Results of Proficiency Test Colorants in textile (Allergenic & Carcinogenic) March 2018

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

Author: ing. C.M. Nijssen-Wester
Correctors: dr. R.G. Visser & ing. A.S. Noordman-de Neef

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1 INTRODUCTION

Coloured fabrics, when in contact with human skin, may cause Allergic Contact Dermatitis. Several dyestuffs are therefore classified as allergenic. Textiles are not allowed to contain more than 50 mg/kg of the dyes listed in to the latest Öko-tex Standard 100 edition 02/2018, of which 9 dyes are mentioned in DIN54231 (see appendix 2 for details on the dyes).
The Öko-tex Standard 100 also lists a number of carcinogenic dyes and other banned dyestuffs (see also appendix 2). With every update of the standard more banned dyes are added.

The ban on the above dyes has become a widely publicised issue in the textile industry. Dyestuff manufacturers, processors and exporters are careful in the selection of the dyes. However, several dyestuffs that are skin sensitizers may still be in use for dyeing polyester and nylon. In this context and in response to requests from several laboratories, the Institute for Interlaboratory Studies (iis) organises a proficiency test for allergenic dyes in textile in the annual proficiency test program since 2003. The scope was extended with carcinogenic and other banned dyes in 2016.

During the annual proficiency testing program 2017/2018, it was decided to continue the PT for the analyses of banned colorants in textile. In this interlaboratory study, 93 laboratories in 25 different countries registered for participation (see appendix 3). In this report, the results of the 2018 PT are presented and discussed. This report is also electronically available through the iis website www.iisnl.com.

2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organiser of this proficiency test (PT). Sample analyses for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC 17025 accredited laboratory. It was decided to send 2 different textile samples of 3 grams each; one treated with two banned dye-stuffs (labelled #18530) and one treated with seven other banned dye-stuffs (labelled #18531).
The participants were requested to report test results using the indicated units and to report rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, is accredited in agreement with ISO/IEC 17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accredited scope. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organisation of this PT was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of March 2017 (iis-protocol, version 3.4). This protocol is electronically available through the iis website www.iisnl.com, from the FAQ page.

2.3 CONFIDENTIALITY STATEMENT

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

2.4 SAMPLES

Two different bulk textile samples were used in this proficiency test. The first batch, an orange/red polyester (sample #18530) and the second batch, a green cotton (sample #18531) were both prepared by a third party. From the first batch, 108 samples with small pieces of polyester, of approximately 3 gram each were prepared and labelled #18530. From the second batch, 106 samples with small pieces of cotton, of approximately 3 gram each were prepared and labelled #18531.

The homogeneity of the subsamples of #18530 was checked by determination of Disperse Orange 1 and Disperse Red 17 according to DIN54231 on eight stratified randomly selected samples, see table 1 for the test results.

	Disperse Orange 1 in mg/kg	*Disperse Red 17 in mg/kg*
sample #18530-1	107.7	103.1
sample #18530-2	105.7	96.1
sample #18530-3	113.3	108.2
sample #18530-4	105.9	101.4
sample #18530-5	101.9	98.3
sample #18530-6	115.7	107.5
sample #18530-7	114.9	105.1
sample #18530-8	96.9	93.2

Table 1: homogeneity test results of subsamples #18530

From the above test results, the repeatabilities were calculated and compared with 0.3 times the corresponding reproducibilities of the reference test method in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Disperse Orange 1 in mg/kg	*Disperse Red 17 in mg/kg*
r (observed)	18.5	15.1
reference test method	DIN54261:05	DIN54261:05
0.3 * R (ref. test method)	25.9	24.4

Table 2: repeatability of subsamples #18530

The calculated repeatabilities of the homogeneity test results were in agreement with 0.3 times the reproducibilities mentioned in the reference test method. Therefore, homogeneity of the subsamples of #18530 was assumed.

The homogeneity of the subsamples of #18531 was checked by determination of Disperse Orange 37 = 76, Disperse Yellow 3, Disperse Orange 149 and Disperse Yellow 23 according to DIN 54231 on eight stratified randomly selected samples, see table 2 for the test results.

	Disperse Orange 37 = 76 in mg/kg	*Disperse Yellow 3 in mg/kg*	*Disperse Orange 149 in mg/kg*	*Disperse Yellow 23 in mg/kg*
sample #18531-1	100.2	68.6	64.2	169
sample #18531-2	96.4	70.2	65.8	182
sample #18531-3	100.2	69.6	68.0	193
sample #18531-4	98.6	67.3	67.6	181
sample #18531-5	99.1	70.0	65.6	187
sample #18531-6	98.5	68.7	65.7	182
sample #18531-7	100.7	67.1	66.3	186
sample #18531-8	103.2	67.5	70.3	192

Table 3: homogeneity test results of subsamples #18531

From the above test results, the repeatabilities were calculated and compared with 0.3 times the corresponding reproducibilities of the reference test method in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	Disperse Orange 37 = 76 in mg/kg	*Disperse Yellow 3 in mg/kg*	*Disperse Orange 149 in mg/kg*	*Disperse Yellow 23 in mg/kg*
r (observed)	5.6	3.5	5.3	21.2
reference test method	DIN54231:05	DIN54231:05	DIN54231:05	DIN54231:05
0.3 * R (ref. test method)	24.0	16.5	16.0	44.2

Table 4: repeatability of subsamples #18531

The calculated repeatabilities of the homogeneity test results were in agreement with 0.3 times the reproducibilities mentioned in the reference test method. Therefore, homogeneity of the subsamples of #18531 was assumed.

To the participating laboratories was sent one sample labelled #18530 and one sample labelled #18531 on March 7, 2018.

2.5 ANALYSES

The participants were asked to determine the concentrations of 22 banned allergenic dyes, 11 banned carcinogenic dyes and 6 other banned dyes on sample #18530 and sample #18531, applying the analysis procedure that is routinely used in the laboratory.

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

To get comparable test results a detailed report form and a letter of instructions are prepared. The detailed report form and the letter of instructions are both made available on the data entry portal www.kpmd.co.uk/sgs-iis-cts/. The participating laboratories were also requested to confirm the sample receipt on this data entry portal. The letter of instructions can also be downloaded from the iis website www.iisn.com.

3 RESULTS

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

Directly after the deadline, a reminder was sent to those laboratories that did not report test results at that moment.

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

3.1 STATISTICS

The protocol followed in the 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 March 2017 (iis-protocol, version 3.4).

For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded test results. Test results reported as ‘<...’ or ‘>...’ were not used in the statistical evaluation.

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

In accordance to ISO 5725 the original test results per determination were submitted subsequently to Dixon’s, Grubbs’ and or Rosner’s outlier tests. Outliers are marked by D(0.01) for the Dixon’s test, by G(0.01) or DG(0.01) for the Grubbs’ test and by R(0.01) for the Rosner’s test. Stragglers are marked by D(0.05) for the Dixon’s test, by G(0.05) or DG(0.05) for the Grubbs’ test and by R(0.05) for the Rosner’s test. Both outliers and stragglers were not included in the calculations of 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 significant consequences for the evaluation of the test results.

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

3.2 GRAPHICS

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

The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. The Kernel Density Graph is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also a normal Gauss curve was projected over the Kernel Density Graph for reference.

3.3 Z-SCORES

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

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

When a laboratory did use a test method with a reproducibility that is significantly different from the reproducibility of the reference test method used in this report, it is strongly advised to recalculate the z-score, while using the reproducibility of the actual test method used. This should be done in order to evaluate whether the reported test results are fit-for-purpose.

The z-scores were calculated in accordance with:

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

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

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

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

4 EVALUATION

During the execution of this proficiency test some reporting problems occurred. Nine participants reported the test results after the deadline and five participants did not report any test results at all. Finally, 88 participants did report 657 numerical test results. Observed were 21 outlying test results, which is 3.2% of the numerical test results. In proficiency studies, outlier percentages of 3% - 7.5% are quite normal.

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

4.1 EVALUATION PER SAMPLE AND PER COMPONENT

In this section, the results are discussed per sample and per component. All statistical results reported on the textile samples are summarised in appendix 1 and all other reported test results are summarised in appendix 2.

As in previous PTs almost all participants reported to have used DIN54231 as test method.

In DIN54231 no reproducibility is mentioned. Only the standard deviation for the repeatability is mentioned. Therefore, the target reproducibility was estimated as follows: the repeatability standard deviation was multiplied with 2.8 to get the target repeatability. And this was multiplied with 3 to get an estimate of the target reproducibility.

Sample #18530:

Disperse Orange 1 (CASno. 2581-69-3): The determination of this colorant at a concentration level of 184 mg/kg was problematic. Six statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the reproducibility requirement estimated from the test method DIN54231:05.

Disperse Red 17 (CASno.3179-89-3): The determination of this colorant at a concentration level of 104 mg/kg was not problematic. Four statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in full agreement with the reproducibility requirement estimated from the test method DIN54231:05.

Sample #18531:

Disperse Blue 26 (CASno. 3860-63-7): The determination of this colorant was very problematic.
The reported test results varied from 45 to 7118 mg/kg. The kernel density graph suggests that the test results are trimodally distributed. Therefore, no z-scores were calculated for this determination. The determination of this dye will be further discussed in paragraph 5.

Disperse Orange 76=37 (CASno. 13301-61-6): The determination of this colorant at a concentration level of 82 mg/kg was problematic. No statistical outliers were observed. However, the calculated reproducibility is not in agreement with the reproducibility requirement estimated from the test method DIN54231:05.

Disperse Yellow 3 (CASno. 2832-40-8): The determination of this colorant at a concentration level of 93 mg/kg was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the reproducibility requirement estimated from the test method DIN54231:05.

Disperse Yellow 9 (CASno. 6373-73-5): The determination of this colorant at a concentration level of 27 mg/kg was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the reproducibility requirement estimated from the test method DIN54231:05.

Disperse Orange 149 (CASno. 85136-74-9): The determination of this colorant at a concentration level of 67 mg/kg was not problematic. Two statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in agreement with the reproducibility requirement estimated from the test method DIN54231:05.

Disperse Yellow 23 (CASno. 6250-23-3): The determination of this colorant at a concentration level of 153 mg/kg was not problematic. Five statistical outliers were observed. However, the calculated reproducibility after rejection of the statistical outliers is in good agreement with the reproducibility requirement estimated from the test method DIN54231:05.

General:

The large majority of participating laboratories did not detect any other colorants than those discussed above. Some laboratories reported the presence of Disperse Blue 1 and Disperse Blue 35/35A/35B for sample #18531 (see Appendix 2).

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibilities as declared by the relevant reference test methods and the reproducibilities as found for the group of participating laboratories. The number of test results, the average results, the calculated reproducibilities (standard deviation*2.8) and the target reproducibilities, derived (or estimated) from the official test method DIN54231:05 are compared in the next tables.

Component	*unit*	*n*	*average*	*2.8 * sd*	R(lit)
Disperse Orange 1	mg/kg	79	184	181	147
Disperse Red 17	mg/kg	82	104	81	83

Table 5: reproducibilities of the colorants in textile sample #18530

Component	*unit*	*n*	*average*	*2.8 * sd*	R(lit)
Disperse Blue 26	mg/kg	73	n.e.	n.a.	n.a.
Disperse Orange 76 = 37	mg/kg	86	82	76	66
Disperse Yellow 3	mg/kg	86	93	55	74
Disperse Yellow 9	mg/kg	72	27	16	22
Disperse Orange 149	mg/kg	79	67	50	53
Disperse Yellow 23	mg/kg	79	153	74	123

Table 6: reproducibilities of the colorants in textile sample #18531

Without further statistical calculations, it can be concluded that the group of participating laboratories shows good compliance to the majority of the analyses at the investigated concentration levels, for the colorants found. See also the discussion in paragraphs 4.1 and 5.

4.3 EVALUATION OF THE PROFICIENCY TEST OF MARCH 2018 WITH PREVIOUS PTS

	March 2018	Feb. 2017	Feb. 2016	March 2015	March 2014
Number of reporting labs	88	86	80	83	83
Number of results reported	657	244	233	275	234
Number of statistical outliers	21	8	7	46	7
Percentage outliers	3.2%	3.3%	3.0%	16.7%	3.0%

Table 7: Comparison with previous proficiency tests

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

The uncertainties in the test results of the evaluated colorants in the iis18A05 PT are listed in below table and are compared with previous proficiency tests.

	March 2018	Feb. 2017	Feb. 2016	March 2015	March 2014	2013 – 2006	target DIN54321
Disperse Blue 1	n.e.	n.e.	n.e.	n.e.	n.e.	43%	27%
Disperse Blue 3	n.e.	n.e.	n.e.	n.e.	n.e.	36 - 56%	27%
Disperse Blue 26	n.e.*	n.e.	n.e.	n.e.	n.e.	47 - 68%	27%
Disperse Blue 35	n.e.	n.e.	n.e.	31%	n.e.	57 - 84%	27%
Disperse Blue 106	n.e.	50%	n.e.	n.e.	28%	n.e.	27%
Disperse Brown 1	n.e	39%	n.e.	n.e.	33%	n.e.	27%
Disperse Orange 1	35%	n.e.	n.e.	42%	n.e.	44 - 47%	27%
Disperse Orange 3	n.e.	n.e.	n.e.	n.e	31%	24 – 54%	27%
Disperse Orange 76/37	33%	n.e.	n.e.	n.e	n.e.	n.e	27%
Disperse Red 1	n.e.	n.e.	n.e.	n.e.	n.e.	36 - 63%	27%
Disperse Red 11	n.e.	n.e.	n.e.	41%	n.e.	45 - 65%	27%
Disperse Red 17	28%	n.e.	28%	33%	n.e.	n.e.	27%
Disperse Yellow 1	n.e.	n.e.	24%	n.e.	n.e.	n.e.	27%
Disperse Yellow 3	21%	n.e.	30%	n.e.	n.e.	28-29%	27%
Disperse Yellow 9	21%	n.e.	n.e.	n.e.	n.e.	31%	27%
Disperse Yellow 49	n.e.	n.e.	n.e.	n.e.	n.e.	54%	27%
Direct Black 38	n.e.	32%	n.e.	n.e.	n.e.	n.e.	27%
Disperse Orange 149	27%	n.e.	n.e.	n.e	n.e.	n.e	27%
Disperse Yellow 23	17%	n.e.	n.e.	n.e	n.e.	n.e	27%

Table 8: development of uncertainties over the last years

*) no consensus value could be assigned.

From the above table it is clear that for Disperse Orange 1, Disperse Red 17, Disperse Yellow 3 and Disperse Yellow 9 investigated in this PT, the group performed equal to or better than in previous PTs. For Disperse Blue 26 no consensus value could be assigned (see paragraphs 4.1 and 5). Disperse Orange 76/37, Disperse Orange 149 and Disperse Yellow 23 were investigated for the first time. Therefore, no conclusions could be drawn about the performance

of the group against previous findings, but the performance of the group for these colorants appears to be in line with the performance of the other tested colorants.

5 DISCUSSION

In this PT, it was requested to report whether the laboratory was accredited for this test. It appeared that 81% of the participants is accredited for the determination of Colorants (Banned Dyes). As this is the majority of the group no separate statistical analysis has been performed.
The determination of Disperse Blue 26 is very problematic. The data set appeared to be trimodally distributed with maxima around 180 mg/kg, 880 mg/kg and 1840 mg/kg. This trimodal distribution has also been seen in the data sets for Disperse Blue 26 in the PTs of iis10A04 (2010) and iis12A02 (2012). These PT reports can be found on the website www.iisnl.com on the News and Report page.
During the investigation of the problems with Disperse Blue 35 during the 2009 PT, it was remarked that "*This procedure is comparable to that which should be followed for the detection of the allergenic disperse dye Disperse Blue 26: Disperse Blue 26 is N,N'-Dimethyl-1,5-Diamino-4,8-dihydroxyanthraquinone, which is the trans isomer of the dimethylated 1,8-diamino-4,5-dihydroxyanthraquinone in Disperse Blue 35! In Disperse Blue 26 only this dimethylated substance is regarded as the allergenic ingredient.*"
Oeko-tex 100 only mentions this dimethylated component of disperse blue 26 with CAS no. 3860-63-7.
In the PT of 2010, for Disperse Blue 26 three groups of test results are observed (around 265 mg/kg, 763 mg/kg and 1277 mg/kg). In the report, it was remarked that "this may be in accordance with the one component, the sum of two components and the sum of three components (the unmethylated component (CAS no. 52365-48-7), the monomethylated and the dimethylated ones). However, this was not further investigated in this PT and therefore this conclusion is rather tentative."
In the PT of 2012, again three groups of results were observed (around 245 mg/kg, 765 mg/kg and 2500 mg/kg).

In this PT, eighteen participants reported a positive test result for Disperse Blue 35/35A/35B. These results varied from 33 tot 873 mg/kg. Knowing that both Disperse Blue 26 and Disperse Blue35 have similar isomers, participants may or may not choose to report this separately as Disperse Blue 35.
Apparently, the quantification of Disperse Blue 26 and 35 is difficult. Possibly the lack of pure calibrants (for the dimethylated component Cas no. 3860-63-7) may be the root cause.

6 CONCLUSION

The variation in this interlaboratory study is clearly not caused by just one critical point in the analysis. Almost all participants reported to have used DIN 54231.However, the detection technique and the purity of the various calibration standards that are used may vary strongly. Each laboratory has to evaluate its performance in this study and make decisions about necessary corrective actions. Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and thus increase of the quality of the analytical results.

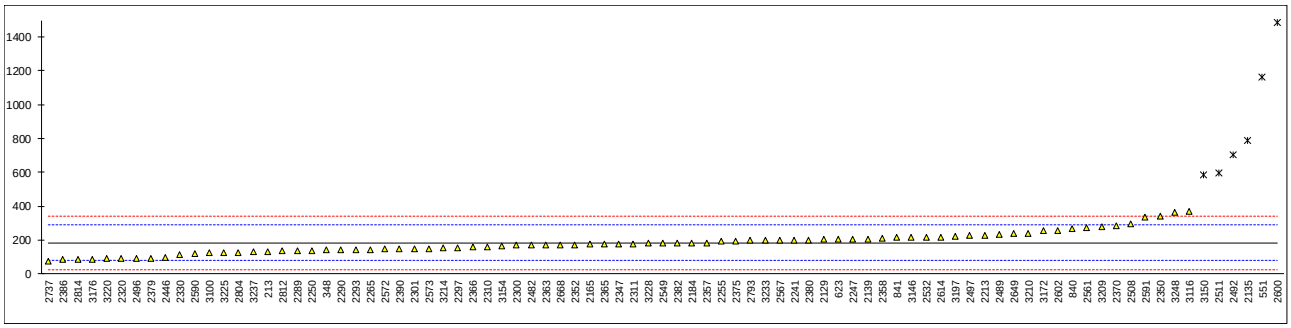
APPENDIX 1

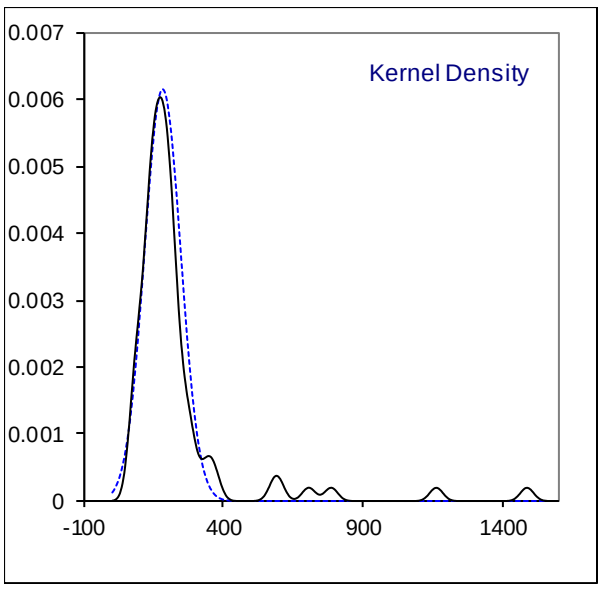
Determination of Disperse Orange 1 (CASno. 2581-69-3) in sample #18530; results in mg/kg

lab	method	value	mark	z(targ)	remarks
213		129.06		-1.04	
348	DIN54231	141.24		-0.81	
362		-----		-----	
551	DIN54231	1163.07	C,R(0.01)	18.64	first reported: 1513.33
623	DIN54231	206.66		0.44	
840	DIN54231	269.0		1.62	
841	DIN54231	216.96		0.63	
1099		-----		-----	
2115		-----		-----	
2129	DIN54231	204.5		0.40	
2135		786.7	C,R(0.01)	11.47	first reported: 1153.98
2139	DIN54231	207.9		0.46	
2165	DIN54231	176		-0.15	
2184	DIN54231	182.4		-0.02	
2213	DIN54231	230		0.88	
2241	DIN54231	201.4		0.34	
2247	DIN54231	207.61		0.46	
2250		139.80		-0.83	
2255	DIN54231	192.3		0.16	
2265	DIN54231	145.47		-0.73	
2289	ISO16373-2	135.0		-0.93	
2290	DIN54231	142.3		-0.79	
2293	DIN54231	144.69		-0.74	
2297	DIN54231	155.6		-0.53	
2300	DIN54231	169.6		-0.27	
2301	In house	150.1		-0.64	
2310	DIN54231	160.2		-0.45	
2311	DIN54231	177.57		-0.12	
2320	ISO16373-2	89.991		-1.78	
2330	DIN54231	116.81		-1.27	
2347	DIN54231	177		-0.13	
2350	DIN54231	339.30		2.96	
2352	DIN54231	172.8		-0.21	
2357	DIN54231	184.34		0.01	
2358	DIN54231	210.903		0.52	
2363	DIN54231	172		-0.22	
2365	DIN54231	176.6		-0.13	
2366	DIN54231	157.90		-0.49	
2369		-----		-----	
2370	DIN54231	287		1.97	
2375	DIN54231	194.8		0.21	
2379	DIN54231	92.16		-1.74	
2380	DIN54231	202.0		0.35	
2382	DIN54231	180.8		-0.05	
2386	DIN54231	83.47		-1.91	
2390	DIN54231	146.64		-0.70	
2446	In house	95.69		-1.67	
2452		-----		-----	
2482	DIN54231	170.6		-0.25	
2489	DIN54231	232.3		0.93	
2492	In house	706.6	R(0.01)	9.95	
2496	DIN54231	91.98		-1.74	
2497	DIN54231	228.59		0.86	
2508	DIN54231	294.4		2.11	
2511	DIN54231	598.867	R(0.01)	7.90	
2532	DIN54231	218		0.65	
2538	DIN54231	detected		-----	[LOD 25 mg/kg]
2549	DIN54231	180.11		-0.07	
2561	DIN54231	274.97		1.74	
2567	DIN54231	200		0.31	
2572	DIN54231	146.1		-0.71	
2573	DIN54231	150.21		-0.64	
2590	DIN54231	119.537		-1.22	
2591	In house	337.35		2.92	
2600	DIN54231	1487.7	R(0.01)	24.81	
2602	DIN54231	255.30		1.36	
2606		-----		-----	
2612		-----		-----	
2614	DIN54231	218.5		0.66	
2649	DIN54231	236.66		1.01	
2668	DIN54231	172.21		-0.22	
2737	DIN54231	74.66		-2.07	
2793	DIN54231	197.25	C	0.26	first reported: 601.5
2804	In house	127.0	C	-1.08	first reported: 409.6

lab	method	value	mark	z(targ)	remarks
2812	DIN54231	134.31		-0.94	
2814	DIN54231	84.174		-1.89	
3100	DIN54231	123		-1.15	
3116	DIN54231	372		3.58	
3146	DIN54231	217.5		0.64	
3150	DIN54231	583.9	R(0.01)	7.62	
3154	DIN54231	164.69		-0.36	
3172	DIN54231	254.43		1.35	
3176	DIN54231	87.45		-1.83	
3197	DIN54231	221.1		0.71	
3209	DIN54231	277.88		1.79	
3210	DIN54231	239.47		1.06	
3214	DIN54231	154.46		-0.56	
3220	DIN54231	89.66		-1.79	
3225	DIN54231	124.94		-1.12	
3228	DIN54231	180		-0.07	
3233	DIN54231	199.29		0.30	
3237	DIN54231	129		-1.04	
3248	DIN54231	363		3.41	

normality	OK
n	79
outliers	6
mean (n)	183.641
st.dev. (n)	64.6982
R(calc.)	181.155
st.dev.(DIN54231:05)	52.5581
R(DIN54231:05)	147.163



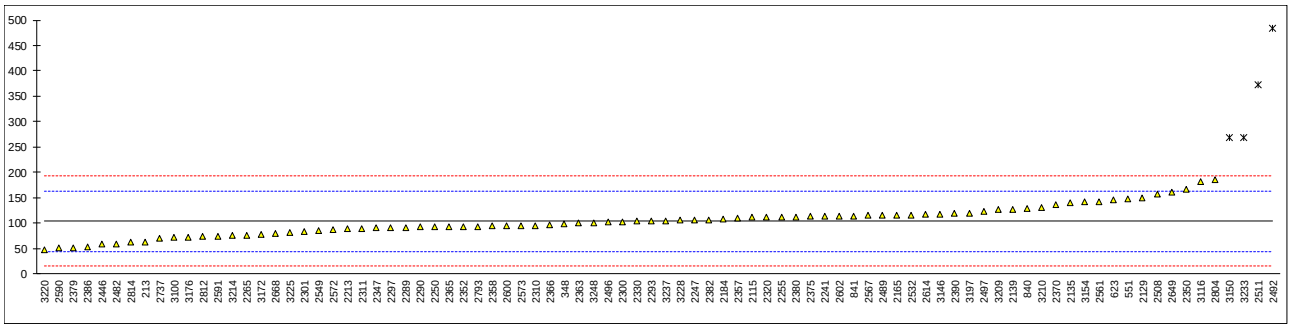


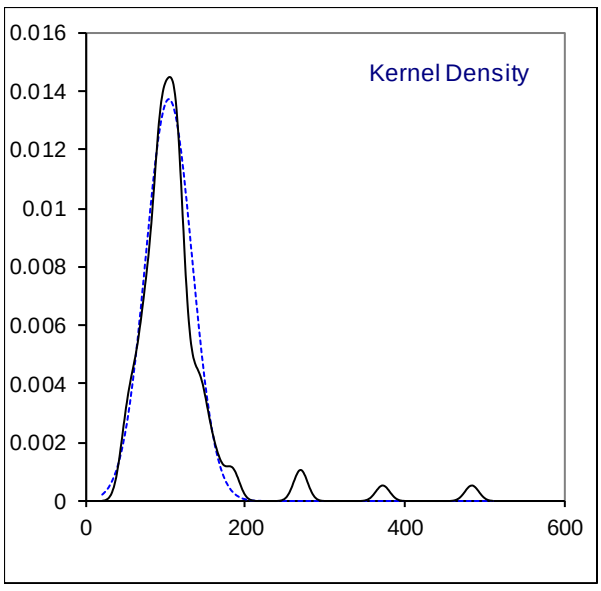
Determination of Disperse Red 17 (CASno. 3179-89-3) in sample #18530; results in mg/kg

lab	method	value	mark	z(targ)	remarks
213		63.64		-1.36	
348	DIN54231	98.97		-0.17	
362		-----		-----	
551	DIN54231	146.835		1.44	
623	DIN54231	145.48		1.39	
840	DIN54231	129.5		0.86	
841	DIN54231	114.28		0.34	
1099		-----		-----	
2115	DIN54231	111.04		0.24	
2129	DIN54231	149.1		1.51	
2135		140.64		1.23	
2139	DIN54231	126.9		0.77	
2165	DIN54231	116		0.40	
2184	DIN54231	108.2		0.14	
2213	DIN54231	89		-0.50	
2241	DIN54231	113.0		0.30	
2247	DIN54231	106.25		0.07	
2250		92.85		-0.38	
2255	DIN54231	112.1		0.27	
2265	DIN54231	76.29		-0.93	
2289	ISO16373-2	91.7		-0.41	
2290	DIN54231	92.2		-0.40	
2293	DIN54231	104.98		0.03	
2297	DIN54231	91.23		-0.43	
2300	DIN54231	102.9		-0.04	
2301	In house	83.9		-0.68	
2310	DIN54231	95.28		-0.29	
2311	DIN54231	90.09		-0.47	
2320	ISO16373-2	111.4023		0.25	
2330	DIN54231	103.64		-0.01	
2347	DIN54231	91		-0.44	
2350	DIN54231	166.78		2.11	
2352	DIN54231	93.2		-0.36	
2357	DIN54231	110.49		0.22	
2358	DIN54231	94.07		-0.33	
2363	DIN54231	100		-0.14	
2365	DIN54231	93.0		-0.37	
2366	DIN54231	96.40		-0.26	
2369		-----		-----	
2370	DIN54231	137		1.11	
2375	DIN54231	112.8		0.29	
2379	DIN54231	51.91		-1.75	
2380	DIN54231	112.2		0.27	
2382	DIN54231	106.3		0.08	
2386	DIN54231	53.8		-1.69	
2390	DIN54231	118.79		0.50	
2446	In house	58.87		-1.52	
2452		-----		-----	
2482	DIN54231	59.41		-1.50	
2489	DIN54231	115.43		0.38	
2492	In house	483.5	R(0.01)	12.75	
2496	DIN54231	101.76		-0.08	
2497	DIN54231	122.58		0.62	
2508	DIN54231	156.4		1.76	
2511	DIN54231	371.8371	R(0.01)	8.99	
2532	DIN54231	116		0.40	
2538	DIN54231	detected		-----	[LOD 25 mg/kg]
2549	DIN54231	85.1		-0.64	
2561	DIN54231	142.08		1.28	
2567	DIN54231	115		0.37	
2572	DIN54231	88.2		-0.53	
2573	DIN54231	95.02		-0.30	
2590	DIN54231	51.287		-1.77	
2591	In house	74.86		-0.98	
2600	DIN54231	94.51		-0.32	
2602	DIN54231	113.60		0.32	
2606		-----		-----	
2612		-----		-----	
2614	DIN54231	116.8		0.43	
2649	DIN54231	160.39		1.89	
2668	DIN54231	79.12		-0.84	
2737	DIN54231	70.04		-1.14	
2793	DIN54231	93.75	C	-0.35	first reported: 208.5
2804	In house	185.2		2.73	

lab	method	value	mark	z(targ)	remarks
2812	DIN54231	73.67		-1.02	
2814	DIN54231	62.468		-1.40	
3100	DIN54231	72		-1.08	
3116	DIN54231	182		2.62	
3146	DIN54231	117.1		0.44	
3150	DIN54231	269.0	R(0.01)	5.54	
3154	DIN54231	141.56		1.26	
3172	DIN54231	77.1029		-0.90	
3176	DIN54231	72.45		-1.06	
3197	DIN54231	119.8		0.53	
3209	DIN54231	126.22		0.75	
3210	DIN54231	131.63		0.93	
3214	DIN54231	75.45		-0.96	
3220	DIN54231	46.86		-1.92	
3225	DIN54231	80.68		-0.78	
3228	DIN54231	106		0.07	
3233	DIN54231	269	C,R(0.01)	5.54	first reported: 211
3237	DIN54231	105		0.03	
3248	DIN54231	100	C	-0.14	first reported 207

normality	OK
n	82
outliers	4
mean (n)	104.031
st.dev. (n)	29.0314
R(calc.)	81.288
st.dev.(DIN54231:05)	29.7736
R(DIN54231:05)	83.366



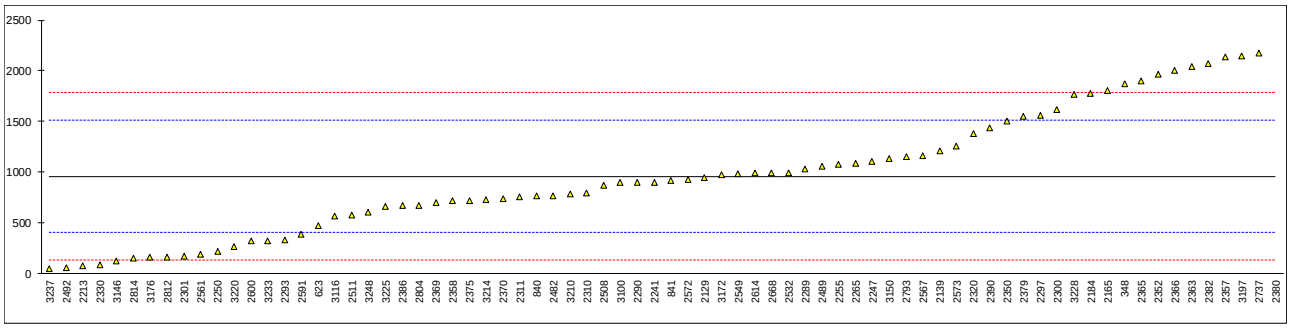


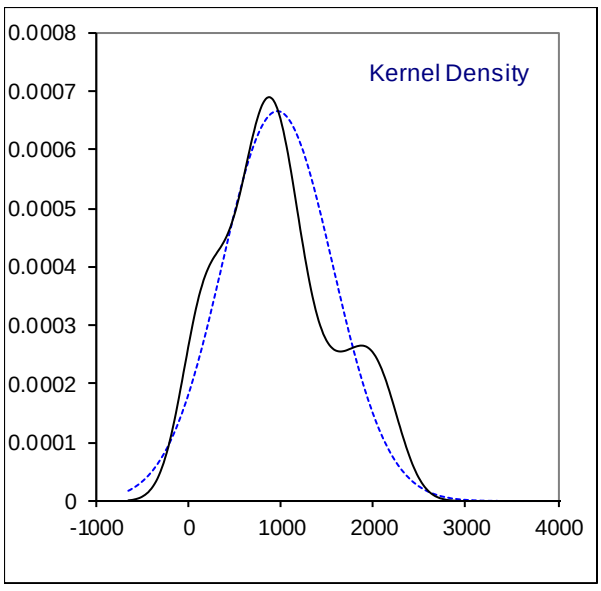
Determination of Disperse Blue 26 (CASno. 3860-63-7) in sample #18531; results in mg/kg

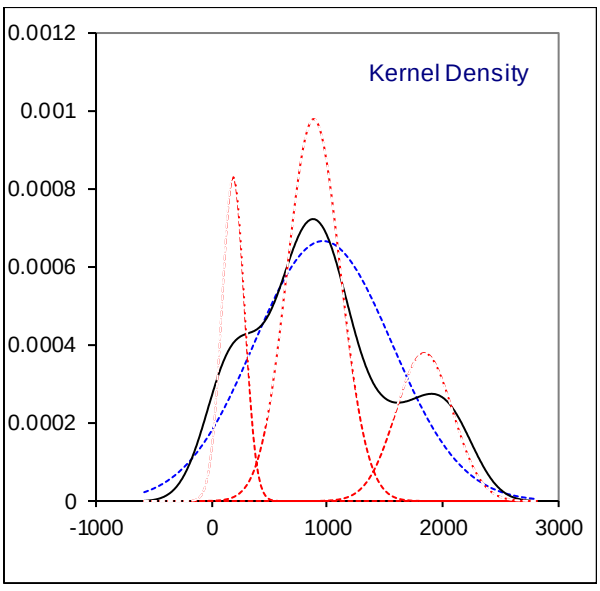
lab	method	value	mark	z(targ)	remarks
213		-----		-----	
348	DIN54231	1875.65		-----	
362		-----		-----	
551		-----		-----	
623	DIN54231	478.31		-----	
840	DIN54231	768		-----	
841	DIN54231	920.99		-----	
1099		-----		-----	
2115		-----		-----	
2129	DIN54231	944.1		-----	
2135		-----		-----	
2139	DIN54231	1213.4		-----	
2165	DIN54231	1810		-----	
2184	DIN54231	1779.6		-----	
2213	DIN54231	80		-----	
2241	DIN54231	903.7		-----	
2247	DIN54231	1106.59		-----	
2250	DIN54231	216.75		-----	
2255	DIN54231	1075		-----	
2265	DIN54231	1091		-----	
2289	ISO16373-2	1035.1		-----	
2290	DIN54231	902.2		-----	
2293	DIN54231	334.57		-----	
2297		1558.3		-----	
2300	DIN54231	1616.75	C	-----	first reported: 2578.98
2301	In house	169.1		-----	
2310	DIN54231	792.9		-----	
2311	DIN54231	754.52		-----	
2320	ISO16373-2	1381.1638		-----	
2330	DIN54231	85.93	C	-----	first reported: N.D.
2347		-----		-----	
2350		1500.00		-----	
2352	DIN54231	1970.4		-----	
2357	DIN54231	2132.69		-----	
2358	DIN54231	716.83		-----	
2363	DIN54231	2040		-----	
2365	DIN54231	1900.2		-----	
2366	DIN54231	2008.1		-----	
2369	DIN54231	701		-----	
2370	DIN54231	734		-----	
2375	DIN54231	719.6		-----	
2379	DIN54231	1547.46	C	-----	first reported: N.D.
2380	DIN54231	7118	C,R(0.01)	-----	first reported: 3686.8
2382	DIN54231	2070.0		-----	
2386	DIN54231	668.6		-----	
2390	DIN54231	1434.73		-----	
2446		-----		-----	
2452		-----		-----	
2482	DIN54231	769.6		-----	
2489	DIN54231	1056		-----	
2492	In house	62.4		-----	
2496		-----		-----	
2497		-----		-----	
2508	DIN54231	874.9		-----	
2511	DIN54231	580.672		-----	
2532	DIN54231	997		-----	
2538	DIN54231	detected		-----	[LOD 75 mg/kg]
2549	DIN54231	983	C	-----	first reported: N.D.
2561		189.90		-----	
2567	DIN54231	1161		-----	
2572	DIN54231	923.1		-----	
2573	DIN54231	1253.42		-----	
2590		-----		-----	
2591	In house	389.63		-----	
2600	DIN54231	321.3		-----	
2602		-----		-----	
2606		-----		-----	
2612		-----		-----	
2614		991.9	C	-----	first reported: N.D.
2649		-----		-----	
2668	DIN54231	995	C	-----	first reported: N.D.
2737	DIN54231	2176.52		-----	
2793	DIN54231	1158.75		-----	
2804	In house	671.0		-----	

lab	method	value	mark	z(targ)	remarks
2812	DIN54231	158.42		-----	
2814	DIN54231	154.182		-----	
3100	DIN54231	899		-----	
3116	DIN54231	566		-----	
3146	DIN54231	123.0		-----	
3150	DIN54231	1134.9		-----	
3154		-----		-----	
3172	DIN54231	978.14		-----	
3176	DIN54231	158.40		-----	
3197	DIN54231	2150		-----	
3209		-----		-----	
3210		782.52	C	-----	first reported: <50
3214	DIN54231	729.78		-----	
3220	DIN54231	268.30		-----	
3225	DIN54231	663.27		-----	
3228	DIN54231	1770		-----	
3233	DIN54231	323.17		-----	
3237	DIN54231	45		-----	
3248	DIN54231	609		-----	

		group 1	group 2	group 3
	normality			
	n	15	42	16
	outliers	0	0	1
	mean (n)	181.513	879.613	1838.362
	st.dev. (n)	97.6198	230.3638	246.4723
	R(calc.)	263.573	645.019	690.122
	st.dev.(DIN54231:05)	51.9489	251.7454	526.1393
	R(DIN54231:05)	145.457	704.887	1473.190





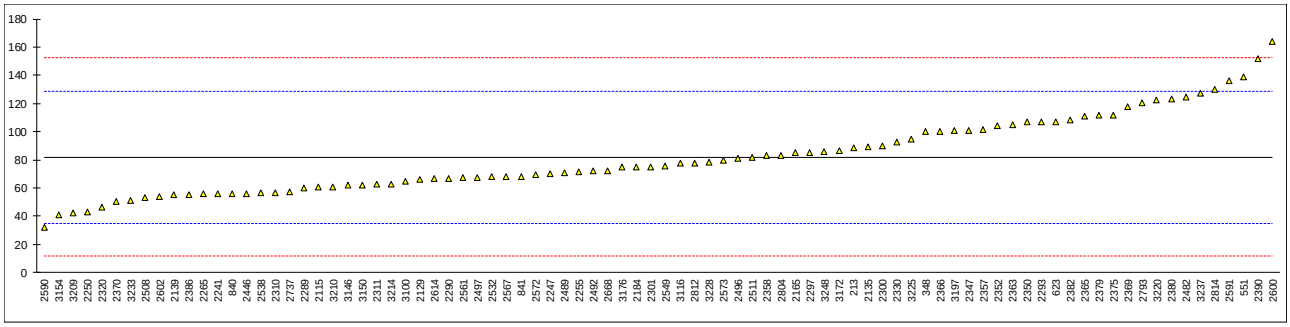


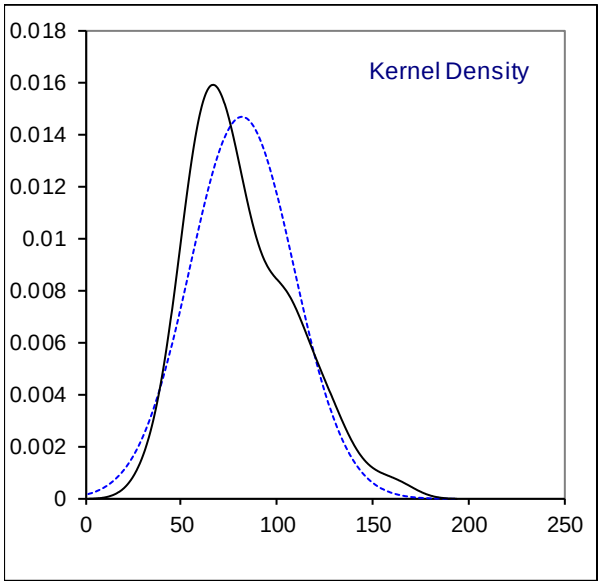
Determination of Disperse Orange 76=37 (CASno.13301-61-6) in sample #18531; results in mg/kg

lab	method	value	mark	z(targ)	remarks
213		88.81		0.29	
348	DIN54231	99.82		0.76	
362		-----		-----	
551	DIN54231	138.995		2.43	
623	DIN54231	106.94		1.06	
840	DIN54231	56		-1.11	
841	DIN54231	68.33		-0.58	
1099		-----		-----	
2115	DIN54231	60.72		-0.91	
2129	DIN54231	66.3		-0.67	
2135		89.02		0.30	
2139	DIN54231	55.1		-1.15	
2165	DIN54231	85		0.13	
2184	DIN54231	74.9		-0.30	
2213	DIN54231	<15		-----	
2241	DIN54231	56	C	-1.11	first reported:196.9
2247	DIN54231	69.89		-0.52	
2250	DIN54231	42.75		-1.67	
2255	DIN54231	71.5		-0.45	
2265	DIN54231	55.68		-1.12	
2289	ISO16373-2	60.1		-0.93	
2290	DIN54231	67.1		-0.63	
2293	DIN54231	106.60		1.05	
2297		85.33		0.14	
2300	DIN54231	89.83		0.33	
2301	In house	75.0		-0.30	
2310	DIN54231	56.56		-1.08	
2311	DIN54231	62.72		-0.82	
2320	ISO16373-2	46.3377		-1.52	
2330	DIN54231	92.68		0.46	
2347	DIN54231	101		0.81	
2350		106.59		1.05	
2352	DIN54231	104.1		0.94	
2357	DIN54231	101.27		0.82	
2358	DIN54231	82.82		0.04	
2363	DIN54231	105		0.98	
2365	DIN54231	111.1		1.24	
2366	DIN54231	100.00		0.77	
2369	DIN54231	118		1.54	
2370	DIN54231	50.3		-1.35	
2375	DIN54231	111.8		1.27	
2379	DIN54231	111.55		1.26	
2380	DIN54231	123.16		1.76	
2382	DIN54231	108.5		1.13	
2386	DIN54231	55.2		-1.14	
2390	DIN54231	151.68		2.97	
2446	In house	56.12		-1.10	
2452		-----		-----	
2482	DIN54231	124.6		1.82	
2489	DIN54231	70.6		-0.49	
2492	In house	72.4		-0.41	
2496	DIN54231	80.77		-0.05	
2497	DIN54231	67.71		-0.61	
2508	DIN54231	53.5		-1.21	
2511	DIN54231	81.556		-0.02	
2532	DIN54231	68		-0.60	
2538	DIN54231	56.25		-1.10	
2549	DIN54231	75.3		-0.28	
2561		67.65		-0.61	
2567	DIN54231	68		-0.60	
2572	DIN54231	69.2		-0.54	
2573	DIN54231	80.02		-0.08	
2590		31.827		-2.14	
2591	In house	136.35		2.32	
2600	DIN54231	164.1		3.50	
2602	DIN54231	53.54		-1.21	
2606		-----		-----	
2612		-----		-----	
2614		66.5		-0.66	
2649		-----		-----	
2668	DIN54231	72.5		-0.40	
2737	DIN54231	57.05		-1.06	
2793	DIN54231	120.75		1.65	
2804	In house	83.26		0.05	

lab	method	value	mark	z(targ)	remarks
2812	DIN54231	77.65		-0.18	
2814	DIN54231	129.744		2.04	
3100	DIN54231	65		-0.72	
3116	DIN54231	77.4		-0.20	
3146	DIN54231	62.3		-0.84	
3150	DIN54231	62.3		-0.84	
3154	DIN54231	40.97		-1.75	
3172	DIN54231	86.62		0.20	
3176	DIN54231	74.85		-0.30	
3197	DIN54231	100.7		0.80	
3209	DIN54231	42.07		-1.70	
3210		60.84	C	-0.90	first reported: 202.28
3214	DIN54231	62.84		-0.82	
3220	DIN54231	122.41		1.72	
3225	DIN54231	94.49		0.53	
3228	DIN54231	78		-0.17	
3233	DIN54231	51.03		-1.32	
3237	DIN54231	127.5		1.94	
3248	DIN54231	86		0.17	

normality	OK
n	86
outliers	0
mean (n)	81.981
st.dev. (n)	27.1406
R(calc.)	75.994
st.dev.(DIN54231:05)	23.4629
R(DIN54231:05)	65.696



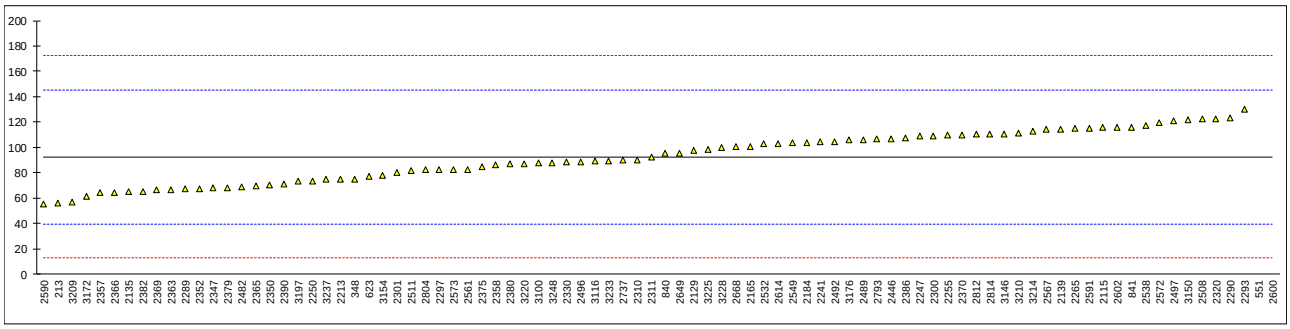


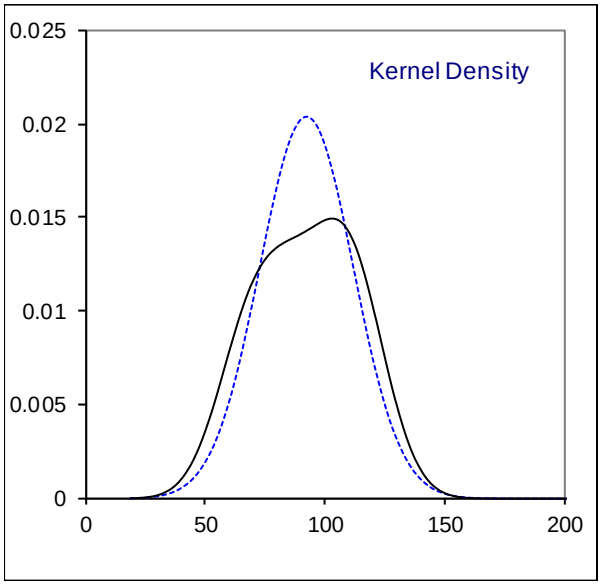
Determination of Disperse Yellow 3 (CASno. 2832-40-8) in sample #18531; results in mg/kg

lab	method	value	mark	z(targ)	remarks
213		56.21		-1.37	
348	DIN54231	75.00		-0.66	
362		-----		-----	
551	DIN54231	383.60	C,R(0.01)	10.98	first reported: 356.685
623	DIN54231	77.41		-0.57	
840	DIN54231	95.0		0.09	
841	DIN54231	116.08		0.89	
1099		-----		-----	
2115	DIN54231	115.89		0.88	
2129	DIN54231	97.7		0.19	
2135		64.9		-1.04	
2139	DIN54231	114.2		0.82	
2165	DIN54231	101		0.32	
2184	DIN54231	103.7		0.42	
2213	DIN54231	75		-0.66	
2241	DIN54231	104.2		0.44	
2247	DIN54231	108.77		0.61	
2250	DIN54231	73.65		-0.71	
2255	DIN54231	109.5		0.64	
2265	DIN54231	114.82		0.84	
2289	ISO16373-2	67.4		-0.95	
2290	DIN54231	123.4		1.16	
2293	DIN54231	130.16		1.42	
2297		82.33		-0.39	
2300	DIN54231	109.13		0.62	
2301	In house	80.30	C	-0.46	first reported: 232.9
2310	DIN54231	90.44		-0.08	
2311	DIN54231	92.06		-0.02	
2320	ISO16373-2	122.5686		1.13	
2330	DIN54231	88.55		-0.15	
2347	DIN54231	68		-0.93	
2350		70.61		-0.83	
2352	DIN54231	67.6		-0.94	
2357	DIN54231	64.00		-1.08	
2358	DIN54231	86.62		-0.23	
2363	DIN54231	67		-0.97	
2365	DIN54231	69.9		-0.86	
2366	DIN54231	64.71		-1.05	
2369	DIN54231	67		-0.97	
2370	DIN54231	110		0.66	
2375	DIN54231	85.1		-0.28	
2379	DIN54231	68.52		-0.91	
2380	DIN54231	87.0		-0.21	
2382	DIN54231	65.4		-1.03	
2386	DIN54231	107.7		0.57	
2390	DIN54231	70.98		-0.82	
2446	In house	106.53		0.53	
2452		-----		-----	
2482	DIN54231	69.02		-0.89	
2489	DIN54231	106		0.51	
2492	In house	104.6		0.45	
2496	DIN54231	88.58		-0.15	
2497	DIN54231	120.67		1.06	
2508	DIN54231	122.2		1.12	
2511	DIN54231	81.556		-0.42	
2532	DIN54231	103		0.39	
2538	DIN54231	117.11		0.93	
2549	DIN54231	103.33		0.41	
2561		82.52		-0.38	
2567	DIN54231	114		0.81	
2572	DIN54231	119.7		1.02	
2573	DIN54231	82.42		-0.38	
2590		54.992		-1.42	
2591	In house	115.13		0.85	
2600	DIN54231	395.3	R(0.01)	11.42	
2602	DIN54231	115.96		0.88	
2606		-----		-----	
2612		-----		-----	
2614		103.2		0.40	
2649	DIN54231	95.48		0.11	
2668	DIN54231	100.9		0.31	
2737	DIN54231	90.22		-0.09	
2793	DIN54231	106.50	C	0.53	first reported: 255.00

lab	method	value	mark	z(targ)	remarks
2804	In house	82.14		-0.39	
2812	DIN54231	110.31		0.67	
2814	DIN54231	110.460		0.67	
3100	DIN54231	88		-0.17	
3116	DIN54231	89		-0.14	
3146	DIN54231	110.8		0.69	
3150	DIN54231	121.7		1.10	
3154	DIN54231	78.06		-0.55	
3172	DIN54231	61.283		-1.18	
3176	DIN54231	105.60		0.49	
3197	DIN54231	73.4		-0.72	
3209	DIN54231	57.15		-1.34	
3210		111.51		0.71	
3214	DIN54231	112.52		0.75	
3220	DIN54231	87.32		-0.20	
3225	DIN54231	98.22		0.21	
3228	DIN54231	100		0.28	
3233	DIN54231	89.00		-0.14	
3237	DIN54231	74.6		-0.68	
3248	DIN54231	88		-0.17	

normality	OK
n	86
outliers	2
mean (n)	92.584
st.dev. (n)	19.5249
R(calc.)	54.670
st.dev.(DIN54231:05)	26.4975
R(DIN54231:05)	74.193



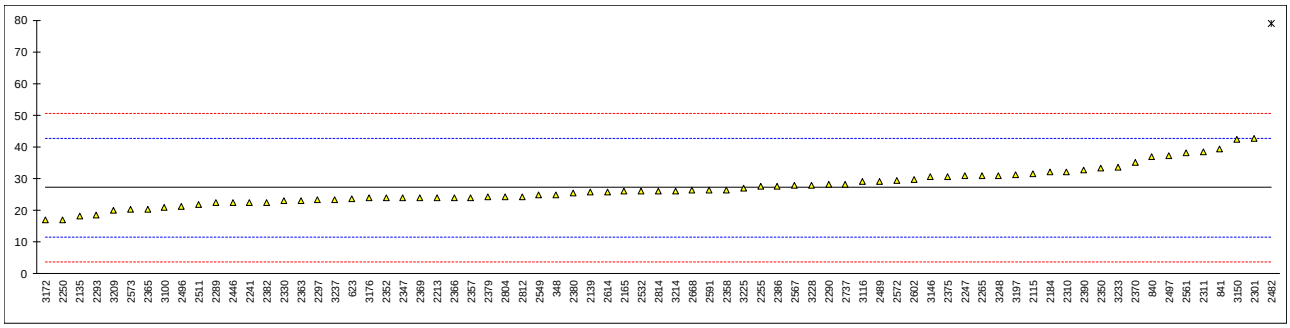


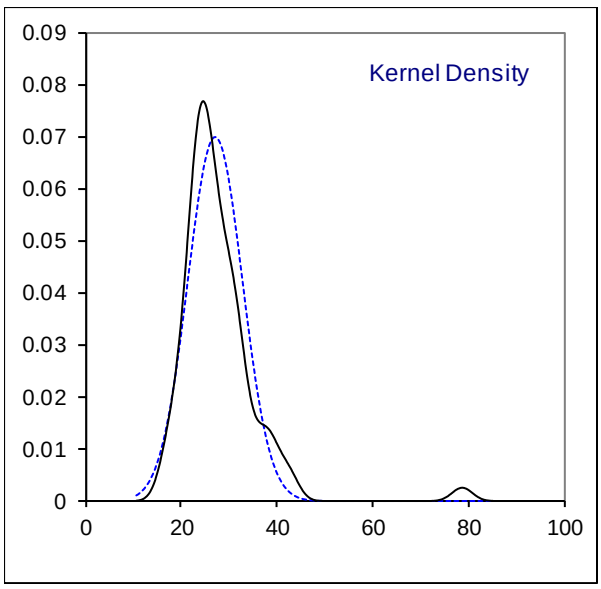
Determination of Disperse Yellow 9 (CASno. 6373-73-5) in sample #18531; results in mg/kg

lab	method	value	mark	z(targ)	remarks
213		-----		-----	
348	DIN54231	24.74		-0.31	
362		-----		-----	
551	DIN54231	nd		-----	
623	DIN54231	23.51		-0.47	
840	DIN54231	37.0		1.27	
841	DIN54231	39.34		1.57	
1099		-----		-----	
2115	DIN54231	31.44		0.55	
2129		-----		-----	
2135		18.2	C	-1.15	first reported: 86.33
2139	DIN54231	25.8		-0.17	
2165	DIN54231	26		-0.15	
2184	DIN54231	32.0		0.63	
2213	DIN54231	24		-0.40	
2241	DIN54231	22.4		-0.61	
2247	DIN54231	30.9		0.48	
2250	DIN54231	17.10		-1.29	
2255	DIN54231	27.6		0.06	
2265	DIN54231	31.0		0.50	
2289	ISO16373-2	22.3		-0.62	
2290	DIN54231	28.1		0.12	
2293	DIN54231	18.42		-1.12	
2297		23.38		-0.48	
2300	DIN54231	ND		-----	
2301	In house	42.6		1.99	
2310	DIN54231	32.07		0.64	
2311	DIN54231	38.58		1.47	
2320		-----		-----	
2330	DIN54231	22.88		-0.55	
2347	DIN54231	24		-0.40	
2350		33.26		0.79	
2352	DIN54231	23.9		-0.42	
2357	DIN54231	24.08		-0.39	
2358	DIN54231	26.49		-0.08	
2363	DIN54231	23		-0.53	
2365	DIN54231	20.3		-0.88	
2366	DIN54231	24.03		-0.40	
2369	DIN54231	24		-0.40	
2370	DIN54231	35.0		1.01	
2375	DIN54231	30.7		0.46	
2379	DIN54231	24.14		-0.39	
2380	DIN54231	25.5		-0.21	
2382	DIN54231	22.4		-0.61	
2386	DIN54231	27.66		0.07	
2390	DIN54231	32.79		0.73	
2446	In house	22.36		-0.61	
2452		-----		-----	
2482	DIN54231	78.85	R(0.01)	6.66	
2489	DIN54231	29.2		0.27	
2492		-----		-----	
2496	DIN54231	21.15		-0.77	
2497	DIN54231	37.33		1.31	
2508		-----		-----	
2511	DIN54231	21.750		-0.69	
2532	DIN54231	26		-0.15	
2538	DIN54231	detected		-----	[LOD 25 mg/kg]
2549	DIN54231	24.7		-0.31	
2561		38.18		1.42	
2567	DIN54231	28		0.11	
2572	DIN54231	29.3		0.28	
2573	DIN54231	20.24		-0.89	
2590		-----		-----	
2591	In house	26.45		-0.09	
2600	DIN54231	< detection limit		-----	
2602	DIN54231	29.70		0.33	
2606		-----		-----	
2612		-----		-----	
2614		25.8		-0.17	
2649		-----		-----	
2668	DIN54231	26.21		-0.12	
2737	DIN54231	28.29		0.15	
2793		-----		-----	
2804	In house	24.26		-0.37	

lab	method	value	mark	z(targ)	remarks
2812	DIN54231	24.35		-0.36	
2814	DIN54231	26.060		-0.14	
3100	DIN54231	21		-0.79	
3116	DIN54231	29.1		0.25	
3146	DIN54231	30.5		0.43	
3150	DIN54231	42.4		1.97	
3154		-----		-----	
3172	DIN54231	17.045		-1.30	
3176	DIN54231	23.85		-0.42	
3197	DIN54231	31.1		0.51	
3209	DIN54231	19.96		-0.92	
3210		<50		-----	
3214	DIN54231	26.08		-0.14	
3220	DIN54231	ND		-----	
3225	DIN54231	26.89		-0.03	
3228	DIN54231	28		0.11	
3233	DIN54231	33.55		0.83	
3237	DIN54231	23.4		-0.48	
3248	DIN54231	31		0.50	

normality	OK
n	72
outliers	1
mean (n)	27.136
st.dev. (n)	5.7102
R(calc.)	15.989
st.dev.(DIN54231:05)	7.7664
R(DIN54231:05)	21.746



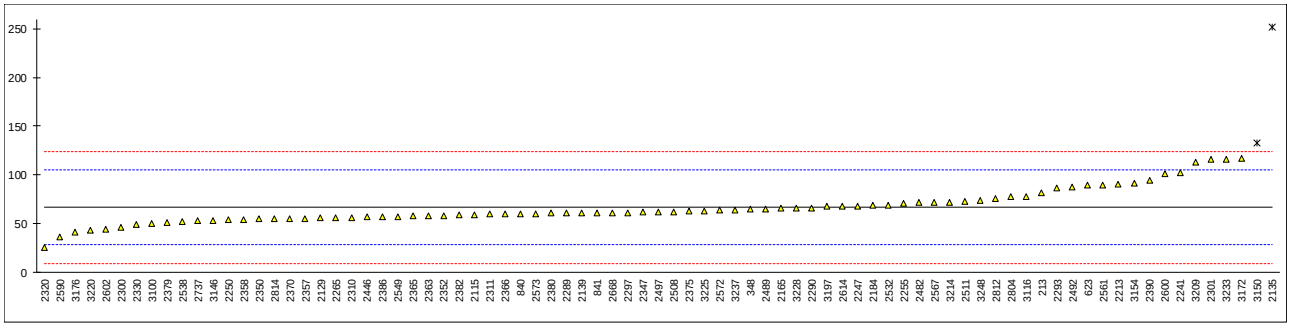


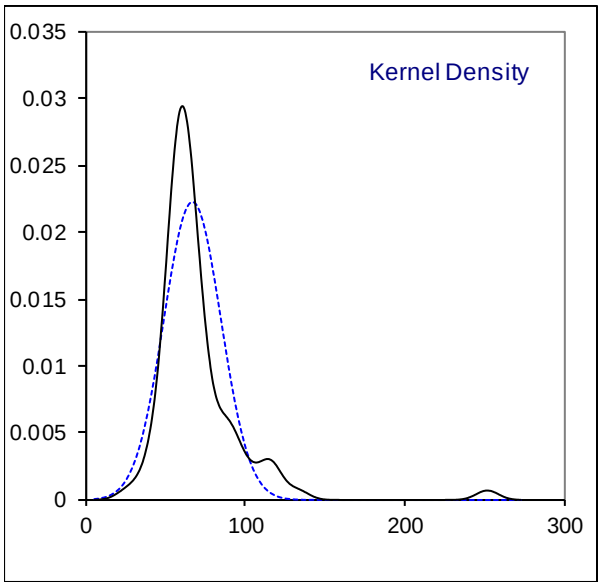
Determination of Disperse Orange 149 (CASno. 85136-74-9) in sample #18531; results in mg/kg

lab	method	value	mark	z(targ)	remarks
213		82.20		0.81	
348	DIN54231	64.69		-0.10	
362		-----		-----	
551		-----		-----	
623	DIN54231	89.17		1.18	
840	DIN54231	60.3		-0.33	
841	DIN54231	61.09		-0.29	
1099		-----		-----	
2115	DIN54231	58.97		-0.40	
2129	DIN54231	55.8		-0.57	
2135		251.6	C,R(0.01)	9.69	first reported: 146.8
2139	DIN54231	61.0		-0.30	
2165	DIN54231	66		-0.04	
2184	DIN54231	69.0		0.12	
2213	DIN54231	91		1.27	
2241	DIN54231	102.7		1.89	
2247	DIN54231	68.39		0.09	
2250	DIN54231	54.15	C	-0.66	first reported: 403.8
2255	DIN54231	71.1		0.23	
2265	DIN54231	56.27		-0.55	
2289	ISO16373-2	61.0		-0.30	
2290	DIN54231	66.2		-0.03	
2293	DIN54231	86.39		1.03	
2297		61.34		-0.28	
2300	DIN54231	46.49		-1.06	
2301	In house	115.72		2.57	
2310	DIN54231	56.62		-0.53	
2311	DIN54231	59.76		-0.36	
2320	ISO16373-2	26.1660		-2.12	
2330	DIN54231	49.30		-0.91	
2347	DIN54231	62		-0.25	
2350		54.79		-0.62	
2352	DIN54231	58.3		-0.44	
2357	DIN54231	55.33		-0.60	
2358	DIN54231	54.37		-0.65	
2363	DIN54231	58		-0.46	
2365	DIN54231	57.7		-0.47	
2366	DIN54231	59.90		-0.36	
2369		-----		-----	
2370	DIN54231	55.2		-0.60	
2375	DIN54231	62.7		-0.21	
2379	DIN54231	51.52	C	-0.79	first reported: 166.12
2380	DIN54231	60.88		-0.30	
2382	DIN54231	58.9		-0.41	
2386	DIN54231	57.01		-0.51	
2390	DIN54231	94.70	C	1.47	first reported; 128.62
2446	In house	56.85		-0.52	
2452		-----		-----	
2482	DIN54231	71.44		0.25	
2489	DIN54231	65.3		-0.07	
2492	In house	87.2		1.07	
2496		-----		-----	
2497	DIN54231	62.13		-0.24	
2508	DIN54231	62.5		-0.22	
2511	DIN54231	72.558		0.31	
2532	DIN54231	69		0.12	
2538	DIN54231	52.18		-0.76	
2549	DIN54231	57.3		-0.49	
2561		89.80		1.21	
2567	DIN54231	71.5		0.25	
2572	DIN54231	64.1		-0.14	
2573	DIN54231	60.42		-0.33	
2590		36.423		-1.59	
2591		-----		-----	
2600	DIN54231	101.6		1.83	
2602	DIN54231	44.42		-1.17	
2606		-----		-----	
2612		-----		-----	
2614		67.8		0.06	
2649		-----		-----	
2668	DIN54231	61.14		-0.29	
2737	DIN54231	53.02		-0.72	
2793		-----		-----	
2804	In house	77.69		0.58	

lab	method	value	mark	z(targ)	remarks
2812	DIN54231	75.52		0.46	
2814	DIN54231	54.808		-0.62	
3100	DIN54231	50		-0.87	
3116	DIN54231	78.1		0.60	
3146	DIN54231	53.5		-0.69	
3150	DIN54231	132.6	R(0.05)	3.45	
3154	DIN54231	91.29		1.29	
3172	DIN54231	117.28		2.65	
3176	DIN54231	41.50		-1.32	
3197	DIN54231	67.5		0.04	
3209	DIN54231	112.94		2.42	
3210		-----		-----	
3214	DIN54231	71.63		0.26	
3220	DIN54231	43.82		-1.20	
3225	DIN54231	63.49		-0.17	
3228	DIN54231	66		-0.04	
3233	DIN54231	116.13		2.59	
3237	DIN54231	64.5		-0.11	
3248	DIN54231	74		0.38	

normality	not OK
n	79
outliers	2
mean (n)	66.690
st.dev. (n)	17.8784
R(calc.)	50.060
st.dev.(DIN54231:05)	19.0866
R(DIN54231:05)	53.443



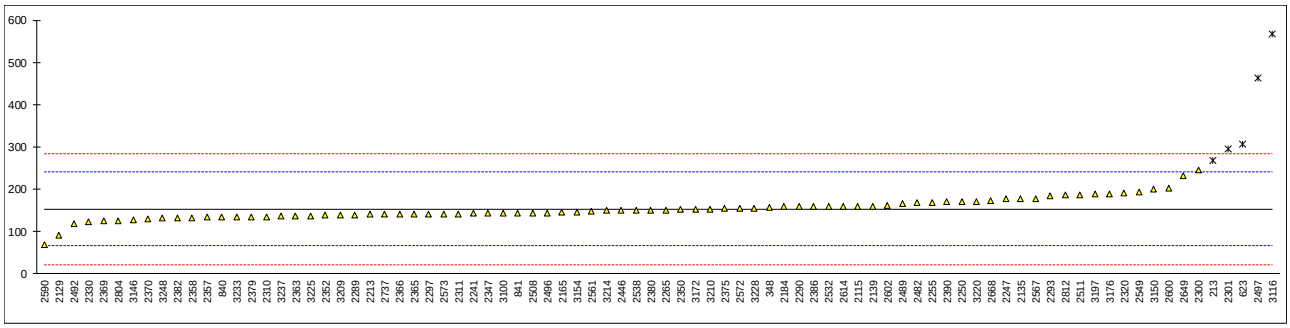


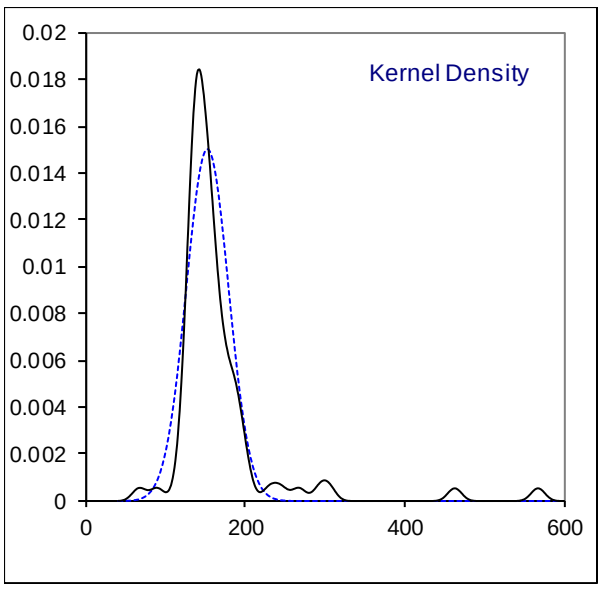
Determination of Disperse Yellow 23 (CASno. 6250-23-3) in sample #18531; results in mg/kg

lab	method	value	mark	z(targ)	remarks
213		267.83	R(0.01)	2.62	
348	DIN54231	157.57		0.10	
362		-----		-----	
551		-----		-----	
623	DIN54231	305.66	R(0.01)	3.48	
840	DIN54231	134.4		-0.43	
841	DIN54231	143.25		-0.23	
1099		-----		-----	
2115	DIN54231	160.02		0.16	
2129	DIN54231	90.2		-1.44	
2135		177.87		0.56	
2139	DIN54231	160.2		0.16	
2165	DIN54231	145		-0.19	
2184	DIN54231	158.0		0.11	
2213	DIN54231	140		-0.30	
2241	DIN54231	142.2		-0.25	
2247	DIN54231	176.72		0.54	
2250	DIN54231	170.07		0.39	
2255	DIN54231	169.3		0.37	
2265	DIN54231	150.82		-0.05	
2289	ISO16373-2	139.6		-0.31	
2290	DIN54231	158.1		0.11	
2293	DIN54231	184.28		0.71	
2297		140.2		-0.30	
2300	DIN54231	245.23	C	2.10	first reported: 321.54
2301	In house	294.4	R(0.01)	3.22	
2310	DIN54231	135.17		-0.41	
2311	DIN54231	140.39		-0.29	
2320	ISO16373-2	191.8946		0.88	
2330	DIN54231	123.74		-0.67	
2347	DIN54231	143		-0.23	
2350		151.37		-0.04	
2352	DIN54231	137.7		-0.35	
2357	DIN54231	133.98		-0.44	
2358	DIN54231	132.43		-0.47	
2363	DIN54231	136		-0.39	
2365	DIN54231	140.2		-0.30	
2366	DIN54231	140.20		-0.30	
2369	DIN54231	124		-0.66	
2370	DIN54231	130		-0.53	
2375	DIN54231	153.9		0.02	
2379	DIN54231	135.09		-0.41	
2380	DIN54231	150.4		-0.06	
2382	DIN54231	131.6		-0.49	
2386	DIN54231	158.3		0.12	
2390	DIN54231	169.73		0.38	
2446	In house	149.93		-0.07	
2452		-----		-----	
2482	DIN54231	168.2		0.34	
2489	DIN54231	165		0.27	
2492	In house	118.9		-0.78	
2496	DIN54231	144.23		-0.20	
2497	DIN54231	463.5	C,R(0.01)	7.08	first reported: 577.01
2508	DIN54231	143.5		-0.22	
2511	DIN54231	187.018		0.77	
2532	DIN54231	159		0.13	
2538	DIN54231	150.11		-0.07	
2549	DIN54231	193.6		0.92	
2561		147.83		-0.12	
2567	DIN54231	178		0.57	
2572	DIN54231	154.3		0.03	
2573	DIN54231	140.34		-0.29	
2590		67.516		-1.95	
2591		-----		-----	
2600	DIN54231	201.9		1.11	
2602	DIN54231	160.38		0.17	
2606		-----		-----	
2612		-----		-----	
2614		159.7		0.15	
2649	DIN54231	230.92		1.77	
2668	DIN54231	173.21		0.46	
2737	DIN54231	140.02		-0.30	
2793		-----		-----	
2804	In house	125.3	C	-0.64	first reported: 462.1

lab	method	value	mark	z(targ)	remarks
2812	DIN54231	185.61		0.74	
2814	DIN54231	ND	C	-----	first reported: 6.151
3100	DIN54231	143		-0.23	
3116	DIN54231	568	R(0.01)	9.46	
3146	DIN54231	128.4		-0.56	
3150	DIN54231	201.0		1.09	
3154	DIN54231	146.13		-0.16	
3172	DIN54231	153.06		0.00	
3176	DIN54231	189.70		0.83	
3197	DIN54231	187.5		0.78	
3209	DIN54231	138.31		-0.34	
3210		153.10		0.00	
3214	DIN54231	148.95		-0.10	
3220	DIN54231	170.23		0.39	
3225	DIN54231	136.31		-0.38	
3228	DIN54231	155		0.04	
3233	DIN54231	134.87		-0.42	
3237	DIN54231	135.4		-0.40	
3248	DIN54231	131	C	-0.51	first reported: 621

normality	not OK
n	79
outliers	5
mean (n)	153.147
st.dev. (n)	26.4838
R(calc.)	74.155
st.dev.(DIN54231:05)	43.8306
R(DIN54231:05)	122.726





APPENDIX 2: Other reported banned colorants

Abbreviations and details of allergenic colorants, see also Oekotex 100:

DB1	: Disperse Blue 1	CASno 2475-45-8	C.I.no 64 500	(in DIN54231)
DB3	: Disperse Blue 3	CASno 2475-46-9	C.I.no 61 505	(in DIN54231)
DB7	: Disperse Blue 7	CASno 3179-90-6	C.I.no 62 500	
DB26	: Disperse Blue 26	CASno 3860-63-7	C.I.no 63 305	
DB35	: Disperse Blue 35*	CASno 12222-75-2 (*)		(in DIN54231)
DB35a	: Disperse Blue 35a	CASno 56524-77-7		
DB35b	: Disperse Blue 35b	CASno 56524-76-6		
DB102	: Disperse Blue 102	CASno 12222-97-8		
DB106	: Disperse Blue 106	CASno 12223-01-7		(in DIN54231)
DB124	: Disperse Blue 124	CASno 61951-51-7		(in DIN54231)
DBr1	: Disperse Brown 1	CASno 23355-64-8		
DO1	: Disperse Orange 1	CASno 2581-69-3	C.I.no 11 080	
DO3	: Disperse Orange 3	CASno 730-40-5	C.I.no 11 005	(in DIN54231)
DO76	: Disperse Orange 76=37	CASno 13301-61-6	C.I.no 11 132	(in DIN54231)
DR1	: Disperse Red 1	CASno 2872-52-8	C.I.no 11 110	(in DIN54231)
DR11	: Disperse Red 11	CASno 2872-48-2	C.I.no 62 015	
DR17	: Disperse Red 17	CASno 3179-89-3	C.I.no 11 210	
DY1	: Disperse Yellow 1	CASno 119-15-3	C.I.no 10 345	
DY3	: Disperse Yellow 3	CASno 2832-40-8	C.I.no 11 855	(in DIN54231)
DY9	: Disperse Yellow 9	CASno 6373-73-5	C.I.no 10 37	
DY39	: Disperse Yellow 39	CASno 12236-29-2		
DY49	: Disperse Yellow 49	CASno 54824-37-2		

* Disperse Blue 35 consists of a mixture of components, of which the monomethylated 1,8-diamino-4,5-dihydroxy-anthraquinone (CASno 56524-77-7) and the dimethylated 1,8-diamino-4,5-dihydroxy-anthraquinone (CASno 56524-76-6) are responsible for the sensitizing potency of Disperse Blue 35, see also report iis09A04X of May 2009.

Abbreviations and details of carcinogenic colorants, see also Oekotex 100:

AR26	: Acid Red 26	CASno 3761-53-3	C.I. 16 150
BB26	: Basic Blue 26	CASno 2580-56-5	
BR9	: Basic Red 9	CASno 569-61-9	C.I. 42 500
BV3	: Basic Violet 3	CASno 548-62-9	
BV14	: Basic Violet 14	CASno 632-99-5	C.I. 42 510
DBl38	: Direct Black 38	CASno 1937-37-7	C.I. 30 235
DB6	: Direct Blue 6	CASno 2602-46-2	C.I. 22 610
DR28	: Direct Red 28	CASno 573-58-0	C.I. 22 120
DO11	: Disperse Orange 11	CASno 82-28-0	C.I. 60 700

Abbreviations and details of other banned colorants colorants, see also Oekotex 100:

DO149	: Disperse Orange 149	CASno 85136-74-9	
DY3	: Disperse Yellow 23	CASno 6250-23-3	C.I. 26 070
BG4o	: Basic Green 4 (oxalate)	CASno 2437-29-8	
BG4c	: Basic Green 4 (chloride)	CASno 569-64-2	
BG4f	: Basic Green 4 (free)	CASno 10309-95-2	
NB	: Navy Blue	EG-no.405-665-4	

Other reported allergenic Colorants in sample #18530; results in mg/kg

lab	DB1	DB3	DB7	DB26	DB35	DB35a	DB35b	DB102	DB106	DB124
213	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
348	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
362	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	nd	nd	-----	-----	nd	-----	-----	nd	nd	nd
623	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
841	-----	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
1099	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2139	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2213	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2241	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2247	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2250	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2255	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2265	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2289	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2290	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2293	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2300	ND	ND	ND	ND	ND	-----	-----	ND	ND	ND
2301	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2310	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
2311	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2320	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2347	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2350	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2352	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2357	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2365	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2366	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2369	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2370	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2379	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.
2380	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2390	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2452	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2496	＜10	＜10	＜10	-----	＜10	-----	-----	＜10	＜10	＜10
2497	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2508	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	Not Det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.
2538	< 25	< 25	< 25	<75	-----	-----	-----	< 25	< 25	< 25
2549	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2561	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2567	<15	<15	<15	<15	<15	-----	-----	<15	<15	<15
2572	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2573	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2591	<1.0	<1.0	<1.0	<1.0	<1.0	-----	-----	<1.0	<1.0	<1.0
2600	<det. limit	<det. limit	<det. limit	<det. limit	<det. limit	-----	-----	<det. limit	<det. limit	<det. limit
2602	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2606	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2612	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2614	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2649	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2668	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2737	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2793	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D

lab	DB1	DB3	DB7	DB26	DB35	DB35a	DB35b	DB102	DB106	DB124
2804	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2812	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2814	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
3150	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
3154	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3209	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3210	<50	<50	<50	<50	-----	<50	-----	<50	<50	<50
3214	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
3220	ND	ND	ND	ND	ND	-----	-----	ND	ND	ND
3225	ND	ND	ND	ND	ND	-----	-----	ND	ND	ND
3228	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3233	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3237	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3248	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Other reported allergenic Colorants in sample #18530; results in mg/kg -- continued --

lab	DBr1	DO3	DO76	DR1	DR11	DY1	DY3	DY9	DY39	DY49
213	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
348	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
362	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	nd	nd	nd	nd	nd	-----	nd	nd	nd	nd
623	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
841	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
1099	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2139	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2213	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2241	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2247	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
2250	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2255	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2265	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2289	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2290	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2293	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2300	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2301	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2310	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
2311	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2320	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2347	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2350	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2352	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2357	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2365	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2366	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2369	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2370	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2379	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.
2380	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2390	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2452	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

lab	DBr1	DO3	DO76	DR1	DR11	DY1	DY3	DY9	DY39	DY49
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2496	＜10	＜10	＜10	＜10	＜10	＜10	＜10	＜10	＜10	＜10
2497	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2508	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2538	<25	<25	<25	<25	<25	<25	<25	<25	<25	-----
2549	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2561	-----	-----	-----	<15	-----	-----	-----	-----	-----	-----
2567	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2572	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
2573	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2591	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2600	<det. limit	<det. limit	<det. limit	<det. limit	<det. limit	<det. limit	<det. limit	<det. limit	<det. limit	<det. limit
2602	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2606	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2612	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2614	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2649	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2668	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2737	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2793	N.D	N.D	N.D	N.D	N.D	-----	N.D	-----	N.D	N.D
2804	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2812	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2814	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
3150	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
3154	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3209	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3210	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
3214	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
3220	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3225	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3228	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3233	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3237	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3248	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Other reported carcinogenic Colorants in sample #18530; results in mg/kg

lab	AR26	BB26	BR9	BV3	BV14	DBI 38	DB6	DR28	DO11
213	-----	-----	-----	-----	-----	-----	-----	-----	-----
348	-----	-----	-----	-----	-----	-----	-----	-----	<15
362	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	-----	nd	nd	nd	nd	-----	-----	-----	nd
623	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
841	n.d	-----	n.d	n.d	n.d	n.d	n.d	n.d	n.d
1099	-----	-----	-----	-----	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----	-----	-----
2139	-----	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2213	<15	<15	<15	<15	<15	<15	<15	<15	<15
2241	<10	<10	<10	<10	<10	<10	<10	<10	<10
2247	nd	nd	nd	nd	nd	nd	nd	nd	nd
2250	-----	-----	-----	-----	-----	-----	-----	-----	-----
2255	ND	ND	ND	ND	ND	ND	ND	ND	ND
2265	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2289	ND	ND	ND	ND	ND	ND	ND	ND	ND
2290	<15	<15	<15	<15	<15	<15	<15	<15	<15
2293	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<15	<15	<15	<15	<15	<15	<15	<15	<15
2300	-----	-----	-----	-----	-----	-----	-----	-----	-----

lab	AR26	BB26	BR9	BV3	BV14	DBl 38	DB6	DR28	DO11
2301	-----	-----	-----	-----	-----	-----	-----	-----	-----
2310	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
2311	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2320	-----	-----	-----	-----	-----	-----	-----	-----	-----
2330	ND	ND	ND	ND	ND	ND	ND	ND	ND
2347	<15	<15	<15	<15	<15	<15	<15	<15	<15
2350	<15	<15	<15	<15	<15	<15	<15	<15	<15
2352	<15	<15	<15	<15	<15	<15	<15	<15	<15
2357	ND	ND	ND	ND	ND	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND	ND	ND	ND	ND	ND
2365	<15	<15	<15	<15	<15	<15	<15	<15	<15
2366	<15	<15	<15	<15	<15	<15	<15	<15	<15
2369	-----	-----	-----	-----	-----	-----	-----	-----	-----
2370	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	-----	-----	-----	-----	-----	-----	-----	-----	-----
2379	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2380	-----	-----	-----	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2390	ND	ND	ND	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----	-----	-----	-----
2452	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----
2496	-----	-----	-----	-----	-----	-----	-----	-----	＜10
2497	-----	-----	-----	-----	-----	-----	-----	-----	-----
2508	-----	-----	-----	-----	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2538	<25	-----	<25	<25	<25	<25	<45	<25	<25
2549	ND	ND	ND	ND	ND	ND	ND	ND	ND
2561	-----	-----	146.49	-----	-----	-----	-----	-----	-----
2567	<15	<15	<15	<15	<15	<15	<15	<15	<15
2572	<15	<15	<15	<15	<15	<15	<15	<15	<15
2573	ND	ND	ND	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----	-----
2591	-----	-----	<1.0	-----	<1.0	-----	-----	-----	-----
2600	-----	-----	-----	-----	-----	-----	-----	-----	<det. limit
2602	-----	-----	-----	-----	-----	-----	-----	-----	-----
2606	-----	-----	-----	-----	-----	-----	-----	-----	-----
2612	-----	-----	-----	-----	-----	-----	-----	-----	-----
2614	ND	ND	ND	ND	ND	ND	ND	ND	ND
2649	-----	-----	-----	-----	-----	-----	-----	-----	-----
2668	ND	ND	ND	ND	ND	ND	ND	ND	ND
2737	-----	-----	-----	-----	-----	-----	-----	-----	-----
2793	-----	-----	N.D	N.D	-----	-----	N.D	-----	-----
2804	<10	<10	<10	<10	<10	<10	<10	<10	<10
2812	-----	-----	-----	-----	-----	-----	-----	-----	-----
2814	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<15	<15	<15	<15	<15	<15	<15	<15	<15
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	<15	<15	<15	<15	<15	<15	<15	<15	<15
3150	<10	<10	<10	<10	<10	<10	<10	<10	<10
3154	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	ND	ND	ND	ND	ND	ND	ND	ND	ND
3209	-----	-----	-----	-----	-----	-----	-----	-----	-----
3210	<50	-----	<50	<50	-----	<50	<50	<50	<50
3214	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
3220	ND	-----	ND	-----	ND	ND	ND	ND	ND
3225	ND	-----	ND	-----	ND	ND	ND	ND	ND
3228	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3233	-----	-----	-----	-----	-----	-----	-----	-----	-----
3237	-----	-----	-----	-----	-----	-----	-----	-----	-----
3248	-----	-----	-----	-----	-----	-----	-----	-----	-----

Other reported other banned Colorants in sample #18530; results in mg/kg -- continued --

lab	DO149	DY23	BG4o	BG4c	BG4f	NB
213	-----	-----	-----	-----	-----	-----
348	<15	<15	-----	-----	-----	-----
362	-----	-----	-----	-----	-----	-----
551	-----	-----	-----	-----	-----	-----
623	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	not detected	not detected	not detected	not detected	not detected	not detected
841	n.d	n.d	-----	-----	-----	-----
1099	-----	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----
2139	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2213	<15	<15	<15	<15	<15	<15
2241	<10	<10	<10	<10	<10	<10
2247	nd	nd	nd	nd	nd	nd
2250	-----	-----	-----	-----	-----	-----
2255	ND	ND	ND	ND	ND	ND
2265	< 15	< 15	-----	< 15	-----	< 15
2289	ND	ND	ND	ND	ND	ND
2290	<15	<15	<15	<15	<15	<15
2293	-----	-----	-----	-----	-----	-----
2297	<15	<15	<15	<15	<15	<15
2300	-----	-----	-----	-----	-----	-----
2301	-----	-----	-----	-----	-----	-----
2310	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2320	-----	-----	-----	-----	-----	-----
2330	ND	ND	NA	NA	NA	ND
2347	<15	<15	<15	<15	<15	<15
2350	<15	<15	<15	<15	<15	<15
2352	<15	<15	<15	<15	<15	<15
2357	ND	ND	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND	ND	ND
2365	<15	<15	<15	<15	<15	<15
2366	<15	<15	<15	<15	<15	<15
2369	-----	-----	-----	-----	-----	-----
2370	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	-----	-----	-----	-----	-----	-----
2379	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2380	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15	< 15	< 15
2390	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----
2452	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND
2492	-----	-----	-----	-----	-----	-----
2496	-----	＜10	-----	-----	-----	-----
2497	-----	-----	-----	-----	-----	-----
2508	-----	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----
2532	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2538	<25	<25	-----	-----	-----	-----
2549	ND	ND	ND	ND	ND	ND
2561	-----	-----	-----	-----	-----	-----
2567	<15	<15	-----	-----	-----	<15
2572	<15	<15	<15	<15	<15	<15
2573	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----
2591	-----	-----	-----	-----	-----	-----
2600	<detection limit	<detection limit	-----	-----	-----	-----
2602	-----	-----	-----	-----	-----	-----
2606	-----	-----	-----	-----	-----	-----
2612	-----	-----	-----	-----	-----	-----
2614	ND	ND	ND	ND	ND	ND
2649	-----	-----	-----	-----	-----	-----
2668	ND	ND	ND	ND	ND	ND
2737	-----	-----	-----	-----	-----	-----
2793	-----	-----	-----	-----	-----	-----

lab	DO149	DY23	BG4o	BG4c	BG4f	NB
2804	<10	<10	<10	<10	<10	<10
2812	-----	-----	-----	-----	-----	-----
2814	-----	-----	-----	-----	-----	-----
3100	<15	<15	<15	<15	<15	<15
3116	-----	-----	-----	-----	-----	-----
3146	<15	<15	<15	<15	<15	<15
3150	<10	<10	<10	<10	<10	<10
3154	-----	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----
3197	ND	ND	ND	ND	ND	ND
3209	-----	-----	-----	-----	-----	-----
3210	-----	<50	-----	-----	-----	-----
3214	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
3220	ND	ND	-----	-----	-----	ND
3225	ND	ND	-----	-----	-----	-----
3228	n.d.	n.d.	-----	-----	-----	-----
3233	-----	-----	-----	-----	-----	-----
3237	-----	-----	-----	-----	-----	-----
3248	-----	-----	-----	-----	-----	-----

Other reported allergenic Colorants in sample #18531; results in mg/kg

lab	DB1	DB3	DB7	DB35	DB35a	DB35b	DB102	DB106	DB124
213	-----	-----	-----	-----	-----	-----	-----	-----	-----
348	11.89	<15	<15	<15	<15	<15	<15	<15	<15
362	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	23.6	nd	-----	nd	-----	-----	nd	nd	nd
623	34.94	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
841	-----	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
1099	-----	-----	-----	-----	-----	-----	-----	-----	-----
2115	8.16	-----	-----	-----	-----	210.6	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----	-----	-----
2139	-----	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2213	28	<15	<15	508	<15	<15	<15	<15	<15
2241	<10	<10	<10	<10	<10	<10	<10	<10	<10
2247	nd	nd	nd	nd	nd	nd	nd	nd	nd
2250	-----	-----	-----	-----	-----	-----	-----	-----	-----
2255	16.1	ND	ND	ND	ND	ND	ND	ND	ND
2265	9.83	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2289	ND	ND	ND	ND	ND	ND	ND	ND	ND
2290	<15	<15	<15	<15	<15	<15	<15	<15	<15
2293	-----	-----	-----	260.15	-----	-----	-----	-----	-----
2297	<15	<15	<15	<15	<15	<15	<15	<15	<15
2300	ND	ND	ND	ND	-----	-----	ND	ND	ND
2301	-----	-----	-----	-----	-----	-----	-----	-----	-----
2310	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
2311	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2320	-----	-----	-----	-----	1310.78	-----	-----	-----	-----
2330	9.12	ND	ND	ND	ND	ND	ND	ND	ND
2347	<15	<15	<15	<15	<15	<15	<15	<15	<15
2350	<15	<15	<15	<15	<15	<15	<15	<15	<15
2352	<15	<15	<15	<15	<15	<15	<15	<15	<15
2357	ND	ND	ND	ND	ND	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND	ND	ND	ND	ND	ND
2365	<15	<15	<15	<15	<15	<15	<15	<15	<15
2366	<15	<15	<15	<15	<15	<15	<15	<15	<15
2369	<15	<15	<15	<15	<15	<15	<15	<15	<15
2370	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	<15	-----	-----	-----	-----	-----	-----	-----	-----
2379	7.54	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.
2380	17.0	-----	-----	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2390	20.38	ND	ND	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----	-----	-----	-----
2452	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----

lab	DB1	DB3	DB7	DB35	DB35a	DB35b	DB102	DB106	DB124
2489	15.3	ND	ND	ND	ND	ND	ND	ND	ND
2492	63.1	-----	-----	82.7	-----	-----	-----	-----	-----
2496	＜10	＜10	＜10	＜10	-----	-----	＜10	＜10	＜10
2497	-----	-----	-----	-----	199.2	322	-----	-----	-----
2508	-----	-----	-----	-----	-----	-----	-----	-----	-----
2511	24.175	-----	-----	710.655	-----	-----	-----	-----	-----
2532	16	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2538	<25	<25	<25	-----	-----	-----	<25	<25	<25
2549	ND	ND	ND	ND	ND	ND	ND	ND	ND
2561	-----	-----	-----	330.55	-----	-----	-----	-----	-----
2567	21.3	<15	<15	<15	-----	-----	<15	<15	<15
2572	<15	<15	<15	<15	<15	<15	<15	<15	<15
2573	ND	ND	ND	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----	-----
2591	<1.0	<1.0	<1.0	454.31	-----	-----	<1.0	<1.0	<1.0
2600	<det. Limit	<det. limit	<det. limit	<det. limit	-----	-----	<det. limit	<det. limit	<det. limit
2602	12.70	-----	-----	-----	-----	-----	-----	-----	-----
2606	-----	-----	-----	-----	-----	-----	-----	-----	-----
2612	-----	-----	-----	-----	-----	-----	-----	-----	-----
2614	ND	ND	ND	ND	ND	ND	ND	ND	ND
2649	-----	-----	-----	402.22	-----	-----	-----	-----	-----
2668	ND	ND	ND	ND	ND	ND	ND	ND	ND
2737	-----	-----	-----	-----	-----	-----	-----	-----	-----
2793	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
2804	28.88	<10	<10	490.4	<10	<10	<10	<10	<10
2812	9.18	-----	-----	218.42	-----	-----	-----	-----	-----
2814	6.048	-----	-----	158.654	-----	-----	-----	-----	-----
3100	<15	<15	<15	<15	<15	<15	<15	<15	<15
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	<15	<15	<15	<15	<15	<15	<15	<15	<15
3150	19.9	<10	<10	873.5	<10	<10	<10	<10	<10
3154	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	19.139	-----	-----	-----	-----	-----	-----	-----	-----
3176	7.65	-----	-----	218.40	-----	-----	-----	-----	-----
3197	10.6	ND	ND	ND	ND	ND	ND	ND	ND
3209	-----	-----	-----	-----	-----	-----	-----	-----	-----
3210	<50	<50	<50	-----	<50	-----	<50	<50	<50
3214	7.88	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
3220	ND	ND	ND	207.24	-----	-----	ND	ND	ND
3225	ND	ND	ND	ND	-----	-----	ND	ND	ND
3228	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3233	-----	-----	-----	32.64	-----	-----	-----	-----	-----
3237	8.5	-----	-----	516	-----	-----	-----	-----	-----
3248	15	-----	-----	496	-----	-----	-----	-----	-----

Other reported allergenic Colorants in sample #18531; results in mg/kg -- continued --

lab	DBr1	DO1	DO3	DR1	DR11	DR17	DY1	DY39	DY49
213	-----	-----	-----	-----	-----	-----	-----	-----	-----
348	<15	<15	<15	<15	<15	<15	<15	<15	<15
362	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	nd	nd	nd	nd	nd	nd	-----	nd	nd
623	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
841	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d	n.d
1099	-----	-----	-----	-----	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----	-----	-----
2139	-----	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2213	<15	<15	56	<15	<15	<15	<15	<15	<15
2241	<10	<10	<10	<10	<10	<10	<10	<10	<10
2247	nd	nd	nd	nd	nd	nd	nd	nd	nd
2250	-----	-----	-----	-----	-----	-----	-----	-----	-----
2255	ND	ND	ND	ND	ND	ND	ND	ND	ND
2265	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2289	ND	ND	ND	ND	ND	ND	ND	ND	ND
2290	<15	<15	<15	<15	<15	<15	<15	<15	<15
2293	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<15	<15	<15	<15	<15	<15	<15	<15	<15
2300	ND	ND	ND	ND	ND	ND	ND	ND	ND

lab	DBr1	DO1	DO3	DR1	DR11	DR17	DY1	DY39	DY49
2301	-----	-----	-----	-----	-----	-----	-----	-----	-----
2310	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
2311	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2320	-----	-----	-----	-----	-----	-----	-----	-----	-----
2330	ND	ND	ND	ND	ND	ND	ND	ND	ND
2347	<15	<15	<15	<15	<15	<15	<15	<15	<15
2350	<15	<15	<15	<15	<15	<15	<15	<15	<15
2352	<15	<15	<15	<15	<15	<15	<15	<15	<15
2357	ND	ND	ND	ND	ND	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND	ND	ND	ND	ND	ND
2365	<15	<15	<15	<15	<15	<15	<15	<15	<15
2366	<15	<15	<15	<15	<15	<15	<15	<15	<15
2369	<15	<15	<15	<15	<15	<15	<15	<15	<15
2370	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	-----	-----	-----	-----	-----	-----	-----	-----	-----
2379	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.
2380	-----	-----	-----	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2390	ND	ND	ND	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----	-----	-----	-----
2452	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND
2492	-----	331.0	-----	-----	-----	-----	-----	-----	-----
2496	＜10	＜10	＜10	＜10	＜10	＜10	＜10	＜10	＜10
2497	-----	-----	-----	-----	-----	-----	-----	-----	-----
2508	-----	-----	-----	-----	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2538	<25	<25	<25	<25	<25	<25	<25	<25	-----
2549	ND	ND	ND	ND	ND	ND	ND	ND	ND
2561	-----	-----	-----	-----	-----	-----	-----	-----	-----
2567	<15	<15	<15	<15	<15	<15	<15	<15	<15
2572	<15	<15	<15	<15	<15	<15	<15	<15	<15
2573	ND	ND	ND	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----	-----
2591	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2600	<det. limit	591.3	<det. limit	<det. limit	16.94	<det. limit	<det. limit	<det. limit	<det. limit
2602	-----	-----	-----	-----	-----	-----	-----	-----	-----
2606	-----	-----	-----	-----	-----	-----	-----	-----	-----
2612	-----	-----	-----	-----	-----	-----	-----	-----	-----
2614	ND	ND	ND	ND	ND	ND	ND	ND	ND
2649	-----	-----	-----	-----	-----	-----	-----	-----	-----
2668	ND	ND	ND	ND	ND	ND	ND	ND	ND
2737	-----	-----	-----	-----	-----	-----	-----	-----	-----
2793	N.D	N.D	N.D	N.D	N.D	N.D	-----	N.D	N.D
2804	<10	<10	<10	<10	<10	<10	<10	<10	<10
2812	-----	-----	-----	-----	-----	-----	-----	-----	-----
2814	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<15	<15	<15	<15	<15	<15	<15	<15	<15
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	<15	<15	<15	<15	<15	<15	<15	<15	<15
3150	<10	<10	<10	<10	<10	<10	<10	<10	<10
3154	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	ND	ND	ND	ND	ND	ND	ND	ND	ND
3209	-----	-----	-----	-----	-----	-----	-----	-----	-----
3210	<50	<50	<50	<50	<50	<50	<50	<50	<50
3214	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
3220	ND	ND	ND	ND	ND	ND	ND	ND	ND
3225	ND	ND	ND	ND	ND	ND	ND	ND	ND
3228	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3233	-----	-----	-----	-----	-----	-----	25.74	-----	-----
3237	-----	-----	-----	-----	-----	-----	-----	-----	-----
3248	-----	-----	-----	-----	-----	-----	23	-----	-----

Other reported carcinogenic Colorants in sample #18531; results in mg/kg

lab	AR26	BB26	BR9	BV3	BV14	DBI 38	DB6	DR28	DO11
213	-----	-----	-----	-----	-----	-----	-----	-----	-----
348	-----	-----	-----	-----	-----	-----	-----	-----	<15
362	-----	-----	-----	-----	-----	-----	-----	-----	-----
551	-----	nd	nd	nd	nd	-----	-----	-----	nd
623	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
840	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
841	n.d	-----	n.d	n.d	n.d	n.d	n.d	n.d	n.d
1099	-----	-----	-----	-----	-----	-----	-----	-----	-----
2115	-----	-----	-----	-----	-----	-----	-----	-----	-----
2129	-----	-----	-----	-----	-----	-----	-----	-----	-----
2135	-----	-----	-----	-----	-----	-----	-----	-----	-----
2139	-----	-----	-----	-----	-----	-----	-----	-----	-----
2165	ND	ND	ND	ND	ND	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2213	<15	<15	<15	<15	<15	<15	<15	<15	<15
2241	<10	<10	<10	<10	<10	<10	<10	<10	<10
2247	nd	nd	nd	nd	nd	nd	nd	nd	nd
2250	-----	-----	-----	-----	-----	-----	-----	-----	-----
2255	ND	ND	ND	ND	ND	ND	ND	ND	ND
2265	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2289	ND	ND	ND	ND	ND	ND	ND	ND	ND
2290	<15	<15	<15	<15	<15	<15	<15	<15	<15
2293	-----	-----	-----	-----	-----	-----	-----	-----	-----
2297	<15	<15	<15	<15	<15	<15	<15	<15	<15
2300	ND	ND	ND	ND	ND	ND	ND	ND	ND
2301	-----	-----	-----	-----	-----	-----	-----	-----	-----
2310	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.	not det.
2311	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2320	-----	-----	-----	-----	-----	-----	-----	-----	-----
2330	ND	ND	ND	ND	ND	ND	ND	ND	ND
2347	<15	<15	<15	<15	<15	<15	<15	<15	<15
2350	<15	<15	<15	<15	<15	<15	<15	<15	<15
2352	<15	<15	<15	<15	<15	<15	<15	<15	<15
2357	ND	ND	ND	ND	ND	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND	ND	ND	ND	ND	ND
2365	<15	<15	<15	<15	<15	<15	<15	<15	<15
2366	<15	<15	<15	<15	<15	<15	<15	<15	<15
2369	<15	<15	<15	<15	<15	<15	<15	<15	<15
2370	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2375	-----	-----	-----	-----	-----	-----	-----	-----	-----
2379	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.	Not det.
2380	-----	-----	-----	-----	-----	-----	-----	-----	-----
2382	-----	-----	-----	-----	-----	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15
2390	ND	ND	ND	ND	ND	ND	ND	ND	ND
2446	-----	-----	-----	-----	-----	-----	-----	-----	-----
2452	-----	-----	-----	-----	-----	-----	-----	-----	-----
2482	-----	-----	-----	-----	-----	-----	-----	-----	-----
2489	ND	ND	ND	ND	ND	ND	ND	ND	ND
2492	-----	-----	-----	-----	-----	-----	-----	-----	-----
2496	-----	-----	-----	-----	-----	-----	-----	-----	＜10
2497	-----	-----	-----	-----	-----	-----	86.9	-----	-----
2508	-----	-----	-----	-----	-----	-----	-----	-----	-----
2511	-----	-----	-----	-----	-----	-----	-----	-----	-----
2532	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.	Not Det.
2538	<25	-----	<25	<25	<25	<25	<45	<25	<25
2549	ND	ND	ND	ND	ND	ND	ND	ND	ND
2561	-----	-----	-----	-----	-----	-----	-----	-----	-----
2567	<15	<15	<15	<15	<15	<15	<15	<15	<15
2572	<15	<15	<15	<15	<15	<15	<15	<15	<15
2573	ND	ND	ND	ND	ND	ND	ND	ND	ND
2590	-----	-----	-----	-----	-----	-----	-----	-----	-----
2591	-----	-----	<1.0	-----	<1.0	-----	-----	-----	-----
2600	-----	-----	-----	-----	-----	-----	-----	-----	<det. limit
2602	-----	-----	-----	-----	-----	-----	-----	-----	-----
2606	-----	-----	-----	-----	-----	-----	-----	-----	-----
2612	-----	-----	-----	-----	-----	-----	-----	-----	-----
2614	ND	ND	ND	ND	ND	ND	ND	ND	ND
2649	-----	-----	-----	-----	-----	-----	-----	-----	-----
2668	ND	ND	ND	ND	ND	ND	ND	ND	ND
2737	-----	-----	-----	-----	-----	-----	-----	-----	-----
2793	-----	-----	N.D	N.D	-----	-----	N.D	-----	-----

lab	AR26	BB26	BR9	BV3	BV14	DBl 38	DB6	DR28	DO11
2804	<10	<10	<10	<10	<10	<10	<10	<10	<10
2812	-----	-----	-----	-----	-----	-----	-----	-----	-----
2814	-----	-----	-----	-----	-----	-----	-----	-----	-----
3100	<15	<15	<15	<15	<15	<15	<15	<15	<15
3116	-----	-----	-----	-----	-----	-----	-----	-----	-----
3146	<15	<15	<15	<15	<15	<15	<15	<15	<15
3150	<10	<10	<10	<10	<10	<10	<10	<10	<10
3154	-----	-----	-----	-----	-----	-----	-----	-----	-----
3172	-----	-----	-----	-----	-----	-----	-----	-----	-----
3176	-----	-----	-----	-----	-----	-----	-----	-----	-----
3197	ND	ND	ND	ND	ND	ND	ND	ND	ND
3209	-----	-----	-----	-----	-----	-----	-----	-----	-----
3210	<50	-----	<50	<50	-----	<50	<50	<50	<50
3214	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
3220	ND	-----	ND	-----	ND	ND	ND	ND	ND
3225	ND	-----	ND	-----	ND	ND	ND	ND	ND
3228	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
3233	-----	-----	-----	-----	-----	-----	-----	-----	-----
3237	-----	-----	-----	-----	-----	-----	-----	-----	-----
3248	-----	-----	-----	-----	-----	-----	-----	-----	-----

Other reported other banned Colorants in sample #18531; results in mg/kg -- continued --

lab	BG4o	BG4c	BG4f	NB
213	-----	-----	-----	-----
348	-----	-----	-----	-----
362	-----	-----	-----	-----
551	-----	-----	-----	nd
623	n.d.	n.d.	n.d.	n.d.
840	not detected	not detected	not detected	not detected
841	-----	-----	-----	-----
1099	-----	-----	-----	-----
2115	-----	-----	-----	-----
2129	-----	-----	-----	-----
2135	-----	-----	-----	-----
2139	-----	-----	-----	-----
2165	ND	ND	ND	ND
2184	n.d.	n.d.	n.d.	n.d.
2213	<15	<15	<15	<15
2241	<10	<10	<10	<10
2247	nd	nd	nd	nd
2250	-----	-----	-----	-----
2255	ND	ND	ND	ND
2265	-----	< 15	-----	< 15
2289	ND	ND	ND	ND
2290	<15	<15	<15	<15
2293	-----	-----	-----	-----
2297	<15	<15	<15	<15
2300	ND	ND	ND	ND
2301	-----	-----	-----	-----
2310	NOT DETECTED	NOT DETECTED	NOT DETECTED	NOT DETECTED
2311	Not Detected	Not Detected	Not Detected	Not Detected
2320	-----	-----	-----	-----
2330	NA	NA	NA	ND
2347	<15	<15	<15	<15
2350	<15	<15	<15	<15
2352	<15	<15	<15	<15
2357	ND	ND	ND	ND
2358	n.d.	n.d.	n.d.	n.d.
2363	ND	ND	ND	ND
2365	<15	<15	<15	<15
2366	<15	<15	<15	<15
2369	<15	<15	<15	<15
2370	n.d.	n.d.	n.d.	n.d.
2375	-----	-----	-----	-----
2379	Not detected	Not detected	Not detected	Not detected
2380	-----	-----	-----	-----
2382	-----	-----	-----	-----
2386	< 15	< 15	< 15	< 15
2390	ND	ND	ND	ND
2446	-----	-----	-----	-----
2452	-----	-----	-----	-----

lab	BG4o	BG4c	BG4f	NB
2482	-----	-----	-----	-----
2489	ND	ND	ND	ND
2492	-----	-----	-----	-----
2496	-----	-----	-----	-----
2497	-----	-----	-----	-----
2508	-----	-----	-----	-----
2511	-----	-----	-----	-----
2532	Not Detected	Not Detected	Not Detected	Not Detected
2538	-----	-----	-----	-----
2549	ND	ND	ND	ND
2561	-----	-----	-----	-----
2567	-----	-----	-----	<15
2572	<15	<15	<15	<15
2573	ND	ND	ND	ND
2590	-----	-----	-----	-----
2591	-----	-----	-----	-----
2600	-----	-----	-----	-----
2602	-----	-----	-----	-----
2606	-----	-----	-----	-----
2612	-----	-----	-----	-----
2614	ND	ND	ND	ND
2649	-----	-----	-----	-----
2668	ND	ND	ND	ND
2737	-----	-----	-----	-----
2793	-----	-----	-----	-----
2804	<10	<10	<10	<10
2812	-----	-----	-----	-----
2814	-----	-----	-----	-----
3100	<15	<15	<15	<15
3116	-----	-----	-----	-----
3146	<15	<15	<15	<15
3150	<10	<10	<10	<10
3154	-----	-----	-----	-----
3172	-----	-----	-----	-----
3176	-----	-----	-----	-----
3197	ND	ND	ND	ND
3209	-----	-----	-----	-----
3210	-----	-----	-----	-----
3214	<1.5	<1.5	<1.5	<1.5
3220	-----	-----	-----	ND
3225	-----	-----	-----	-----
3228	-----	-----	-----	-----
3233	-----	-----	-----	-----
3237	-----	-----	-----	-----
3248	-----	-----	-----	-----

APPENDIX 3

Number of participants per country

3 labs in	BANGLADESH
1 lab in	BRAZIL
1 lab in	BULGARIA
2 labs in	CAMBODIA
2 labs in	FRANCE
15 labs in	GERMANY
1 lab in	GUATEMALA
7 labs in	HONG KONG
11 labs in	INDIA
2 labs in	INDONESIA
4 labs in	ITALY
2 labs in	KOREA
1 lab in	MOROCCO
18 labs in	P.R. of CHINA
1 lab in	PAKISTAN
1 lab in	POLAND
2 labs in	SPAIN
1 lab in	SRI LANKA
2 labs in	TAIWAN R.O.C.
1 lab in	THAILAND
3 labs in	TUNISIA
6 labs in	TURKEY
1 lab in	UNITED ARAB EMIRATES
1 lab in	UNITED KINGDOM
4 labs in	VIETNAM

APPENDIX 4

Abbreviations:

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

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