 63.99 | | 0.09 | |
| 2115 | | ----- | | ----- | |
| 2129 | INH-505 | 57.07 | | -0.53 | |
| 2132 | ZEK01.4-08 | 53.90 | | -0.82 | |
| 2138 | ZEK01.4-08 | 54.89 | | -0.73 | |
| 2139 | | ----- | | ----- | |
| 2156 | ZEK01.4-08 | 43.6 | | -1.76 | |
| 2165 | ZEK01.4-08 | 67.7 | | 0.43 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 65.8 | | 0.26 | |
| 2184 | ZEK01.4-08 | 63 | | 0.00 | |
| 2190 | | ----- | | ----- | |
| 2201 | ZEK01.4-08 | 71.64 | | 0.79 | |
| 2212 | ZEK01.4-08 | 63.82 | | 0.08 | |
| 2215 | ZEK01.4-08 | 63.5 | | 0.05 | |
| 2223 | | ----- | | ----- | |
| 2229 | ZEK01.4-08 | 52.83 | | -0.92 | |
| 2255 | ZEK01.4-08 | 66.1 | | 0.29 | |
| 2272 | | ----- | | ----- | |
| 2284 | AfPS GS 2014:01 PAK | 65.50 | | 0.23 | |
| 2289 | ZEK01.4-08 | 79.2 | | 1.47 | |
| 2290 | ZEK01.4-08 | 67.832 | | 0.44 | |
| 2295 | | ----- | | ----- | |
| 2300 | in house | 74.10 | ex | 1.01 | Result excluded, see §4.1 |
| 2301 | | ----- | | ----- | |
| 2350 | ZEK01.4-08 | 59.03 | | -0.36 | |
| 2354 | ZEK01.4-08 | 54.24 | | -0.79 | |
| 2366 | ZEK01.4-08 | 67.72 | | 0.43 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 65.7 | | 0.25 | |
| 2372 | ZEK01.4-08 | 55.25 | | -0.70 | |
| 2375 | ZEK01.4-08 | 58.59 | | -0.40 | |
| 2380 | ZEK01.4-08 | 51.67 | | -1.02 | |
| 2386 | ZEK01.4-08 | 57.0 | | -0.54 | |
| 2390 | ZEK01.4-08 | 26.168 | C,R(0.05) | -3.34 | First reported 17.3814 |
| 2410 | ZEK01.4-08 | 44.32 | | -1.69 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 64.26 | | 0.12 | |
| 2425 | ZEK01.4-08 | 60.51 | | -0.22 | |
| 2441 | ZEK01.4-08 | 58.5 | | -0.40 | |
| 2482 | | ----- | | ----- | |
| 2488 | | ----- | | ----- | |
| 2489 | ZEK01.4-08 | 44.580 | ex | -1.67 | Result excluded, see §4.1 |
| 2492 | in house | 66.598 | | 0.33 | |
| 2493 | ZEK01.2-08 | 59.27 | | -0.33 | |
| 2494 | | ----- | | ----- | |
| 2511 | ZEK01.4-08 | 57.321 | | -0.51 | |
| 2525 | ZEK01.4-08 | 37.07 | R(0.05) | -2.35 | |
| 2532 | ZEK01.4-08 | 42.97 | ex | -1.81 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 83 | | 1.82 | |
| 2573 | ZEK | 67.057 | | 0.37 | |
| 2581 | ZEK01.4-08 | 68.1500 | | 0.47 | |
| 2605 | ZEK01.4-08 | 76.42 | | 1.22 | |
| 3100 | AfPS GS 2014:01 | 74.9 | | 1.08 | |
| 3146 | AfPS GS 2014:01 | 69.97 | | 0.64 | |
| 3149 | ZEK01.4-08 | 81.84 | ex | 1.71 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 62.9 | | 0.00 | |
| 3151 | ZEK01.4-08 | 61.3 | | -0.15 | |
| 3153 | ZEK01.4-08 | 49.12 | | -1.26 | |
| 3154 | ZEK01.4-08 | 112.18 | R(0.05) | 4.47 | |
| 3163 | INH-GCMS | 30.5 | R(0.05) | -2.95 | |
| 3172 | ZEK | 68.33 | | 0.49 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 70.13 | | 0.65 | |
| 3190 | ZEK01.4-08 | 66.60 | | 0.33 | |
| 3197 | ZEK | 66.30 | | 0.30 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 53.40 | | -0.87 | |
| 3210 | CEN/TC309 | 46.63 | | -1.48 | |
| 3214 | ZEK01.4-08 | 72.0 | | 0.82 | |
| 3218 | AfPS GS 2014:01 PAK | 75.27 | | 1.12 | |
| 3220 | ZEK01.4-08 | 69.3 | ex | 0.58 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 68.3 | | 0.49 | |
| 3233 | in house | 83.52 | | 1.87 | |
| 3243 | INH-GC/MS | 57 | | -0.54 | |
| 3246 | | ----- | | ----- | |
| 3248 | ZEK01.4-08 | 50.2 | | -1.16 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 54 |
| | outliers | 6 (+6 excl) |
| | mean (n) | 62.951 |
| | st.dev. (n) | 8.9466 |
| | R(calc.) | 25.051 |
| | R(target) | 30.846 |

Compare R(Horwitz) = 15.118



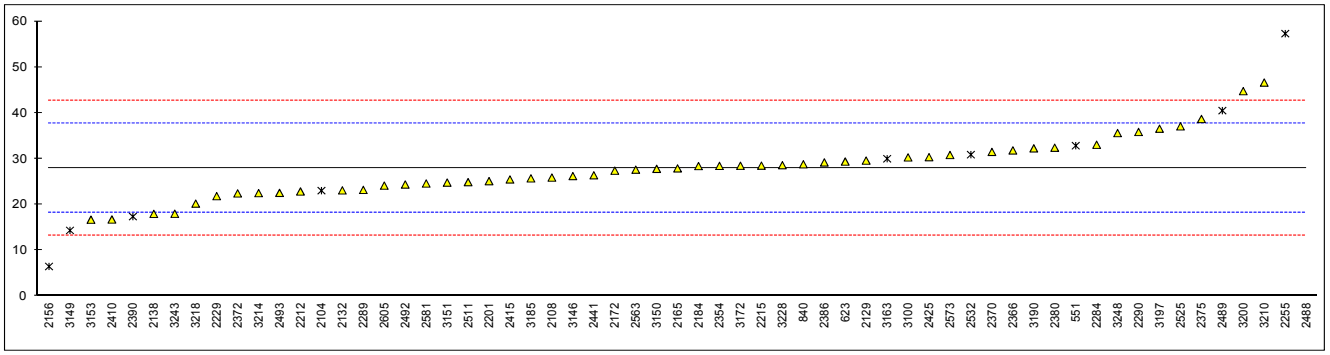
## Determination of Benzo[j]fluoranthene in sample #15009; results in mg/kg

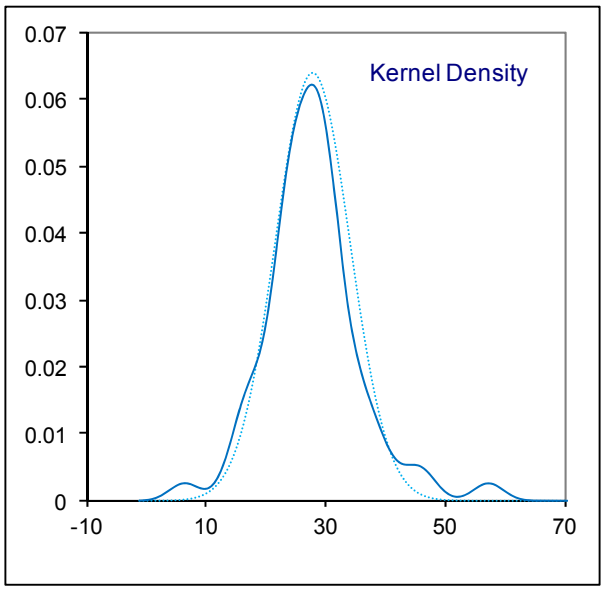
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | | ----- | | ----- | |
| 551 | in house | 32.85 | ex | 1.01 | Result excluded, see §4.1 |
| 622 | | ----- | | ----- | |
| 623 | AfPS GS 2014:01 PAK | 29.39 | | 0.30 | |
| 840 | AfPS GS 2014:01 PAK | 28.8 | | 0.18 | |
| 2104 | INH-GCMS | 23.03990 | ex | -1.00 | Result excluded, see §4.1 |
| 2108 | in house | 25.90 | | -0.41 | |
| 2115 | | ----- | | ----- | |
| 2129 | INH-505 | 29.60 | | 0.35 | |
| 2132 | ZEK01.4-08 | 23.10 | | -0.99 | |
| 2138 | ZEK01.4-08 | 17.97 | | -2.04 | |
| 2139 | | ----- | | ----- | |
| 2156 | ZEK01.4-08 | 6.5 | R(0.05) | -4.38 | |
| 2165 | ZEK01.4-08 | 27.9 | | 0.00 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 27.4 | | -0.11 | |
| 2184 | ZEK01.4-08 | 28.4 | | 0.10 | |
| 2190 | | ----- | | ----- | |
| 2201 | ZEK01.4-08 | 25.11 | | -0.57 | |
| 2212 | ZEK01.4-08 | 22.86 | | -1.03 | |
| 2215 | ZEK01.4-08 | 28.5 | | 0.12 | |
| 2223 | | ----- | | ----- | |
| 2229 | ZEK01.4-08 | 21.84 | | -1.24 | |
| 2255 | ZEK01.4-08 | 57.3 | R(0.01) | 6.02 | |
| 2272 | | ----- | | ----- | |
| 2284 | AfPS GS 2014:01 PAK | 33.06 | | 1.05 | |
| 2289 | ZEK01.4-08 | 23.2 | | -0.96 | |
| 2290 | ZEK01.4-08 | 35.844 | | 1.62 | |
| 2295 | | ----- | | ----- | |
| 2300 | in house | n.d. | | ----- | |
| 2301 | | ----- | | ----- | |
| 2350 | | ----- | | ----- | |
| 2354 | ZEK01.4-08 | 28.44 | | 0.11 | |
| 2366 | ZEK01.4-08 | 31.82 | | 0.80 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 31.5 | | 0.73 | |
| 2372 | ZEK01.4-08 | 22.44 | | -1.12 | |
| 2375 | ZEK01.4-08 | 38.68 | | 2.20 | |
| 2380 | ZEK01.4-08 | 32.41 | | 0.92 | |
| 2386 | ZEK01.4-08 | 29.2 | | 0.26 | |
| 2390 | ZEK01.4-08 | 17.3814 | ex | -2.16 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 16.75 | | -2.29 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 25.49 | | -0.50 | |
| 2425 | ZEK01.4-08 | 30.35 | | 0.50 | |
| 2441 | ZEK01.4-08 | 26.4 | | -0.31 | |
| 2482 | | ----- | | ----- | |
| 2488 | ZEK | 122.5113 | R(0.01) | 19.37 | |
| 2489 | ZEK01.4-08 | 40.50 | ex | 2.58 | Result excluded, see §4.1 |
| 2492 | in house | 24.382 | | -0.72 | |
| 2493 | ZEK01.2-08 | 22.55 | | -1.10 | |
| 2494 | | ----- | | ----- | |
| 2511 | ZEK01.4-08 | 24.895 | | -0.62 | |
| 2525 | ZEK01.4-08 | 37.07 | | 1.87 | |
| 2532 | ZEK01.4-08 | 30.893 | ex | 0.61 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 27.62 | | -0.06 | |
| 2573 | ZEK | 30.823 | | 0.60 | |
| 2581 | ZEK01.4-08 | 24.6000 | | -0.68 | |
| 2605 | ZEK01.4-08 | 24.14 | | -0.77 | |
| 3100 | AfPS GS 2014:01 | 30.3 | | 0.49 | |
| 3146 | AfPS GS 2014:01 | 26.22 | | -0.35 | |
| 3149 | ZEK01.4-08 | 14.36 | ex | -2.77 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 27.8 | | -0.02 | |
| 3151 | ZEK01.4-08 | 24.8 | | -0.64 | |
| 3153 | ZEK01.4-08 | 16.70 | | -2.30 | |
| 3154 | | ----- | | ----- | |
| 3163 | INH-GCMS | 30 | ex | 0.43 | Result excluded, see §4.1 |
| 3172 | ZEK | 28.47 | | 0.11 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 25.72 | | -0.45 | |
| 3190 | ZEK01.4-08 | 32.27 | | 0.89 | |
| 3197 | ZEK | 36.56 | | 1.77 | |

| | | | |
|---|---|---|---|
| 3200 | ZEK01.4-08 | 44.76 | 3.45 |
| 3210 | CEN/TC309 | 46.63 | 3.83 |
| 3214 | ZEK01.4-08 | 22.5 | -1.11 |
| 3218 | AfPS GS 2014:01 PAK | 20.21 | -1.58 |
| 3220 | ZEK01.4-08 | n.d. | ----- |
| 3228 | ZEK01.4-08 | 28.6 | 0.14 |
| 3233 | | ----- | ----- |
| 3243 | INH-GC/MS | 18 | -2.03 |
| 3246 | | ----- | ----- |
| 3248 | ZEK01.4-08 | 35.6 | 1.57 |

| | |
|---|---|
| normality | suspect |
| n | 51 |
| outliers | 3 (+7 excl) |
| mean (n) | 27.913 |
| st.dev. (n) | 6.2305 |
| R(calc.) | 17.445 |
| R(target) | 13.667 |

Compare R(Horwitz) = 7.577



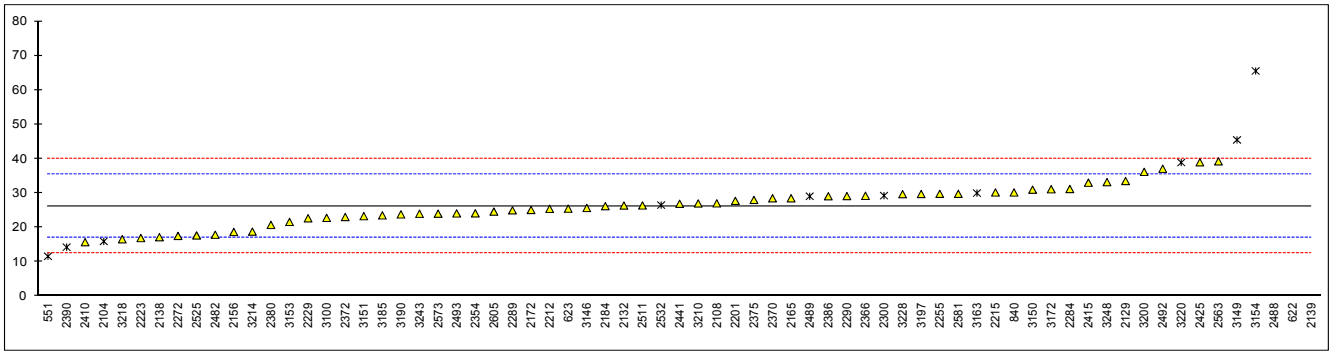
## Determination of Benzo[k]fluoranthene in sample #15009; results in mg/kg

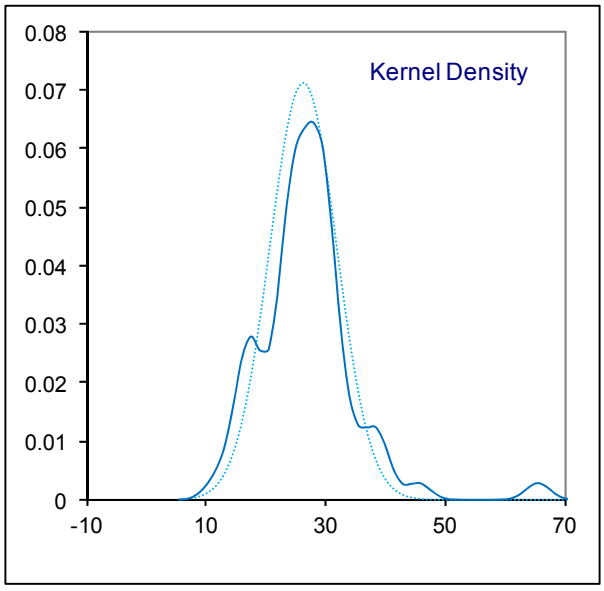
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | | ----- | | ----- | |
| 551 | in house | 11.61 | ex | -3.19 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 159.27 | C,R(0.01) | 28.95 | First reported 78.84 |
| 623 | AfPS GS 2014:01 PAK | 25.48 | | -0.17 | |
| 840 | AfPS GS 2014:01 PAK | 30.2 | | 0.86 | |
| 2104 | INH-GCMS | 15.96341 | ex | -2.24 | Result excluded, see §4.1 |
| 2108 | in house | 27.02 | | 0.17 | |
| 2115 | | ----- | | ----- | |
| 2129 | INH-505 | 33.53 | | 1.58 | |
| 2132 | ZEK01.4-08 | 26.40 | | 0.03 | |
| 2138 | ZEK01.4-08 | 17.18 | | -1.98 | |
| 2139 | | 380.81 | C,R(0.01) | 77.17 | First reported 76.16 |
| 2156 | ZEK01.4-08 | 18.7 | | -1.64 | |
| 2165 | ZEK01.4-08 | 28.5 | | 0.49 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 25.1 | | -0.25 | |
| 2184 | ZEK01.4-08 | 26.2 | | -0.01 | |
| 2190 | | ----- | | ----- | |
| 2201 | ZEK01.4-08 | 27.74 | | 0.32 | |
| 2212 | ZEK01.4-08 | 25.44 | | -0.18 | |
| 2215 | ZEK01.4-08 | 30.2 | | 0.86 | |
| 2223 | INH-48001 | 16.93 | | -2.03 | |
| 2229 | ZEK01.4-08 | 22.68 | | -0.78 | |
| 2255 | ZEK01.4-08 | 29.8 | | 0.77 | |
| 2272 | ISO/TS16190 | 17.540 | | -1.90 | |
| 2284 | AfPS GS 2014:01 PAK | 31.20 | | 1.08 | |
| 2289 | ZEK01.4-08 | 25.0 | | -0.27 | |
| 2290 | ZEK01.4-08 | 29.137 | | 0.63 | |
| 2295 | | ----- | | ----- | |
| 2300 | in house | 29.26 | ex | 0.65 | Result excluded, see §4.1 |
| 2301 | | ----- | | ----- | |
| 2350 | | ----- | | ----- | |
| 2354 | ZEK01.4-08 | 24.12 | | -0.46 | |
| 2366 | ZEK01.4-08 | 29.22 | | 0.65 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 28.5 | | 0.49 | |
| 2372 | ZEK01.4-08 | 23.05 | | -0.70 | |
| 2375 | ZEK01.4-08 | 28.02 | | 0.38 | |
| 2380 | ZEK01.4-08 | 20.75 | | -1.20 | |
| 2386 | ZEK01.4-08 | 29.1 | | 0.62 | |
| 2390 | ZEK01.4-08 | 14.2732 | ex | -2.61 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 15.74 | | -2.29 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 33.04 | | 1.48 | |
| 2425 | ZEK01.4-08 | 38.96 | | 2.76 | |
| 2441 | ZEK01.4-08 | 26.9 | | 0.14 | |
| 2482 | ZEK01.4-08 | 17.89 | | -1.82 | |
| 2488 | ZEK | 122.5113 | R(0.01) | 20.95 | |
| 2489 | ZEK01.4-08 | 29.08 | ex | 0.61 | Result excluded, see §4.1 |
| 2492 | in house | 37.083 | | 2.36 | |
| 2493 | ZEK01.2-08 | 24.10 | | -0.47 | |
| 2494 | | ----- | | ----- | |
| 2511 | ZEK01.4-08 | 26.412 | | 0.03 | |
| 2525 | ZEK01.4-08 | 17.68 | | -1.87 | |
| 2532 | ZEK01.4-08 | 26.51 | ex | 0.06 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 39.25 | | 2.83 | |
| 2573 | ZEK | 24.014 | | -0.49 | |
| 2581 | ZEK01.4-08 | 29.8000 | | 0.77 | |
| 2605 | ZEK01.4-08 | 24.63 | | -0.35 | |
| 3100 | AfPS GS 2014:01 | 22.8 | | -0.75 | |
| 3146 | AfPS GS 2014:01 | 25.67 | | -0.13 | |
| 3149 | ZEK01.4-08 | 45.48 | C,ex | 4.18 | First reported 56.52. Result excluded, see §4.1 |
| 3150 | DIN15527 | 31.0 | | 1.03 | |
| 3151 | ZEK01.4-08 | 23.3 | | -0.64 | |
| 3153 | ZEK01.4-08 | 21.62 | | -1.01 | |
| 3154 | ZEK01.4-08 | 65.54 | R(0.01) | 8.55 | |
| 3163 | INH-GCMS | 30 | ex | 0.81 | Result excluded, see §4.1 |
| 3172 | ZEK | 31.13 | | 1.06 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 23.53 | | -0.59 | |
| 3190 | ZEK01.4-08 | 23.81 | | -0.53 | |
| 3197 | ZEK | 29.75 | | 0.76 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 36.19 | | 2.16 | |
| 3210 | CEN/TC309 | 27 | | 0.16 | |
| 3214 | ZEK01.4-08 | 18.8 | | -1.62 | |
| 3218 | AfPS GS 2014:01 PAK | 16.58 | | -2.11 | |
| 3220 | ZEK01.4-08 | 38.9 | C,ex | 2.75 | First reported 65.74. Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 29.7 | | 0.75 | |
| 3233 | | ----- | | ----- | |
| 3243 | INH-GC/MS | 24 | | -0.49 | |
| 3246 | | ----- | | ----- | |
| 3248 | ZEK01.4-08 | 33.2 | | 1.51 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 56 |
| | outliers | 4 (+9 excl) |
| | mean (n) | 26.256 |
| | st.dev. (n) | 5.6047 |
| | R(calc.) | 15.693 |
| | R(target) | 12.865 |

Compare R(Horwitz) = 7.193



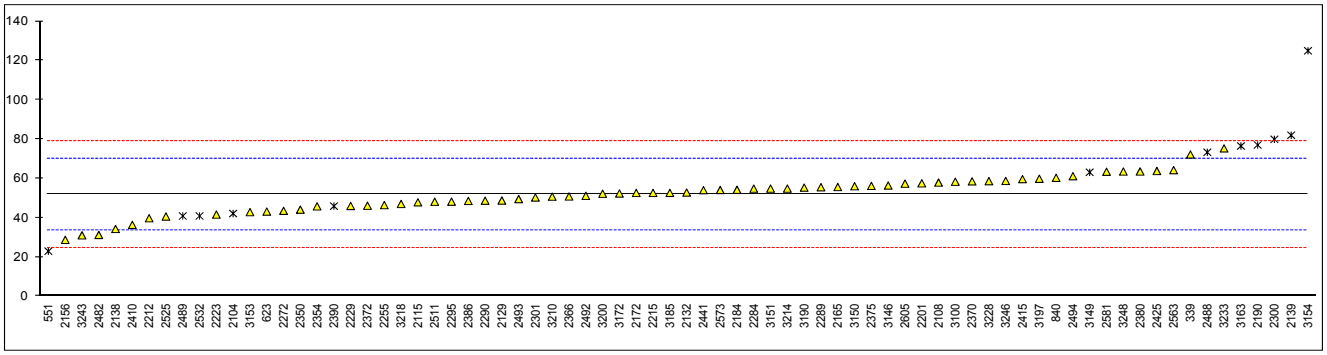
## Determination of Benzo[e]pyrene in sample #15009; results in mg/kg

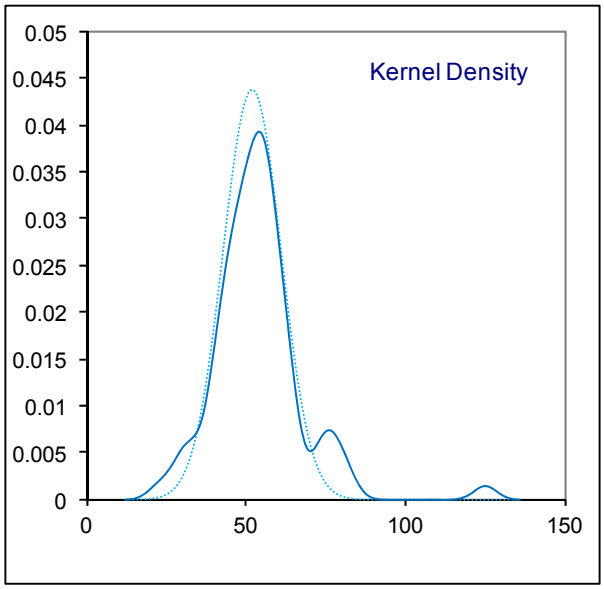
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 72.194 | | 2.24 | |
| 551 | in house | 22.93 | ex | -3.19 | Result excluded, see §4.1 |
| 622 | | ----- | | ----- | |
| 623 | AfPS GS 2014:01 PAK | 43.11 | | -0.97 | |
| 840 | AfPS GS 2014:01 PAK | 60.3 | | 0.93 | |
| 2104 | INH-GCMS | 42.09816 | ex | -1.08 | Result excluded, see §4.1 |
| 2108 | in house | 57.87 | | 0.66 | |
| 2115 | ZEK01.4-08 | 47.81 | | -0.45 | |
| 2129 | INH-505 | 48.73 | | -0.35 | |
| 2132 | ZEK01.4-08 | 52.80 | | 0.10 | |
| 2138 | ZEK01.4-08 | 34.24 | | -1.94 | |
| 2139 | | 81.97 | C,ex | 3.31 | First reported 16.39. Result excluded, see §4.1 |
| 2156 | ZEK01.4-08 | 28.7 | | -2.55 | |
| 2165 | ZEK01.4-08 | 55.6 | | 0.41 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 52.6 | | 0.08 | |
| 2184 | ZEK01.4-08 | 54.2 | | 0.25 | |
| 2190 | ZEK01.4-08 | 77.0 | ex | 2.77 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 57.49 | | 0.62 | |
| 2212 | ZEK01.4-08 | 39.70 | | -1.34 | |
| 2215 | ZEK01.4-08 | 52.6 | | 0.08 | |
| 2223 | INH-48001 | 41.58 | | -1.13 | |
| 2229 | ZEK01.4-08 | 45.96 | | -0.65 | |
| 2255 | ZEK01.4-08 | 46.4 | | -0.60 | |
| 2272 | ISO/TS16190 | 43.510 | | -0.92 | |
| 2284 | AfPS GS 2014:01 PAK | 54.78 | | 0.32 | |
| 2289 | ZEK01.4-08 | 55.5 | | 0.40 | |
| 2290 | ZEK01.4-08 | 48.624 | | -0.36 | |
| 2295 | ZEK01-08 | 48.17 | | -0.41 | |
| 2300 | in house | 79.89 | C,ex | 3.08 | First reported 102.02. Result excluded, see §4.1 |
| 2301 | LFGB | 50.28 | | -0.18 | |
| 2350 | ZEK01.4-08 | 44.0852 | | -0.86 | |
| 2354 | ZEK01.4-08 | 45.75 | | -0.68 | |
| 2366 | ZEK01.4-08 | 50.82 | | -0.12 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 58.5 | | 0.73 | |
| 2372 | ZEK01.4-08 | 46.08 | | -0.64 | |
| 2375 | ZEK01.4-08 | 56.16 | | 0.47 | |
| 2380 | ZEK01.4-08 | 63.52 | | 1.28 | |
| 2386 | ZEK01.4-08 | 48.5 | | -0.37 | |
| 2390 | ZEK01.4-08 | 45.8743 | ex | -0.66 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 36.33 | | -1.71 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 59.63 | | 0.85 | |
| 2425 | ZEK01.4-08 | 63.75 | | 1.31 | |
| 2441 | ZEK01.4-08 | 54.0 | | 0.23 | |
| 2482 | ZEK01.4-08 | 31.20 | | -2.28 | |
| 2488 | ZEK | 73.2794 | ex | 2.36 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 40.87 | ex | -1.21 | Result excluded, see §4.1 |
| 2492 | in house | 51.118 | | -0.08 | |
| 2493 | ZEK01.2-08 | 49.47 | | -0.27 | |
| 2494 | ZEK01.4-08 | 61.12 | C | 1.02 | First reported 108.75 |
| 2511 | ZEK01.4-08 | 48.128 | | -0.41 | |
| 2525 | ZEK01.4-08 | 40.59 | | -1.24 | |
| 2532 | ZEK01.4-08 | 40.87 | ex | -1.21 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 64.22 | | 1.36 | |
| 2573 | ZEK | 54.081 | | 0.24 | |
| 2581 | ZEK01.4-08 | 63.3808 | | 1.27 | |
| 2605 | ZEK01.4-08 | 57.33 | | 0.60 | |
| 3100 | AfPS GS 2014:01 | 58.3 | | 0.71 | |
| 3146 | AfPS GS 2014:01 | 56.37 | | 0.49 | |
| 3149 | ZEK01.4-08 | 63.11 | ex | 1.24 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 56.0 | | 0.45 | |
| 3151 | ZEK01.4-08 | 54.8 | | 0.32 | |
| 3153 | ZEK01.4-08 | 42.80 | | -1.00 | |
| 3154 | ZEK01.4-08 | 124.96 | R(0.01) | 8.05 | |
| 3163 | INH-GCMS | 76.5 | ex | 2.71 | Result excluded, see §4.1 |
| 3172 | ZEK | 52.32 | | 0.05 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 52.63 | | 0.08 | |
| 3190 | ZEK01.4-08 | 55.32 | | 0.38 | |
| 3197 | ZEK | 59.82 | | 0.87 | |

| | | | |
|---|---|---|---|
| 3200 | ZEK01.4-08 | 52.20 | 0.03 |
| 3210 | CEN/TC309 | 50.70 | -0.13 |
| 3214 | ZEK01.4-08 | 54.8 | 0.32 |
| 3218 | AfPS GS 2014:01 PAK | 46.99 | -0.54 |
| 3220 | ZEK01.4-08 | n.d. | ----- |
| 3228 | ZEK01.4-08 | 58.6 | 0.74 |
| 3233 | in house | 75.29 | 2.58 |
| 3243 | INH-GC/MS | 31 | -2.30 |
| 3246 | ZEK01.4-08 | 58.69 | 0.75 |
| 3248 | ZEK01.4-08 | 63.5 | 1.28 |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 1 (+11excl) |
| | mean (n) | 51.885 |
| | st.dev. (n) | 9.1033 |
| | R(calc.) | 25.489 |
| | R(target) | 25.424 |

Compare R(Horwitz) = 12.829



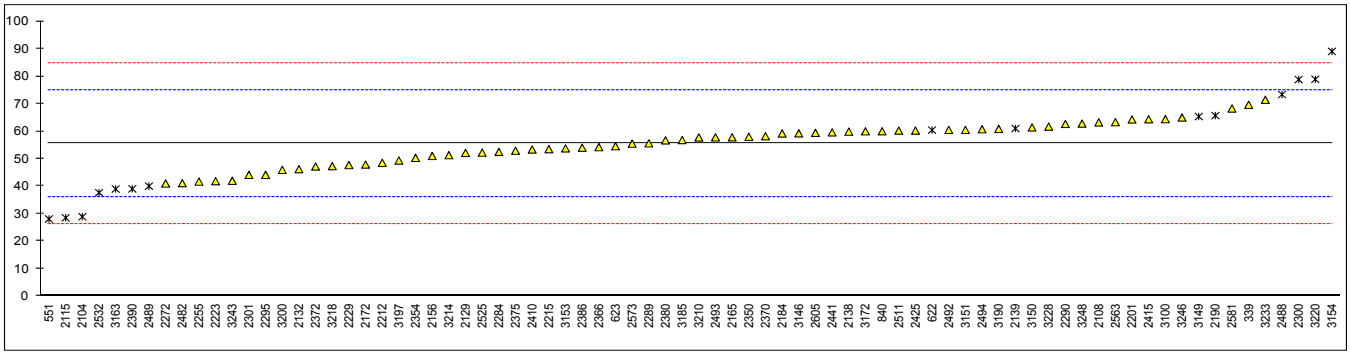
## Determination of Benzo[a]pyrene in sample #15009; results in mg/kg

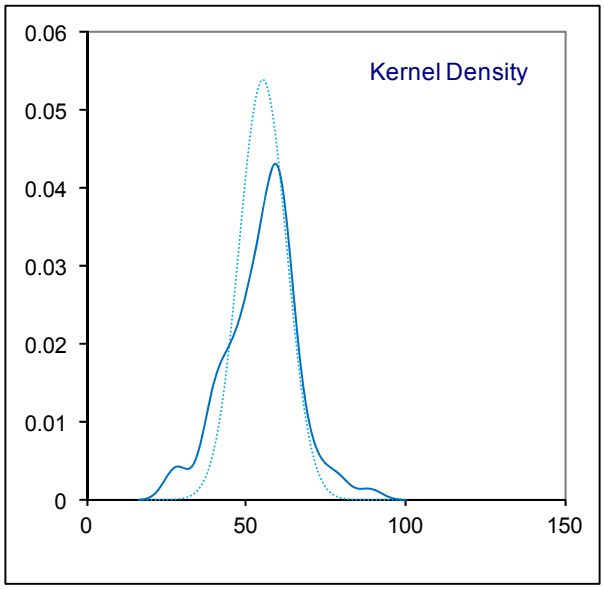
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 69.649 | | 1.45 | |
| 551 | in house | 28.09 | R(0.05) | -2.82 | |
| 622 | ZEK01.2-08 | 60.42 | ex | 0.50 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 54.56 | | -0.10 | |
| 840 | AfPS GS 2014:01 PAK | 60.0 | | 0.46 | |
| 2104 | INH-GCMS | 28.90295 | R(0.05) | -2.74 | |
| 2108 | in house | 63.22 | | 0.79 | |
| 2115 | ZEK01.4-08 | 28.52 | R(0.05) | -2.78 | |
| 2129 | INH-505 | 52.13 | | -0.35 | |
| 2132 | ZEK01.4-08 | 46.20 | | -0.96 | |
| 2138 | ZEK01.4-08 | 59.86 | | 0.44 | |
| 2139 | | 61.00 | C,ex | 0.56 | First reported 12.20. Result excluded, see §4.1 |
| 2156 | ZEK01.4-08 | 51.0 | | -0.47 | |
| 2165 | ZEK01.4-08 | 57.8 | | 0.23 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 47.9 | | -0.79 | |
| 2184 | ZEK01.4-08 | 59.2 | | 0.38 | |
| 2190 | ZEK01.4-08 | 65.7 | ex | 1.05 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 64.31 | | 0.90 | |
| 2212 | ZEK01.4-08 | 48.52 | | -0.72 | |
| 2215 | ZEK01.4-08 | 53.5 | | -0.21 | |
| 2223 | INH-48001 | 41.85 | | -1.41 | |
| 2229 | ZEK01.4-08 | 47.71 | | -0.81 | |
| 2255 | ZEK01.4-08 | 41.7 | | -1.42 | |
| 2272 | ISO/TS16190 | 41.010 | | -1.49 | |
| 2284 | AfPS GS 2014:01 PAK | 52.50 | | -0.31 | |
| 2289 | ZEK01.4-08 | 55.6 | | 0.01 | |
| 2290 | ZEK01.4-08 | 62.643 | | 0.73 | |
| 2295 | ZEK01-08 | 44.15 | | -1.17 | |
| 2300 | in house | 78.81 | ex | 2.39 | Result excluded, see §4.1 |
| 2301 | LFGB | 44.13 | | -1.17 | |
| 2350 | ZEK01.4-08 | 58.0047 | | 0.25 | |
| 2354 | ZEK01.4-08 | 50.31 | | -0.54 | |
| 2366 | ZEK01.4-08 | 54.22 | | -0.14 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 58.2 | | 0.27 | |
| 2372 | ZEK01.4-08 | 47.19 | | -0.86 | |
| 2375 | ZEK01.4-08 | 52.93 | | -0.27 | |
| 2380 | ZEK01.4-08 | 56.7 | | 0.12 | |
| 2386 | ZEK01.4-08 | 54.0 | | -0.16 | |
| 2390 | ZEK01.4-08 | 39.0511 | ex | -1.70 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 53.37 | | -0.22 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 64.36 | | 0.91 | |
| 2425 | ZEK01.4-08 | 60.25 | | 0.48 | |
| 2441 | ZEK01.4-08 | 59.6 | | 0.42 | |
| 2482 | ZEK01.4-08 | 41.15 | | -1.48 | |
| 2488 | ZEK | 73.3556 | ex | 1.83 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 40.04 | ex | -1.59 | Result excluded, see §4.1 |
| 2492 | in house | 60.494 | | 0.51 | |
| 2493 | ZEK01.2-08 | 57.78 | | 0.23 | |
| 2494 | ZEK01.4-08 | 60.73 | C | 0.53 | First reported 145.86 |
| 2511 | ZEK01.4-08 | 60.240 | | 0.48 | |
| 2525 | ZEK01.4-08 | 52.23 | | -0.34 | |
| 2532 | ZEK01.4-08 | 37.65 | ex | -1.84 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 63.31 | | 0.80 | |
| 2573 | ZEK | 55.482 | | -0.01 | |
| 2581 | ZEK01.4-08 | 68.2872 | | 1.31 | |
| 2605 | ZEK01.4-08 | 59.42 | | 0.40 | |
| 3100 | AfPS GS 2014:01 | 64.4 | | 0.91 | |
| 3146 | AfPS GS 2014:01 | 59.24 | | 0.38 | |
| 3149 | ZEK01.4-08 | 65.37 | ex | 1.01 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 61.4 | | 0.60 | |
| 3151 | ZEK01.4-08 | 60.5 | | 0.51 | |
| 3153 | ZEK01.4-08 | 53.77 | | -0.18 | |
| 3154 | ZEK01.4-08 | 89.03 | R(0.05) | 3.45 | |
| 3163 | INH-GCMS | 39 | ex | -1.70 | Result excluded, see §4.1 |
| 3172 | ZEK | 59.99 | | 0.46 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 56.81 | | 0.13 | |
| 3190 | ZEK01.4-08 | 60.86 | | 0.55 | |
| 3197 | ZEK | 49.36 | | -0.64 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 45.95 | | -0.99 | |
| 3210 | CEN/TC309 | 57.75 | | 0.23 | |
| 3214 | ZEK01.4-08 | 51.3 | | -0.44 | |
| 3218 | AfPS GS 2014:01 PAK | 47.31 | | -0.85 | |
| 3220 | ZEK01.4-08 | 78.9 | ex | 2.40 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 61.7 | | 0.63 | |
| 3233 | in house | 71.44 | | 1.64 | |
| 3243 | INH-GC/MS | 42 | | -1.39 | |
| 3246 | ZEK01.4-08 | 65.00 | | 0.97 | |
| 3248 | ZEK01.4-08 | 62.8 | | 0.75 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 63 |
| | outliers | 4 (+11excl) |
| | mean (n) | 55.539 |
| | st.dev. (n) | 7.4211 |
| | R(calc.) | 20.779 |
| | R(target) | 27.214 |

Compare R(Horwitz) = 13.592



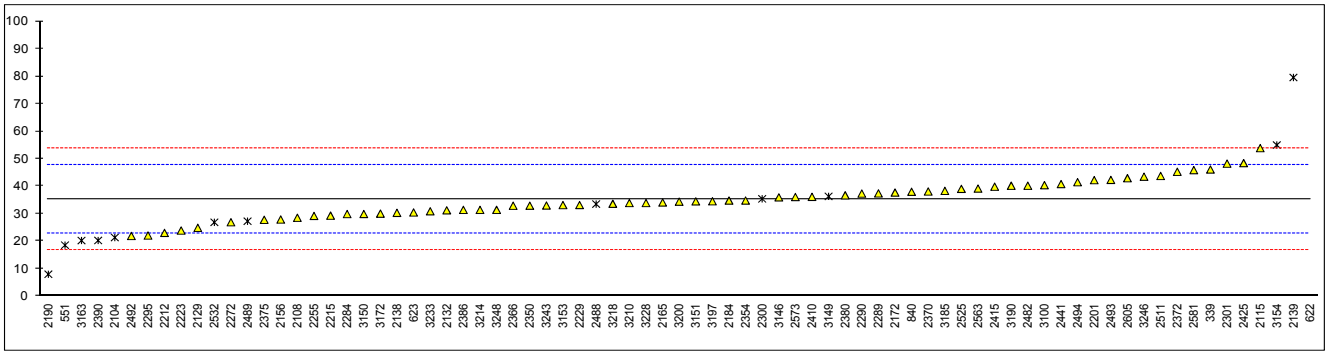
## Determination of Indeno[123-cd]pyrene in sample #15009; results in mg/kg

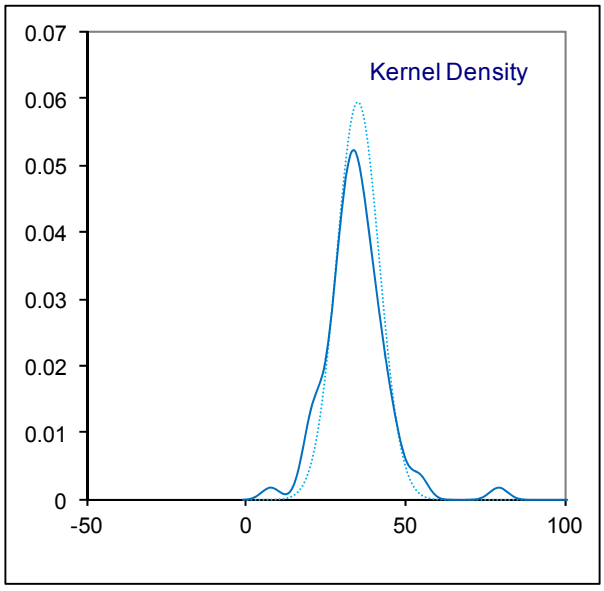
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 46.095 | | 1.74 | |
| 551 | in house | 18.56 | ex | -2.71 | Result excluded, see §4.1 |
| 622 | ZEK01.2-08 | 224.42 | C,R(0.01) | 30.58 | First reported 102.66 |
| 623 | AfPS GS 2014:01 PAK | 30.47 | | -0.79 | |
| 840 | AfPS GS 2014:01 PAK | 38.0 | | 0.43 | |
| 2104 | INH-GCMS | 21.35339 | ex | -2.26 | Result excluded, see §4.1 |
| 2108 | in house | 28.53 | | -1.10 | |
| 2115 | ZEK01.4-08 | 53.86 | | 3.00 | |
| 2129 | INH-505 | 24.87 | | -1.69 | |
| 2132 | ZEK01.4-08 | 31.25 | | -0.66 | |
| 2138 | ZEK01.4-08 | 30.33 | | -0.81 | |
| 2139 | | 79.55 | C,R(0.01) | 7.15 | First reported 15.91 |
| 2156 | ZEK01.4-08 | 27.9 | | -1.20 | |
| 2165 | ZEK01.4-08 | 34.1 | | -0.20 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 37.7 | | 0.38 | |
| 2184 | ZEK01.4-08 | 34.8 | | -0.09 | |
| 2190 | ZEK01.4-08 | 8.0 | R(0.05) | -4.42 | |
| 2201 | ZEK01.4-08 | 42.22 | | 1.11 | |
| 2212 | ZEK01.4-08 | 23.04 | | -1.99 | |
| 2215 | ZEK01.4-08 | 29.3 | | -0.98 | |
| 2223 | INH-48001 | 23.89 | | -1.85 | |
| 2229 | ZEK01.4-08 | 33.17 | | -0.35 | |
| 2255 | ZEK01.4-08 | 29.2 | | -0.99 | |
| 2272 | ISO/TS16190 | 26.901 | | -1.36 | |
| 2284 | AfPS GS 2014:01 PAK | 29.88 | | -0.88 | |
| 2289 | ZEK01.4-08 | 37.4 | | 0.33 | |
| 2290 | ZEK01.4-08 | 37.333 | | 0.32 | |
| 2295 | ZEK01-08 | 22.08 | | -2.14 | |
| 2300 | in house | 35.42 | ex | 0.01 | Result excluded, see §4.1 |
| 2301 | LFGB | 48.23 | | 2.09 | |
| 2350 | ZEK01.4-08 | 32.9259 | | -0.39 | |
| 2354 | ZEK01.4-08 | 34.81 | | -0.08 | |
| 2366 | ZEK01.4-08 | 32.92 | | -0.39 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 38.1 | | 0.45 | |
| 2372 | ZEK01.4-08 | 45.26 | | 1.61 | |
| 2375 | ZEK01.4-08 | 27.80 | | -1.22 | |
| 2380 | ZEK01.4-08 | 36.7 | | 0.22 | |
| 2386 | ZEK01.4-08 | 31.4 | | -0.64 | |
| 2390 | ZEK01.4-08 | 20.2802 | ex | -2.43 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 36.15 | | 0.13 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 39.84 | | 0.73 | |
| 2425 | ZEK01.4-08 | 48.41 | | 2.11 | |
| 2441 | ZEK01.4-08 | 40.8 | | 0.88 | |
| 2482 | ZEK01.4-08 | 40.19 | | 0.79 | |
| 2488 | ZEK | 33.5184 | C,ex | -0.29 | First reported 18.1913. Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 27.28 | ex | -1.30 | Result excluded, see §4.1 |
| 2492 | in house | 21.910 | | -2.17 | |
| 2493 | ZEK01.2-08 | 42.30 | | 1.13 | |
| 2494 | ZEK01.4-08 | 41.48 | C | 0.99 | First reported 58.74 |
| 2511 | ZEK01.4-08 | 43.735 | | 1.36 | |
| 2525 | ZEK01.4-08 | 39.05 | | 0.60 | |
| 2532 | ZEK01.4-08 | 26.883 | ex | -1.37 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 39.16 | | 0.62 | |
| 2573 | ZEK | 36.090 | | 0.12 | |
| 2581 | ZEK01.4-08 | 45.8757 | | 1.70 | |
| 2605 | ZEK01.4-08 | 42.91 | | 1.23 | |
| 3100 | AfPS GS 2014:01 | 40.4 | | 0.82 | |
| 3146 | AfPS GS 2014:01 | 35.955 | | 0.10 | |
| 3149 | ZEK01.4-08 | 36.33 | ex | 0.16 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 29.9 | | -0.88 | |
| 3151 | ZEK01.4-08 | 34.5 | | -0.13 | |
| 3153 | ZEK01.4-08 | 33.15 | | -0.35 | |
| 3154 | ZEK01.4-08 | 54.99 | ex | 3.18 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 20.25 | ex | -2.44 | Result excluded, see §4.1 |
| 3172 | ZEK | 30.04 | | -0.86 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 38.32 | | 0.48 | |
| 3190 | ZEK01.4-08 | 40.18 | | 0.78 | |
| 3197 | ZEK | 34.53 | | -0.13 | |

| | | | |
|---|---|---|---|
| 3200 | ZEK01.4-08 | 34.40 | -0.15 |
| 3210 | CEN/TC309 | 33.90 | -0.23 |
| 3214 | ZEK01.4-08 | 31.4 | -0.64 |
| 3218 | AfPS GS 2014:01 PAK | 33.63 | -0.28 |
| 3220 | ZEK01.4-08 | n.d. | ----- |
| 3228 | ZEK01.4-08 | 33.9 | -0.23 |
| 3233 | in house | 30.89 | -0.72 |
| 3243 | INH-GC/MS | 33 | -0.38 |
| 3246 | ZEK01.4-08 | 43.48 | 1.32 |
| 3248 | ZEK01.4-08 | 31.4 | -0.64 |

| | |
|---|---|
| normality | OK |
| n | 64 |
| outliers | 3 (+10 excl) |
| mean (n) | 35.333 |
| st.dev. (n) | 6.7070 |
| R(calc.) | 18.780 |
| R(target) | 19.787 |

Compare R(Horwitz) = 9.256



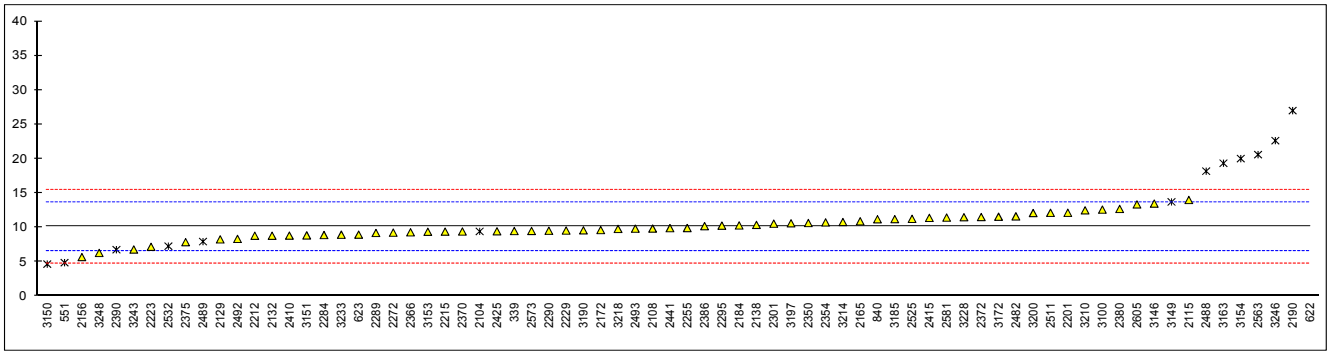
## Determination of Dibenzo[a,h]anthracene in sample #15009; results in mg/kg

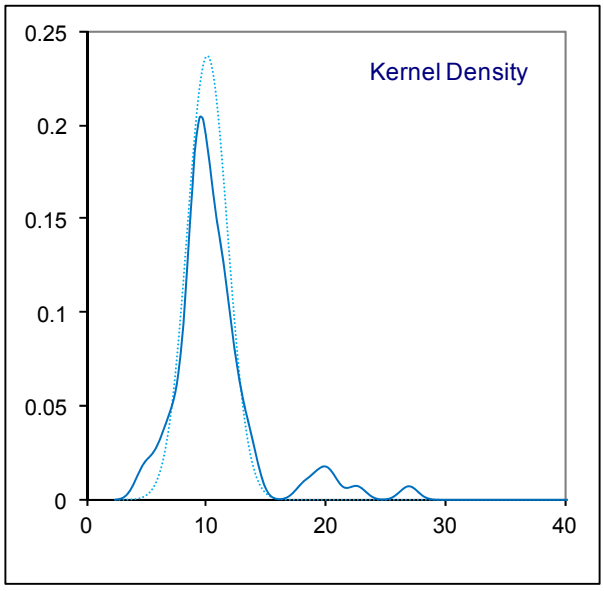
| lab | method | value | mark | z(targ) | remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 9.486 | | -0.36 | |
| 551 | in house | 4.88 | R(0.01) | -2.96 | |
| 622 | ZEK01.2-08 | 64.51 | C,R(0.01) | 30.68 | First reported 32.20 |
| 623 | AfPS GS 2014:01 PAK | 8.96 | | -0.66 | |
| 840 | AfPS GS 2014:01 PAK | 11.2 | | 0.60 | |
| 2104 | INH-GCMS | 9.43228 | ex | -0.39 | Result excluded, see §4.1 |
| 2108 | in house | 9.84 | | -0.16 | |
| 2115 | ZEK01.4-08 | 14 | C | 2.18 | First reported 26.20 |
| 2129 | INH-505 | 8.27 | | -1.05 | |
| 2132 | ZEK01.4-08 | 8.80 | | -0.75 | |
| 2138 | ZEK01.4-08 | 10.38 | C | 0.14 | First reported 19.38 |
| 2139 | | ----- | | ----- | |
| 2156 | ZEK01.4-08 | 5.7 | | -2.50 | |
| 2165 | ZEK01.4-08 | 10.9 | | 0.44 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 9.63 | | -0.28 | |
| 2184 | ZEK01.4-08 | 10.3 | | 0.10 | |
| 2190 | ZEK01.4-08 | 27.0 | R(0.01) | 9.52 | |
| 2201 | ZEK01.4-08 | 12.14 | | 1.14 | |
| 2212 | ZEK01.4-08 | 8.80 | | -0.75 | |
| 2215 | ZEK01.4-08 | 9.4 | | -0.41 | |
| 2223 | INH-48001 | 7.19 | | -1.66 | |
| 2229 | ZEK01.4-08 | 9.56 | | -0.32 | |
| 2255 | ZEK01.4-08 | 9.92 | | -0.12 | |
| 2272 | ISO/TS16190 | 9.251 | | -0.49 | |
| 2284 | AfPS GS 2014:01 PAK | 8.90 | | -0.69 | |
| 2289 | ZEK01.4-08 | 9.2 | | -0.52 | |
| 2290 | ZEK01.4-08 | 9.526 | | -0.34 | |
| 2295 | ZEK01-08 | 10.27 | C | 0.08 | First reported 19.27 |
| 2300 | in house | n.d. | C | ----- | First reported 27.23 |
| 2301 | LFGB | 10.558 | | 0.24 | |
| 2350 | ZEK01.4-08 | 10.6467 | | 0.29 | |
| 2354 | ZEK01.4-08 | 10.74 | | 0.35 | |
| 2366 | ZEK01.4-08 | 9.30 | | -0.47 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 9.42 | | -0.40 | |
| 2372 | ZEK01.4-08 | 11.52 | | 0.79 | |
| 2375 | ZEK01.4-08 | 7.87 | | -1.27 | |
| 2380 | ZEK01.4-08 | 12.7 | | 1.45 | |
| 2386 | ZEK01.4-08 | 10.2 | | 0.04 | |
| 2390 | ZEK01.4-08 | 6.768 | C,ex | -1.90 | First reported 4.2615. Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 8.82 | | -0.74 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 11.40 | | 0.72 | |
| 2425 | ZEK01.4-08 | 9.45 | | -0.38 | |
| 2441 | ZEK01.4-08 | 9.90 | | -0.13 | |
| 2482 | ZEK01.4-08 | 11.62 | | 0.84 | |
| 2488 | ZEK | 18.1913 | C,R(0.01) | 4.55 | First reported 33.5184 |
| 2489 | ZEK01.4-08 | 7.944 | ex | -1.23 | Result excluded, see §4.1 |
| 2492 | in house | 8.340 | | -1.01 | |
| 2493 | ZEK01.2-08 | 9.829 | | -0.17 | |
| 2494 | | ----- | | ----- | |
| 2511 | ZEK01.4-08 | 12.136 | | 1.13 | |
| 2525 | ZEK01.4-08 | 11.26 | | 0.64 | |
| 2532 | ZEK01.4-08 | 7.28 | ex | -1.61 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 20.6 | R(0.01) | 5.91 | |
| 2573 | ZEK | 9.499 | | -0.35 | |
| 2581 | ZEK01.4-08 | 11.4403 | | 0.74 | |
| 2605 | ZEK01.4-08 | 13.36 | | 1.82 | |
| 3100 | AfPS GS 2014:01 | 12.6 | | 1.39 | |
| 3146 | AfPS GS 2014:01 | 13.48 | | 1.89 | |
| 3149 | ZEK01.4-08 | 13.72 | ex | 2.03 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 4.67 | R(0.01) | -3.08 | |
| 3151 | ZEK01.4-08 | 8.85 | | -0.72 | |
| 3153 | ZEK01.4-08 | 9.38 | | -0.42 | |
| 3154 | ZEK01.4-08 | 20.02 | R(0.01) | 5.58 | |
| 3163 | INH-GCMS | 19.35 | R(0.01) | 5.20 | |
| 3172 | ZEK | 11.57 | | 0.81 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 11.22 | | 0.62 | |
| 3190 | ZEK01.4-08 | 9.59 | | -0.30 | |
| 3197 | ZEK | 10.61 | | 0.27 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 12.1 | C | 1.11 | First reported 31.80 |
| 3210 | CEN/TC309 | 12.50 | | 1.34 | |
| 3214 | ZEK01.4-08 | 10.8 | | 0.38 | |
| 3218 | AfPS GS 2014:01 PAK | 9.79 | | -0.19 | |
| 3220 | ZEK01.4-08 | n.d. | | ----- | |
| 3228 | ZEK01.4-08 | 11.5 | | 0.77 | |
| 3233 | in house | 8.95 | | -0.66 | |
| 3243 | INH-GC/MS | 6.8 | | -1.88 | |
| 3246 | ZEK01.4-08 | 22.63 | R(0.01) | 7.05 | |
| 3248 | ZEK01.4-08 | 6.3 | | -2.16 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 60 |
| | outliers | 9 (+5 excl) |
| | mean (n) | 10.128 |
| | st.dev. (n) | 1.6871 |
| | R(calc.) | 4.724 |
| | R(target) | 4.963 |

Compare R(Horwitz) = 3.202



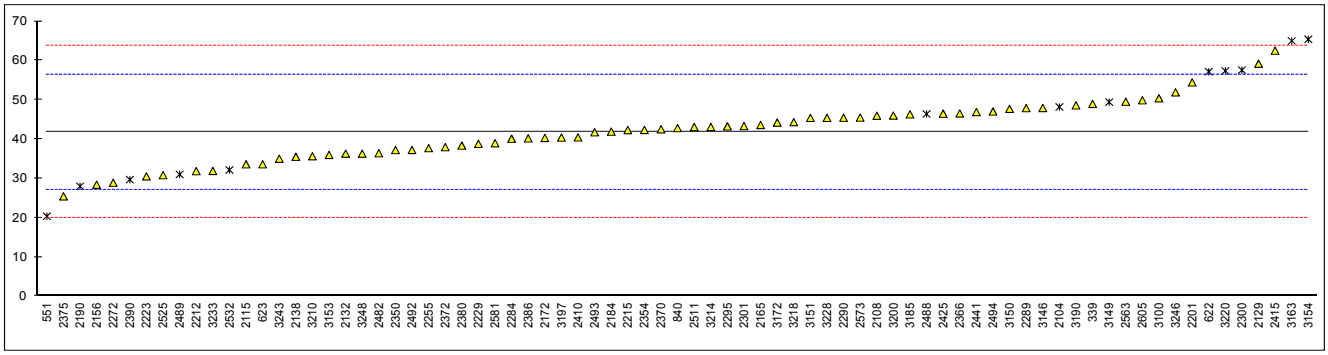
## Determination of Benzo[g,h,i]perylene in sample #15009; results in mg/kg

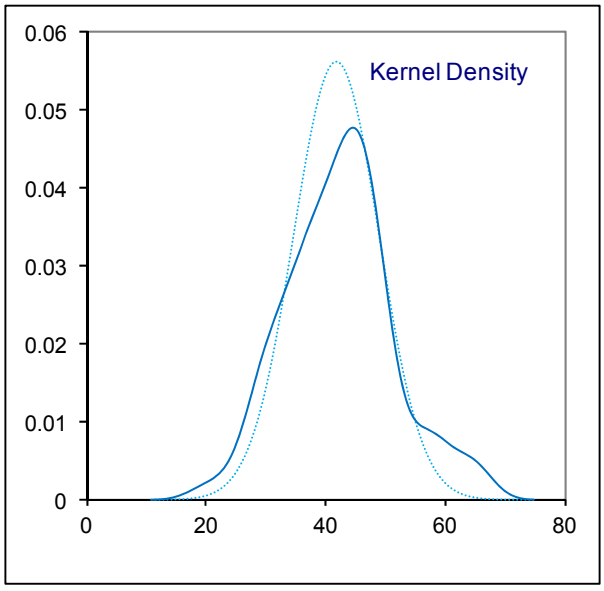
| lab | method | value | mark | z(targ) | Remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 48.971 | | 0.97 | |
| 551 | in house | 20.34 | R(0.01) | -2.94 | |
| 622 | ZEK01.2-08 | 57.15 | ex | 2.09 | Result excluded, see §4.1 |
| 623 | AfPS GS 2014:01 PAK | 33.59 | | -1.13 | |
| 840 | AfPS GS 2014:01 PAK | 42.8 | | 0.13 | |
| 2104 | INH-GCMS | 48.17603 | ex | 0.86 | Result excluded, see §4.1 |
| 2108 | in house | 45.96 | | 0.56 | |
| 2115 | ZEK01.4-08 | 33.59 | | -1.13 | |
| 2129 | INH-505 | 59.20 | | 2.37 | |
| 2132 | ZEK01.4-08 | 36.30 | | -0.76 | |
| 2138 | ZEK01.4-08 | 35.50 | | -0.87 | |
| 2139 | | ----- | | ----- | |
| 2156 | ZEK01.4-08 | 28.4 | | -1.84 | |
| 2165 | ZEK01.4-08 | 43.6 | | 0.24 | |
| 2169 | | ----- | | ----- | |
| 2172 | ZEK01.4-08 | 40.3 | | -0.21 | |
| 2184 | ZEK01.4-08 | 41.9 | | 0.01 | |
| 2190 | ZEK01.4-08 | 28.0 | ex | -1.89 | Result excluded, see §4.1 |
| 2201 | ZEK01.4-08 | 54.45 | | 1.72 | |
| 2212 | ZEK01.4-08 | 31.84 | | -1.37 | |
| 2215 | ZEK01.4-08 | 42.3 | | 0.06 | |
| 2223 | INH-48001 | 30.51 | | -1.55 | |
| 2229 | ZEK01.4-08 | 38.80 | | -0.42 | |
| 2255 | ZEK01.4-08 | 37.7 | | -0.57 | |
| 2272 | ISO/TS16190 | 28.901 | | -1.77 | |
| 2284 | AfPS GS 2014:01 PAK | 40.10 | | -0.24 | |
| 2289 | ZEK01.4-08 | 47.9 | | 0.83 | |
| 2290 | ZEK01.4-08 | 45.446 | | 0.49 | |
| 2295 | ZEK01-08 | 43.25 | | 0.19 | |
| 2300 | in house | 57.58 | C,ex | 2.15 | First reported 71.85. Result excluded, see §4.1 |
| 2301 | LFGB | 43.324 | | 0.20 | |
| 2350 | ZEK01.4-08 | 37.224 | | -0.63 | |
| 2354 | ZEK01.4-08 | 42.34 | | 0.07 | |
| 2366 | ZEK01.4-08 | 46.52 | | 0.64 | |
| 2369 | | ----- | | ----- | |
| 2370 | AfPS GS 2014:01 PAK | 42.5 | | 0.09 | |
| 2372 | ZEK01.4-08 | 37.95 | | -0.53 | |
| 2375 | ZEK01.4-08 | 25.43 | | -2.24 | |
| 2380 | ZEK01.4-08 | 38.35 | | -0.48 | |
| 2386 | ZEK01.4-08 | 40.2 | | -0.22 | |
| 2390 | ZEK01.4-08 | 29.6824 | ex | -1.66 | Result excluded, see §4.1 |
| 2410 | ZEK01.4-08 | 40.43 | | -0.19 | |
| 2413 | | ----- | | ----- | |
| 2415 | ZEK01.4-08 | 62.52 | | 2.82 | |
| 2425 | ZEK01.4-08 | 46.47 | | 0.63 | |
| 2441 | ZEK01.4-08 | 46.9 | | 0.69 | |
| 2482 | ZEK01.4-08 | 36.40 | | -0.74 | |
| 2488 | ZEK | 46.3916 | ex | 0.62 | Result excluded, see §4.1 |
| 2489 | ZEK01.4-08 | 31.00 | ex | -1.48 | Result excluded, see §4.1 |
| 2492 | in house | 37.230 | | -0.63 | |
| 2493 | ZEK01.2-08 | 41.75 | | -0.01 | |
| 2494 | ZEK01.4-08 | 47.03 | C | 0.71 | First reported 128.60 |
| 2511 | ZEK01.4-08 | 43.074 | | 0.17 | |
| 2525 | ZEK01.4-08 | 30.82 | | -1.51 | |
| 2532 | ZEK01.4-08 | 32.135 | ex | -1.33 | Result excluded, see §4.1 |
| 2563 | ZEK01.4-08 | 49.53 | | 1.05 | |
| 2573 | ZEK | 45.482 | | 0.50 | |
| 2581 | ZEK01.4-08 | 38.9521 | | -0.40 | |
| 2605 | ZEK01.4-08 | 49.90 | | 1.10 | |
| 3100 | AfPS GS 2014:01 | 50.4 | | 1.17 | |
| 3146 | AfPS GS 2014:01 | 47.92 | | 0.83 | |
| 3149 | ZEK01.4-08 | 49.42 | ex | 1.03 | Result excluded, see §4.1 |
| 3150 | DIN15527 | 47.7 | | 0.80 | |
| 3151 | ZEK01.4-08 | 45.4 | | 0.49 | |
| 3153 | ZEK01.4-08 | 35.98 | | -0.80 | |
| 3154 | ZEK01.4-08 | 65.41 | ex | 3.22 | Result excluded, see §4.1 |
| 3163 | INH-GCMS | 65 | ex | 3.16 | Result excluded, see §4.1 |
| 3172 | ZEK | 44.21 | | 0.32 | |
| 3180 | | ----- | | ----- | |
| 3185 | AfPS GS 2014:01 PAK | 46.31 | | 0.61 | |
| 3190 | ZEK01.4-08 | 48.59 | | 0.92 | |
| 3197 | ZEK | 40.40 | | -0.20 | |

| | | | | | |
|---|---|---|---|---|---|
| 3200 | ZEK01.4-08 | 46.00 | | 0.57 | |
| 3210 | CEN/TC309 | 35.65 | | -0.85 | |
| 3214 | ZEK01.4-08 | 43.1 | | 0.17 | |
| 3218 | AfPS GS 2014:01 PAK | 44.32 | | 0.34 | |
| 3220 | ZEK01.4-08 | 57.37 | ex | 2.12 | Result excluded, see §4.1 |
| 3228 | ZEK01.4-08 | 45.4 | | 0.49 | |
| 3233 | in house | 31.90 | | -1.36 | |
| 3243 | INH-GC/MS | 35 | | -0.93 | |
| 3246 | ZEK01.4-08 | 51.91 | | 1.37 | |
| 3248 | ZEK01.4-08 | 36.3 | | -0.76 | |

| | | |
|---|---|---|
| | normality | OK |
| | n | 64 |
| | outliers | 1 (+12excl) |
| | mean (n) | 41.846 |
| | st.dev. (n) | 7.1119 |
| | R(calc.) | 19.913 |
| | R(target) | 20.504 |

Compare R(Horwitz) = 10.687



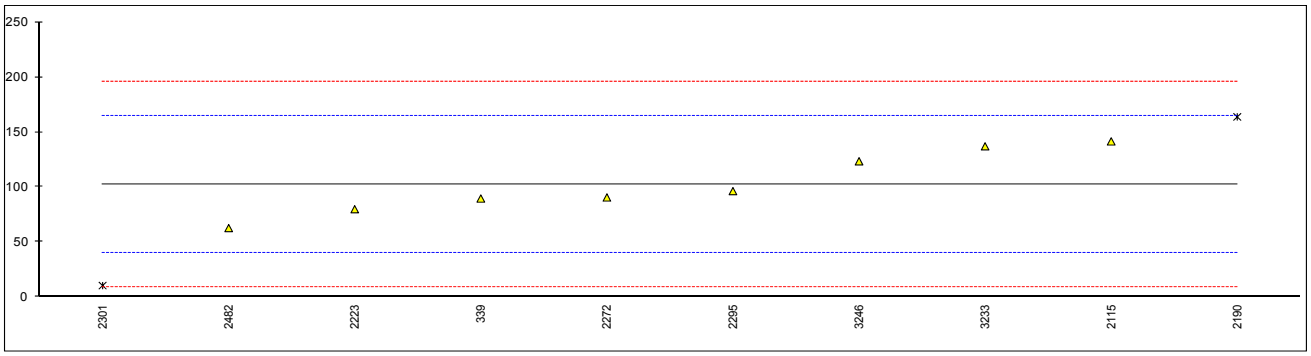



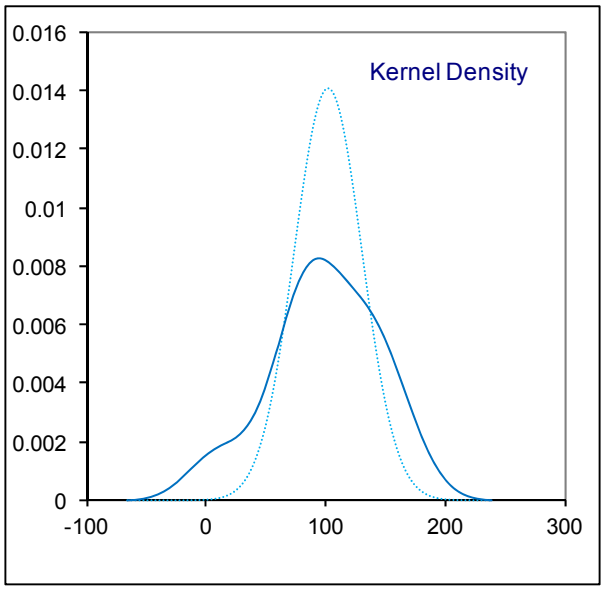
Determination of Sum of [b],[j] and [k] Benzo()fluoranthene in sample #15009; results in mg/kg

| lab | method | value | mark | z(targ) | remarks |
|---|---|---|---|---|---|
| 310 | | ----- | | ----- | |
| 339 | INH-GC/MS | 89.586 | | -0.42 | |
| 551 | | ----- | | ----- | |
| 622 | | ----- | | ----- | |
| 623 | | ----- | | ----- | |
| 840 | | ----- | | ----- | |
| 2104 | | ----- | | ----- | |
| 2108 | | ----- | | ----- | |
| 2115 | ZEK01.4-08 | 141.52 | | 1.25 | |
| 2129 | | ----- | | ----- | |
| 2132 | | ----- | | ----- | |
| 2138 | | ----- | | ----- | |
| 2139 | | ----- | | ----- | |
| 2156 | | ----- | | ----- | |
| 2165 | | ----- | | ----- | |
| 2169 | | ----- | | ----- | |
| 2172 | | ----- | | ----- | |
| 2184 | | ----- | | ----- | |
| 2190 | ZEK01.4-08 | 163.8 | ex | 1.97 | Result excluded, see §4.1 |
| 2201 | | ----- | | ----- | |
| 2212 | | ----- | | ----- | |
| 2215 | | ----- | | ----- | |
| 2223 | INH-48001 | 79.85 | | -0.73 | |
| 2229 | | ----- | | ----- | |
| 2255 | | ----- | | ----- | |
| 2272 | ISO/TS16190 | 90.552 | | -0.39 | |
| 2284 | | ----- | | ----- | |
| 2289 | | ----- | | ----- | |
| 2290 | | ----- | | ----- | |
| 2295 | ZEK01-08 | 96.3 | | -0.20 | |
| 2300 | | ----- | | ----- | |
| 2301 | LFGB | 10.374 | G(0.05) | -2.97 | |
| 2350 | | ----- | | ----- | |
| 2354 | | ----- | | ----- | |
| 2366 | | ----- | | ----- | |
| 2369 | | ----- | | ----- | |
| 2370 | | ----- | | ----- | |
| 2372 | | ----- | | ----- | |
| 2375 | | ----- | | ----- | |
| 2380 | | ----- | | ----- | |
| 2386 | | ----- | | ----- | |
| 2390 | | ----- | | ----- | |
| 2410 | | ----- | | ----- | |
| 2413 | | ----- | | ----- | |
| 2415 | | ----- | | ----- | |
| 2425 | | ----- | | ----- | |
| 2441 | | ----- | | ----- | |
| 2482 | ZEK01.4-08 | 62.70 | | -1.28 | |
| 2488 | | ----- | | ----- | |
| 2489 | | ----- | | ----- | |
| 2492 | | ----- | | ----- | |
| 2493 | | ----- | | ----- | |
| 2494 | | ----- | | ----- | |
| 2511 | | ----- | | ----- | |
| 2525 | | ----- | | ----- | |
| 2532 | | ----- | | ----- | |
| 2563 | | ----- | | ----- | |
| 2573 | | ----- | | ----- | |
| 2581 | | ----- | | ----- | |
| 2605 | | ----- | | ----- | |
| 3100 | | ----- | | ----- | |
| 3146 | | ----- | | ----- | |
| 3149 | | ----- | | ----- | |
| 3150 | | ----- | | ----- | |
| 3151 | | ----- | | ----- | |
| 3153 | | ----- | | ----- | |
| 3154 | | ----- | | ----- | |
| 3163 | | ----- | | ----- | |
| 3172 | | ----- | | ----- | |
| 3180 | | ----- | | ----- | |
| 3185 | | ----- | | ----- | |
| 3190 | | ----- | | ----- | |
| 3197 | | ----- | | ----- | |

| | | | |
|---|---|---|---|
| 3200 | | ----- | ----- |
| 3210 | | ----- | ----- |
| 3214 | | ----- | ----- |
| 3218 | | ----- | ----- |
| 3220 | | ----- | ----- |
| 3228 | | ----- | ----- |
| 3233 | in house | 137.06 | 1.11 |
| 3243 | | ----- | ----- |
| 3246 | ZEK01.4-08 | 123.42 | 0.67 |
| 3248 | | ----- | ----- |

| | |
|---|---|
| normality | OK |
| n | 8 |
| outliers | 1 (+1 excl) |
| mean (n) | 102.623 |
| st.dev. (n) | 28.2830 |
| R(calc.) | 79.192 |
| R(target) | 87.097 |



## APPENDIX 2

### Number of participants per country

| | |
|---|---|
| 3 labs | BANGLADESH |
| 1 lab in | BRAZIL |
| 1 lab in | DENMARK |
| 4 labs in | FRANCE |
| 12 labs in | GERMANY |
| 8 labs in | HONG KONG |
| 1 lab in | HUNGARY |
| 4 labs in | INDIA |
| 4 labs in | INDONESIA |
| 2 labs in | ITALY |
| 1 lab in | JAPAN |
| 4 labs in | KOREA |
| 1 lab in | MALAYSIA |
| 19 labs in | P.R. of CHINA |
| 1 lab in | PAKISTAN |
| 2 labs in | SWITZERLAND |
| 3 labs in | TAIWAN R.O.C. |
| 2 labs in | THE NETHERLANDS |
| 1 lab in | TUNESIA |
| 5 labs in | TURKEY |
| 1 lab in | U.S.A. |
| 4 labs in | VIETNAM |

## APPENDIX 3

**Abbreviations**:

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

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