

Results of Proficiency Test
Phthalates in Plastics
April 2013

Organised by: Institute for Interlaboratory Studies
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Author: ing. R.J. Starink
Corrector: dr. R.G. Visser & ing. L. Dijkstra
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1 INTRODUCTION

Phthalates act as softeners and are commonly used as plasticizers in PVC. Phthalates may migrate fairly easily from PVC into the environment. Because phthalates appeared to have negative effects on health and the environment, regulations have been set up.

The manufacture and import of toys into the EC is regulated by the European Union's Toy Directive 88/378, with in addition the general product safety, which is covered by EU directive 2001/95 and Council Directive + amendments 76/769/EEC. These regulations govern conditions related to toys intended for children under 36 months of age (this group often suck or chew on toys and phthalates migrate easily). Therefore plastic toys are not allowed to contain either more than 0.1 %M/M of DEHP, DBP and BBP combined or more than 0.1%M/M of DINP (3 mixtures, ref. 21), DIDP (2 mixtures, ref 22) and DNOP combined.

• bis(2-ethylhexyl)phthalate (DEHP) ¹⁾	CASno. 117-81-7	EINECS no. 204-211-0
• dibutylphthalate (DBP)	CASno. 84-74-2	EINECS no. 201-557-4
• benzylbutylphthalate (BBP)	CASno. 85-68-7	EINECS no. 201-622-7
• di-isononylphthalate (DINP-1)	CASno. 28553-12-0	EINECS no. 249-079-5
• di-isononylphthalate (DINP-2)	CASno. 68515-48-0	EINECS no. 271-090-9
• di-isononylphthalate (DINP-3)	CASno. 28552-12-0	EINECS no. 249-079-5
• di-isodecylphthalate (DIDP-1)	CASno. 26761-40-0	EINECS no. 247-977-1
• di-isodecylphthalate (DIDP-2)	CASno. 68515-49-1	EINECS no. 271-091-4
• di-n-octylphthalate (DNOP)	CASno. 117-84-0	EINECS no. 204-214-7

¹⁾ DEHP is also known as di-(iso)-octylphthalate (DOP).

The determination of phthalates in plastics is known to give problems with the comparability of laboratory results. The fact that phthalates, used in the plastic industry are not pure components, but complex (and overlapping) mixtures is one of the causes for these problems. However, no appropriate Plastic reference materials are yet available (ref. 20).

As an alternative, participation in a proficiency test may enable laboratories to check their performance. Therefore, a proficiency test (laboratory-evaluating interlaboratory study) for the determination of phthalates in plastics was again organized by the Institute for Interlaboratory Studies in April 2013.

In the 2013 iis interlaboratory study iis13P01, 176 laboratories in 36 different countries did participate. See appendix 3 for the number of participating laboratories per country. In this report the results of the proficiency test are presented and discussed.

2 SET UP

The Institute for Interlaboratory Studies in Spijkenisse was the organiser of this proficiency test. It was decided to send two different PVC samples. The first sample, a children's booklet, was obtained from the local market. From the booklet only the (uncoated) purple dress of the plastic witch in the book should be tested. Besides the individual phthalates was also requested to report if the accessible part of sample #13044 can be placed in the mouth. The second batch was a PVC granulate, especially prepared by a Chinese factory by addition of technical mixtures of phthalates to PVC and subsequent homogenization. Analyses were subcontracted.

2.1 QUALITY SYSTEM

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, has implemented a quality system based on ISO Guide 43, ILAC-G13:2007 (R007) and IEC/ISO17043:2010. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Also customer's satisfaction is measured on a regular basis by sending out questionnaires.

2.2 PROTOCOL

The protocol followed in the organisation of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of January 2010 (iis-protocol, version 3.2).

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 samples were prepared from two different bulk materials.

The first sample was a children's booklet, with a plastic witch inside and labelled #13044. Each participant received one booklet. The homogeneity of the subsamples #13044 was checked by determination of phthalates on the uncoated purple dress of the witch of 8 stratified randomly selected subsamples.

	DINP in %M/M
Sample #13044-1	30.2
Sample #13044-2	29.0
Sample #13044-3	29.6
Sample #13044-4	28.9
Sample #13044-5	29.3
Sample #13044-6	28.2
Sample #13044-7	27.9
Sample #13044-8	29.9

Table 1: homogeneity test results of the subsamples #13044

From the above test results the repeatabilities were calculated and compared with 0.3 times the estimated reproducibility of EN14372:04 in agreement with the procedure of ISO 13528, Annex B2 in the next table;

	DINP in %M/M
r (observed) #13044	2.2
reference method	EN14372:04
0.3 x R (ref. method)	2.2

Table 2: evaluation of repeatabilities of phthalate contents of the subsamples #13044

The second bulk material was a coloured PVC, to which small, known amounts of DBP, BBP and DIDP were added. The batch of PVC was granulated, mixed well, and divided over 207 plastic bags of 3 gram each and labelled #13045.

This batch was also used in a previous proficiency test iis08P01. The statistical data observed in the proficiency test iis08P01 showed that the homogeneity was in good agreement with the standard precision data.

As the observed repeatabilities of the results of the homogeneity tests were all in agreement with the target precision data, the homogeneity of subsamples #13044 and #13045 was assumed.

To each of the participating laboratories, one children's booklet, labelled #13044 and one sample of approx. 3 grams granulate (labelled #13045) were sent on April 3, 2013.

2.5 ANALYSIS

The participants were requested to determine and report ten individual phthalates (DINP1&2, DBP, BBP, DHP, DIDP1&2, DNOP, DEHP and DiBP) and other phthalates on both samples #13044 and #13045.

The participants were explicitly asked to treat the samples as if they were routine samples and to report the analytical results using the indicated units on the report form and not to round the test results, but report as much significant figures as possible.

The participants were also asked not to report 'less than' results which are above the detection limit, because such results can not be used for meaningful statistical calculations. For sample #13044 was also requested to report is the accessible part of sample #13044 can be placed in the mouth (EU regulations: entry 25 of Annex XVII to REACH Regulation 1907/2006, further elaborated in Guideline on the interpretation of the concept "which can be placed in the mouth" as laid down in the entry 52 of Annex XVII to REACH Regulation 1907/2006 and USA regulations: 16 C.F.R. Part 1501 and 1500.50-53, further elaborated in 16 C.F.R. 1199).

To get comparable results a detailed report form, on which the units were prescribed, was sent together with each set of samples. Also a letter of instructions was added to the package. The laboratories were asked to complete the report form with the requested details of the methods used.

3 RESULTS

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

Directly after deadline, a reminder fax was sent to those laboratories that did not report results at that moment. Shortly after the deadline the available results were screened for suspect data. A result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the results. Additional or corrected results are used for the data analysis and the original results are placed under 'Remarks' in the result tables in appendix 1.

3.1 STATISTICS

For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded results. Results reported as '<... ' or '>... ' were not used in the statistical evaluation. First the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test. After removal of outliers, this check was repeated.

Not all data sets proved to have a normal distribution, in which cases the statistical evaluation of the results should be used with due care. In accordance to ISO 5725 (1986 and 1994) the original results per determination were submitted subsequently to Dixon and Grubbs outlier tests. Outliers are marked by D(0.01) for the Dixon test, by G(0.01) or DG(0.01) for the Grubbs test. Stragglers are marked by D(0.05) for the Dixon test, by G(0.05) or DG(0.05) for the Grubbs test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

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

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

For each assigned value the uncertainty was determined in accordance with ISO13528. Subsequently the calculated uncertainty was evaluated against the respective requirement based on the target reproducibility in accordance with ISO13528. When the uncertainty passed the evaluation no remarks are made in the report. However, when the uncertainty failed the evaluation it is mentioned in the report and it will have consequences for the evaluation of the test results.

3.2 GRAPHICS

In order to visualise the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported analysis results are plotted. The corresponding laboratory numbers are under the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected standard. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle. Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms (see appendix 4, nos.17-18).

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. the EN14372 reproducibilities, the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the spread of this interlaboratory study. The target standard deviation was calculated from the literature reproducibility by division with 2.8.

The z-scores were calculated according to:

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

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

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

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

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

4 EVALUATION

In this interlaboratory study no problems were encountered during the execution.

Only six participants did not report any test results. Finally, 170 laboratories reported 1085 numerical results. Observed were 47 statistically outlying test results, which is 4.3% of all results. In proficiency studies outlier percentages of 3% - 7.5% are quite normal.

4.1 EVALUATION PER PHTHALATE AND PER SAMPLE

In this section the results are discussed per component.

Many different test methods were used by the participating laboratories. Many participants reported to have used the standard test method: CPSC-CH-C1001-09 (dissolution in THF), but also several other standard test methods were used: EN14372 (Soxhlet extraction with diethyl ether) and ASTM D3421 (Soxhlet extraction with Chloroform) and in-house methods. Regretfully the CPSC method does not contain any precision statements. Therefore, the requirements from the standardised method EN14372:04, "Child use and care articles, Cutlery and feeding utensils, Safety requirements and tests" were used for evaluation of the results of this interlaboratory study.

Regretfully, only a relative within-laboratory standard deviation RSD_r is given in EN14372:04. Multiplication of RSD_r by 2.8 gives the repeatability. Multiplication of the repeatability by 3 gives a good estimate of the target reproducibility.

General: Almost all laboratories did identify the material of #13044 and #13045 correctly as PVC (see appendix 2). The presence of a significant amount (approx. 20%) of diisononylphthalate (CAS 28553-12-0, 68515-48-0, 28552-12-0) in sample #13044 did not hamper the identification of the plastic by infrared.

The majority of the group identified all the added phthalates correctly: #13044 contained DINP and DBP and sample #13045 contained DBP, BBP and DIDP.

Sample #13044

DINP: The determination of DINP was very problematic at the level of 37.6 %M/M. Nine statistical outliers and one false negative result were detected. The calculated reproducibility after rejection of the statistical outliers is not at all in agreement with the estimated reproducibility of EN14372:04.

DBP: The determination of DBP was very problematic at the level of 0.072 %M/M (below the maximum limit of 0.1%M/M). The reported test results vary over a large range from 0.001 – 0.65 %M/M. Only two statistical outliers were observed. However, the calculated reproducibility, after rejection of the statistical outliers, is not at all in agreement with the estimated reproducibility of EN14372:04. An explanation for the observed problems may be the low (<0.1%) DBP concentration in the presence of the high (38%) DINP concentration. Also, an unexpected inhomogeneity of DBP in this real-world sample may be an explanation. During the homogeneity study no significant DBP concentration (above 0.05%M/M) in any of the 8 samples was found.

DIDP: The determination of DIDP in #13044 was very problematic. One group of 61 participants reported that no DIDP was present, while 68 participants reported a positive result for DIDP. See also the discussion in chapter 5

For BBP, DNOP, DEHP, DiBP and DHP the group of participants agreed on a concentration below <0.1 %M/M. Therefore no significant conclusions were drawn.

Sample #13045

DBP: The determination of DBP was problematic at the level of 0.27 %M/M for sample #13045. Fifteen statistical outliers and one false negative result were detected. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility of EN14372:04.

BBP: The determination of BBP was problematic at the level of 0.43 %M/M. Thirteen statistical outliers were detected. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility of EN14372:04.

DIDP: The determination of DIDP was problematic at the level of 0.24 %M/M. Seven statistical outliers and seven false negative results were detected. The calculated reproducibility after rejection of the statistical outliers is not in agreement with the estimated reproducibility of EN14372:04.

For DINP, DNOP, DEHP, DiBP and DHP the group of participants agreed on a concentration below <0.1 %M/M. Therefore no significant conclusions were drawn.

4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES

A comparison has been made between the reproducibilities as found for the group of participating laboratories and the estimated reproducibilities of EN14372:2004 (R_{target}) in the next tables:

Parameter	Unit	n	Average	2.8 * sd	R (target)
DINP	%M/M	154	37.56	21.14	9.46
DBP	%M/M	147	0.072	0.148	0.018
DIDP	%M/M	61/65	0.041 / 0.440	0.091 / 0.287	0.010 / 0.111

Table 4: overview of results for sample #13044

Parameter	Unit	n	Average	2.8 * sd	R (target)
DBP	%M/M	151	0.27	0.10	0.07
BBP	%M/M	153	0.43	0.16	0.11
DIDP	%M/M	145	0.24	0.13	0.06

Table 5: overview of results for sample #13045

4.3 COMPARISON OF THE PROFICIENCY TEST OF APRIL 2013 WITH PREVIOUS PTS

	<i>April 2013</i>	<i>February 2012</i>	<i>February 2011</i>	<i>February 2010</i>
Number of reporting labs	170	155	120	134
Number of results reported	1085	935	1250	767
Statistical outliers	47	51	103	59
Percentage outliers	4.3%	5.5%	8.2%	7.7%

Table 6: comparison with previous proficiency tests

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

In comparison with previous proficiency tests, the improvement was not put for the componenets evaluated, see below table. From 2008 - 2010 significant differences between the EN14372 results and the results from THF dissolution were observed. In the current PT this was no longer the case.

<i>R (%rel.)</i>	<i>April 2013</i>	<i>February 2012</i>	<i>February 2011</i>	<i>February 2010</i>	<i>February 2009</i>	<i>February 2008</i>
DINP ¹⁾	56	73	33 – 47	42 ^T – 167 ^E	--	69 ^T - 72 ^E
DBP	39 – 206 ²⁾	31 – 46	48	39	52 ^T – 61 ^E	42 ^E – 82 ^T
DEHP	--	37 – 49	34 – 36	21 ^T – 153 ^E	46 ^E – 54 ^T	29 ^T - 54 ^E
BBP	37	32	37 – 42	39	58 ^E – 127 ^T	64 ^E – 79 ^T
DIDP	53 – 160 ²⁾	--	43	--	--	39 ^T - 51 ^E
DNOP	--	57	41	--	--	--
DHP	--	--	30	--	--	--

Table 7: Relative reproducibilities of detected phthalates in this PT and the former PTs (E=EN14372; T=THF dissolution)

1) Mix of DINP-1 and DINP-2 isomers

2) in sample #13044, with 37% DINP present

5 DISCUSSION

As remarked above significant differences were observed between EN14372 results and results from THF dissolution in the PTs in 2008, 2009 and 2010. This was caused by the significant differences in recovery between the two extraction methods. The recovery of the THF dissolution method will be close to 100%, while the recovery of the Soxhlet extraction with diethyl ether (EN14372) will strongly depend on the grain size of the sample and the extraction time. Obviously the laboratories participating in the iis' PTs were able to improve the recovery of the EN14372 method significantly over the last years, thus reducing the difference with the THF recovery to be no longer significant and thus closing the gap with the THF-dissolution method. Regretfully, it is clear from the figures in table 7 that the overall performance of the laboratories that tested phthalates in plastics did not improve. It is also clear that when a large concentration (approx. 37%) of one phthalate is present in the sample the determination of minor phthalates showed much more problems and therefore further improvement is still to be expected. The relative reproducibilities for these phthalates (DBP and DIDP) are very high.

The determination of DIDP in PVC sample #13044 was very problematic. One group of 61 participants reported that no DIDP was present, while 68 participants reported a significantly positive test result for DIDP between 0.1 and 0.9%M/M.

Carefully comparison of the GC/MS chromatogram for $m/z=307$ of sample #13044 with the GC/MS chromatograms for $m/z=307$ of sample #13045 and sample #11013 (from PT iis11P01) and with the calibrant DIDP shows that the chromatogram for sample #13044 is slightly deviating. The shape of the group of peaks is less symmetric and the retention time is 0.3 min. less than it is in the 3 other chromatograms.

And because the differences in retention time and shape are only small, part of the participating laboratories will have decided that the difference was small enough to identify the observed group of peaks as DIDP, while the other laboratories decided that the difference was too large to identify the observed group of peaks as DIDP.

This difference may partly be explained by the fact that DIDP does exist of a complex mixture of di-C9-, di-C10- and di-C11-branched alkyl esters of phthalic acid, but also by the existence of different mixtures (DIDP-1 and DIDP-2, see ref. 22). Sample #13044 may contain another mixture than the calibration standard and the other two PT samples.

The participants were requested also to answer the question: whether the accessible part can be placed in the mouth. This in accordance with the EU and USA regulations:

EU regulations: entry 25 of Annex XVII to REACH Regulation 1907/2006, further elaborated in Guideline on the interpretation of the concept "which can be placed in the mouth" as laid down in the entry 52 of Annex XVII to REACH Regulation 1907/2006

USA regulations: 16 C.F.R. Part 1501 and 1500.50-53, further elaborated in 16 C.F.R. 1199.

The answers received from the participants are summarized in appendix 2.

It was remarkable to see that there was no agreement at all between the participants about the accessibility: 110 participants answered the question with "yes" and 36 participants answered "no". And therefore different decisions would be made about rejecting or accepting the booklet as "safe" toy for children.

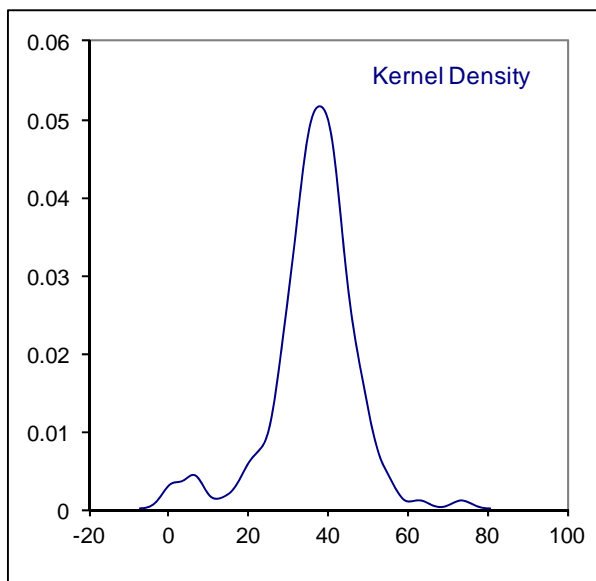
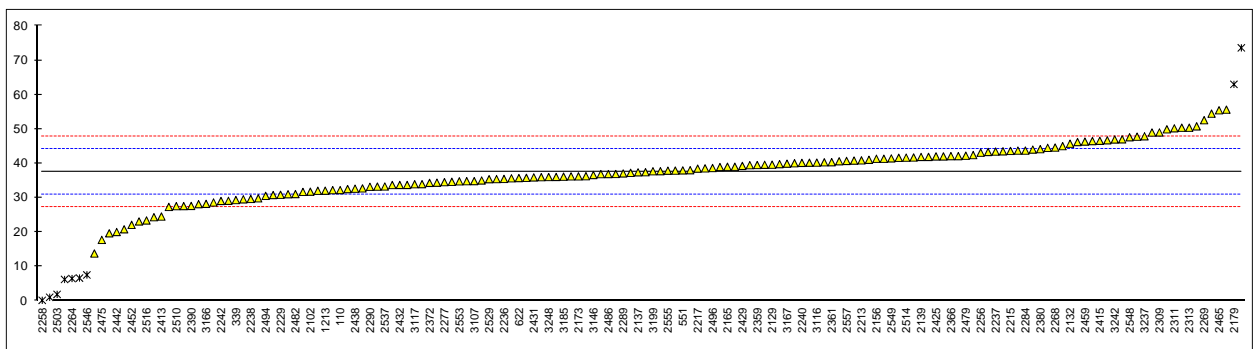
APPENDIX 1

Determination of DINP on sample #13044; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
110		32.211		-1.58	2359	in house	39.500		0.58
213		-----		-----	2361	CPSC-C1001-09.3	40.333		0.82
310	in house	34.36		-0.94	2366		42.1		1.35
330		39.57		0.60	2372	EN14372	34.302		-0.96
339		29.3		-2.44	2375	in house	46.487		2.64
551		37.940		0.12	2380	D3421	44.132		1.95
622	CPSC-C1001-09.3	35.705		-0.55	2386	CPSC-C1001-09.3	35.628		-0.57
1213		32.03		-1.63	2390	D3421	27.589		-2.95
2102		31.74		-1.72	2406		35.957		-0.47
2104		45		2.20	2410		39.467		0.57
2115		20.788		-4.96	2412	INH-24613	48.9693		3.38
2121	ISO/TS16181	0.976	C,DG(0.05)	-10.82	2413	CPSC-C1001-09.3	24.504		-3.86
2127		41.870		1.28	2415	D3421	46.57		2.67
2129		39.6		0.61	2425	EN15777	42.012		1.32
2132	CPSC-C1001-09.3	45.711		2.42	2426	CPSC-C1001-09.3	73.63	G(0.05)	10.67
2137		37.388		-0.05	2429	CPSC-C1001-09.3	39.250		0.50
2138		41.027		1.03	2431	CPSC-C1001-09.3	35.901		-0.49
2139	CPSC-C1001-09.3	41.859		1.28	2432		33.7		-1.14
2146	in house	36.19		-0.40	2433		-----		-----
2152		46.98		2.79	2438		32.612	C	-1.46
2156		41.321		1.12	2442	in house	20		-5.19
2165	CPSC-C1001-09.3	39		0.43	2452	EN15777	22.071		-4.58
2169	CPSC-C1001-09.3	44.000		1.91	2453		-----		-----
2170	CPSC-C1001-09.3	38.919		0.41	2459	CPSC-C1001-09.3	46.3269		2.60
2172	in house	44.5		2.06	2460		54.466		5.01
2173		36.196		-0.40	2465	in house	55.440		5.29
2175		-----		-----	2470	CPSC-C1001-09.3	19.627		-5.30
2179		63	G(0.05)	7.53	2475	in house	17.7	C	-5.87
2182	CPSC-C1001-09.3	41.693		1.23	2476	CPSC-C1001-09.3	36.850		-0.21
2184	CPSC-C1001-09.3	39		0.43	2479		42.218		1.38
2190		35.0		-0.75	2482		31.039		-1.93
2196		40.290		0.81	2486	in house	36.865		-0.20
2197		28.1		-2.80	2488		42.3938		1.43
2201	CPSC-C1001-09.3	38.537		0.29	2489		33.700		-1.14
2213		40.854		0.98	2492		32.693		-1.44
2215		43.6		1.79	2493		-----		-----
2217		38.454		0.27	2494		30.522		-2.08
2218	CPSC-C1001-09.3	30.767		-2.01	2495		23.065	C	-4.29
2226		36.2536		-0.38	2496	CPSC-C1001-09.3	38.627		0.32
2229	EN14372	30.826		-1.99	2497	CPSC-C1001-09.3	6.575	C,G(0.05)	-9.17
2230	CPSC-C1001-09.3	24.3	C	-3.92	2500	CPSC-C1001-09.3	39.773		0.66
2232		n.d.	False -?	-----	2503	CPSC-C1001-09.3	1.823	G(0.05)	-10.57
2236		35.449		-0.62	2507	CPSC-C1001-09.3	31.668		-1.74
2237	in house	43.418	C	1.74	2510	in house	27.516		-2.97
2238	CPSC-C1001-09.3	29.620		-2.35	2511	in house	>30.0		-----
2240		40.138		0.77	2514		41.654		1.21
2242	CPSC-C1001-09.3	29.038		-2.52	2515		34.620		-0.87
2245	EN14372	50.3775		3.80	2516	INH-370	23.36	C	-4.20
2247		33.684		-1.14	2521	in house	32.0		-1.64
2253	CPSC-C1001-09.3	37.4		-0.04	2522	CPSC-C1001-09.3	37.230		-0.09
2254		-----		-----	2526		42.012		1.32
2255		35.4		-0.64	2529	CPSC-C1001-09.3	35.371		-0.64
2256	EN14372	43.1		1.64	2530	NBR16040	29.520	C	-2.38
2258		0.09682	DG(0.05)	-11.08	2531		37.703		0.05
2264	CPSC-C1001-09.3	6.443	C,DG(0.05)	-9.20	2537	in house	33.253		-1.27
2266	EN15777	13.74		-7.05	2543		-----		-----
2267		55.63		5.35	2546		7.49	G(0.05)	-8.90
2268	CPSC-C1001-09.3	44.589		2.08	2548	CPSC-C1001-09.3	47.593		2.97
2269		52.565		4.44	2549		41.439		1.15
2277	in house	34.511		-0.90	2553	EN14372	34.75		-0.83
2284	CPSC-C1001-09.3	43.704		1.82	2555	CPSC-C1001-09.3	37.859		0.09
2288	CPSC-C1001-09.3	39		0.43	2556	GB/T22048	40.031		0.73
2289		37.063		-0.14	2557		40.7		0.93
2290	CPSC-C1001-09.3	33.162		-1.30	3100	CPSC-C1001-09.3	36.036		-0.45
2293		50.776	C	3.91	3107	EN14372	34.821		-0.81
2295		27.54		-2.96	3116	EN14372	40.2		0.78
2296	CPSC-C1001-09.3	43.308		1.70	3117	EN14372	33.906		-1.08
2309	CPSC-C1001-09.3	49.0		3.39	3118		32.181		-1.59
2310	CPSC-C1001-09.3	49.91		3.66	3122	CPSC-C1001-09.3	36.891		-0.19
2311	CPSC-C1001-09.3	50.2		3.74	3146		36.6		-0.28
2313	CPSC-C1001-09.3	50.38		3.80	3150		46.7		2.71
2316	EN14372	47.76		3.02	3153	CPSC-C1001-09.3	34.8		-0.81
2353	EN14372	40.6		0.90	3163	in house	6.18	C,DG(0.05)	-9.28

3166		28.2	-2.77	3218		35.772	-0.53
3167	EN14372	39.9	0.70	3220	CPSC-C1001-09.3	32.5	-1.49
3169	CPSC-C1001-09.3	46.2	2.56	3225	INH-2002	40.178	0.78
3172		>20	----	3228	CPSC-C1001-09.3	38	0.13
3176		27.3	-3.03	3233		37.888	0.10
3180		----	----	3237		47.879	3.06
3182	CPSC-C1001-09.3	29.086	-2.50	3238		43.5	1.76
3185	CPSC-C1001-09.3	36.114	-0.42	3239	INH-134	28.60	-2.65
3190	CPSC-C1001-09.3	33.213	-1.28	3242		46.950	2.78
3191	CPSC-C1001-09.3	42.1	1.35	3243	in house	31	-1.94
3197	EN14372	41.3250	1.12	3246	EN14372	43.7	1.82
3199	CPSD-AN-00095	37.7	0.04	3248	in house	36.0	-0.46
3210	ISO/TS16181	29.8	-2.29	8005		----	----
3213		----	----	8006	JTSS-ST2012	40.8	0.96
3214		33.929	-1.07	8007	CPSC-C1001-09.3	41.6	1.20
normality		OK					
n		154					
outliers		9					
mean (n)		37.558					
st.dev. (n)		7.5504					
R(calc.)		21.141					
R(EN14372:04)		9.465					

Lab 2121: First reported 9.197
 Lab 2230: First reported 21.40
 Lab 2237: First reported 4.342
 Lab 2264: First reported 4.664
 Lab 2293: First reported 69.379
 Lab 2438: First reported 43.913
 Lab 2475: First reported 18.171
 Lab 2495: First reported 24.059
 Lab 2497: First reported 9.252
 Lab 2516: First reported 14.04
 Lab 2530: First reported 39.262
 Lab 3163: First reported 6.200



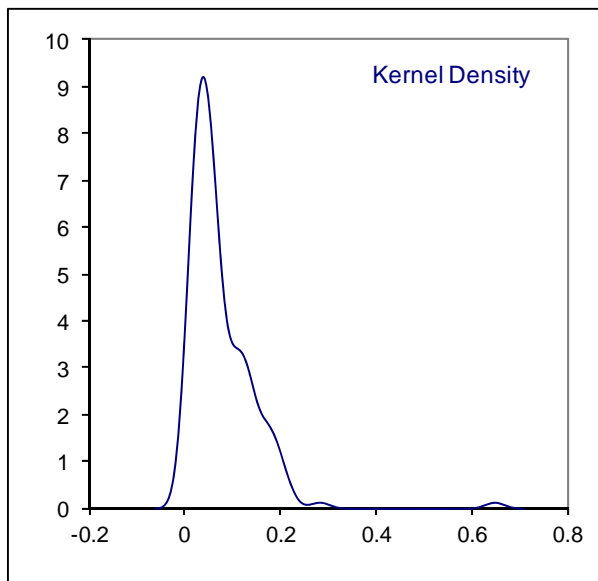
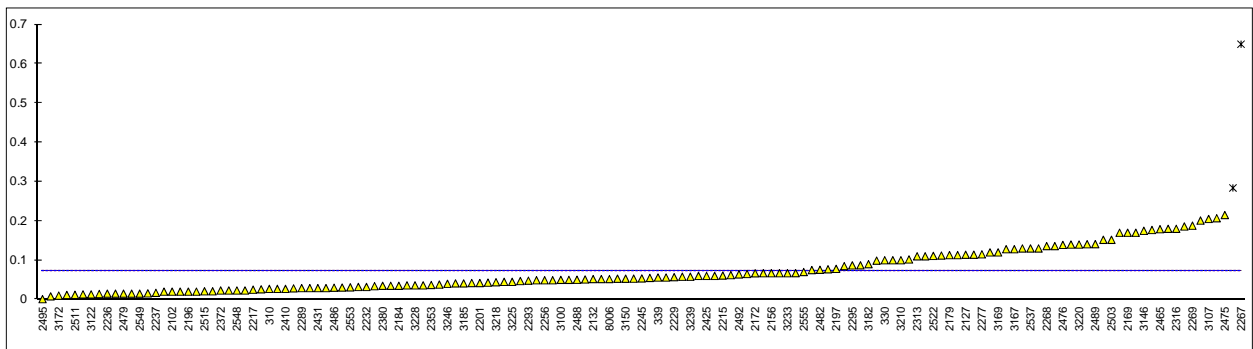
Determination of DBP on sample #13044; results in %M/M

lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
110		0.032		----	2359	in house	0.038		----
213		----		----	2361	CPSC-C1001-09.3	0.036		----
310	in house	0.027		----	2366		0.042		----
330		0.10		----	2372	EN14372	0.023		----
339		0.056		----	2375	in house	0.136		----
551		0.0671		----	2380	D3421	0.035		----
622	CPSC-C1001-09.3	n.d.		----	2386	CPSC-C1001-09.3	0.023		----
1213		0.085		----	2390	D3421	0.049		----
2102		0.02		----	2406		0.027		----
2104		0.053		----	2410		0.027		----
2115		----		----	2412	INH-24613	0.1408		----
2121		----		----	2413	CPSC-C1001-09.3	n.d.		----
2127		0.114		----	2415	D3421	0.12		----
2129		0.17		----	2425	EN15777	0.060		----
2132	CPSC-C1001-09.3	0.052		----	2426	CPSC-C1001-09.3	0.02837		----
2137		0.067		----	2429	CPSC-C1001-09.3	0.043		----
2138		0.020		----	2431	CPSC-C1001-09.3	0.029		----
2139	CPSC-C1001-09.3	0.029		----	2432		----		----
2146	in house	0.052		----	2433		----		----
2152		----		----	2438		0.060	C	----
2156		0.067		----	2442		----		----
2165	CPSC-C1001-09.3	0.056		----	2452	EN15777	0.058		----
2169	CPSC-C1001-09.3	0.170		----	2453		----		----
2170	CPSC-C1001-09.3	0.013		----	2459	CPSC-C1001-09.3	0.1130		----
2172	in house	0.0668		----	2460		0.008		----
2173		0.015		----	2465	in house	0.179		----
2175		0.0531		----	2470	CPSC-C1001-09.3	n.d.		----
2179		0.113		----	2475	in house	0.215		----
2182	CPSC-C1001-09.3	0.041		----	2476	CPSC-C1001-09.3	0.139		----
2184	CPSC-C1001-09.3	0.035		----	2479		0.015		----
2190		<0.01		----	2482		0.0757		----
2196		0.020		----	2486	in house	0.030		----
2197		0.078		----	2488		0.05033		----
2201	CPSC-C1001-09.3	0.042		----	2489		0.141		----
2213		0.035		----	2492		0.064		----
2215		0.061		----	2493		----		----
2217		0.025	C	----	2494		0.100		----
2218	CPSC-C1001-09.3	0.207		----	2495		0.001		----
2226		0.1141		----	2496	CPSC-C1001-09.3	0.015		----
2229	EN14372	0.057		----	2497		----		----
2230	CPSC-C1001-09.3	0.0157		----	2500	CPSC-C1001-09.3	0.065		----
2232		0.032		----	2503	CPSC-C1001-09.3	0.152		----
2236		0.015		----	2507	CPSC-C1001-09.3	0.112		----
2237	in house	0.017		----	2510		----		----
2238		----		----	2511	in house	0.012		----
2240		0.177		----	2514		0.128		----
2242		----		----	2515		0.021		----
2245	EN14372	0.0537		----	2516	INH-370	<0.005		----
2247		0.152		----	2521	in house	0.17		----
2253	CPSC-C1001-09.3	0.284	G(0.05)	----	2522	CPSC-C1001-09.3	0.111		----
2254		----		----	2526		0.201		----
2255		0.13		----	2529		----		----
2256	EN14372	0.049		----	2530	NBR16040	0.026	C	----
2258		0.030483		----	2531		0.055	C	----
2264	CPSC-C1001-09.3	0.077	C	----	2537	in house	0.130		----
2266	EN15777	0.06		----	2543		----		----
2267		0.65	G(0.01)	----	2546		0.075		----
2268	CPSC-C1001-09.3	0.136		----	2548	CPSC-C1001-09.3	0.023		----
2269		0.188		----	2549		0.015		----
2277	in house	0.115		----	2553	EN14372	0.031		----
2284	CPSC-C1001-09.3	0.062		----	2555	CPSC-C1001-09.3	0.070		----
2288		0.02		----	2556	GB/T22048	0.021		----
2289		0.029		----	2557		0.023		----
2290	CPSC-C1001-09.3	n.d.		----	3100	CPSC-C1001-09.3	0.050		----
2293		0.048	C	----	3107	EN14372	0.205		----
2295		0.087		----	3116	EN14372	0.050		----
2296		----		----	3117	EN14372	0.020		----
2309	CPSC-C1001-09.3	0.14		----	3118		0.014		----
2310	CPSC-C1001-09.3	0.034		----	3122	CPSC-C1001-09.3	0.013		----
2311	CPSC-C1001-09.3	0.180		----	3146		0.175		----
2313	CPSC-C1001-09.3	0.110		----	3150		0.053		----
2316	EN14372	0.18		----	3153	CPSC-C1001-09.3	0.049		----
2353	EN14372	0.037		----	3163	in house	0.0990		----

3166		0.067	----	3218		0.044	----
3167	EN14372	0.128	----	3220	CPSC-C1001-09.3	0.14	----
3169	CPSC-C1001-09.3	0.120	----	3225	INH-2002	0.045	----
3172		0.010	----	3228	CPSC-C1001-09.3	0.036	----
3176		0.047	----	3233		0.067	----
3180		0.045	----	3237		----	----
3182	CPSC-C1001-09.3	0.090	----	3238		0.13	----
3185	CPSC-C1001-09.3	0.041	----	3239	INH-134	0.058	----
3190		----	----	3242		0.186	----
3191	CPSC-C1001-09.3	0.102	----	3243		----	----
3197	EN14372	0.1100	----	3246	EN14372	0.04	----
3199	CPSD-AN-00095	0.0116	----	3248	in house	0.036	----
3210	ISO/TS16181	0.10	----	8005		----	----
3213		0.0871	----	8006	JTSS-ST2012	0.052	----
3214		0.029	----	8007	CPSC-C1001-09.3	0.051	----

normality	not OK	
n	147	
outliers	2	+6x "less then" or n.d.
mean (n)	0.0718	
st.dev. (n)	0.05288	
R(calc.)	0.1481	
R(EN14372:04)	(0.0181)	

Lab 2217: First reported 0.247
 Lab 2264: First reported 0.099
 Lab 2293: First reported 0.020
 Lab 2438: First reported 0.097
 Lab 2530: First reported 0.034
 Lab 2531: First reported 0.237



Determination of DIDP on sample #13044; results in %M/M

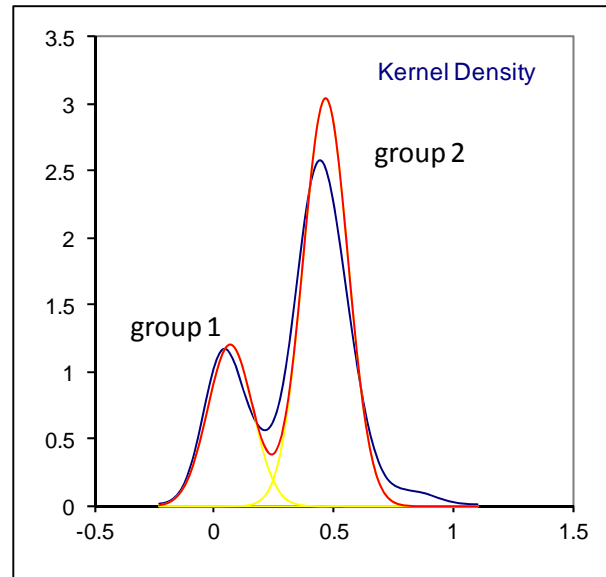
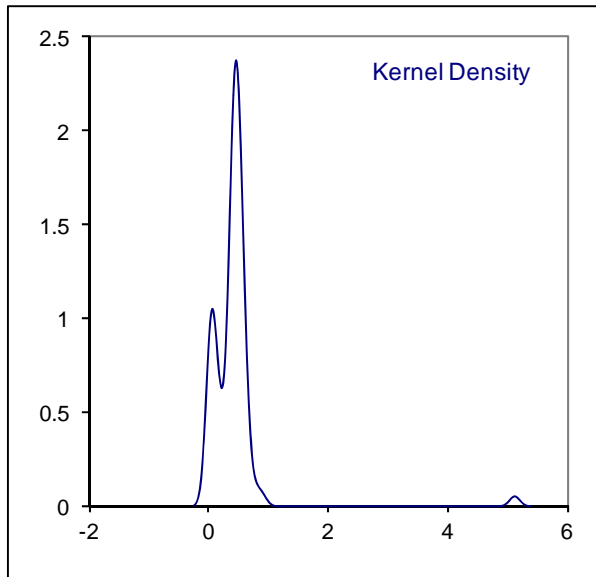
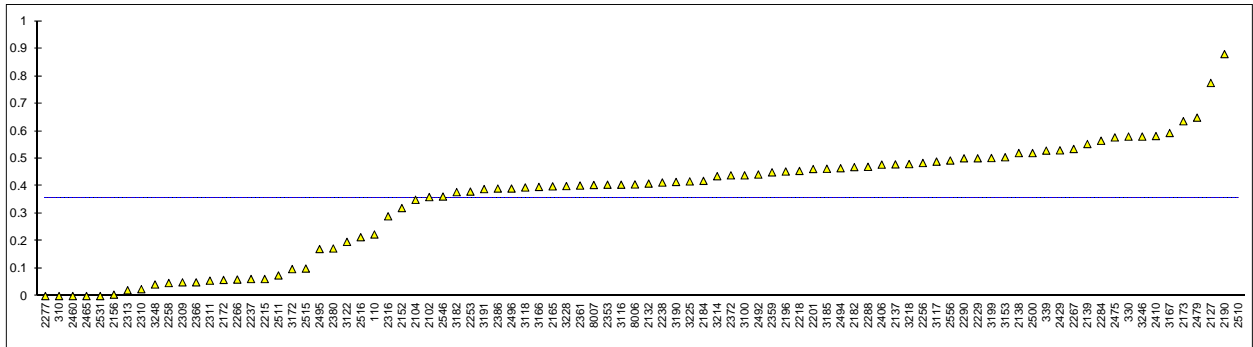
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
110		0.224		----	2359	in house	0.450		----
213		----		----	2361	CPSC-C1001-09.3	0.402		----
310	in house	0		----	2366		0.050		----
330		0.58		----	2372	EN14372	0.439		----
339		0.529		----	2375		----		----
551		n.d.		----	2380	D3421	0.173		----
622	CPSC-C1001-09.3	n.d.		----	2386	CPSC-C1001-09.3	0.391		----
1213		----		----	2390	D3421	n.d.		----
2102		0.36		----	2406		0.478		----
2104		0.35		----	2410		0.582		----
2115		----		----	2412	INH-24613	<0.015		----
2121		----		----	2413	CPSC-C1001-09.3	n.d.		----
2127		0.775		----	2415		----		----
2129		<0.05	C	----	2425		----		----
2132	CPSC-C1001-09.3	0.409		----	2426		----		----
2137		0.479		----	2429	CPSC-C1001-09.3	0.530		----
2138		0.520		----	2431	CPSC-C1001-09.3	<0.01		----
2139	CPSC-C1001-09.3	0.553		----	2432		----		----
2146		----		----	2433		----		----
2152		0.32		----	2438		n.d.	C	----
2156		0.005		----	2442		----		----
2165	CPSC-C1001-09.3	0.399		----	2452		----		----
2169		----		----	2453		----		----
2170		----		----	2459	CPSC-C1001-09.3	n.d.		----
2172	in house	0.0586		----	2460		0.000		----
2173		0.636		----	2465	in house	0.000		----
2175		----		----	2470	CPSC-C1001-09.3	n.d.		----
2179		n.d.		----	2475	in house	0.577	C	----
2182	CPSC-C1001-09.3	0.469		----	2476	CPSC-C1001-09.3	<0.006		----
2184	CPSC-C1001-09.3	0.419		----	2479		0.649		----
2190		0.88		----	2482		<0.01		----
2196		0.453		----	2486	in house	<0.005		----
2197		----		----	2488		<0.01		----
2201	CPSC-C1001-09.3	0.462		----	2489		<0.005		----
2213		n.d.		----	2492		0.442		----
2215		0.062		----	2493		----		----
2217		----		----	2494		0.465		----
2218	CPSC-C1001-09.3	0.455		----	2495		0.171		----
2226		----		----	2496	CPSC-C1001-09.3	0.391		----
2229	EN14372	0.501		----	2497		----		----
2230	CPSC-C1001-09.3	<0.005		----	2500	CPSC-C1001-09.3	0.520		----
2232		n.d.		----	2503	CPSC-C1001-09.3	n.d.		----
2236		<0.005		----	2507	CPSC-C1001-09.3	<0.100		----
2237	in house	0.062		----	2510	in house	5.123	G(0.01)	----
2238	CPSC-C1001-09.3	0.413		----	2511	in house	0.075		----
2240		<0.005		----	2514		----		----
2242		----		----	2515		0.100		----
2245		----		----	2516	INH-370	0.214		----
2247		<0.005		----	2521	in house	----		----
2253	CPSC-C1001-09.3	0.380		----	2522		----		----
2254		----		----	2526		n.d.		----
2255		----		----	2529		----		----
2256	EN14372	0.484		----	2530	NBR16040	n.d.		----
2258		0.047345		----	2531		0.000		----
2264		----		----	2537	in house	<0.025		----
2266	EN15777	0.06		----	2543		----		----
2267		0.535		----	2546		0.362		----
2268	CPSC-C1001-09.3	<0.015		----	2548	CPSC-C1001-09.3	n.d.		----
2269		----		----	2549		n.d.		----
2277	in house	0.000		----	2553		----		----
2284	CPSC-C1001-09.3	0.565		----	2555	CPSC-C1001-09.3	n.d.		----
2288		0.47		----	2556	GB/T22048	0.493		----
2289		----		----	2557		n.d.		----
2290	CPSC-C1001-09.3	0.501		----	3100	CPSC-C1001-09.3	0.439		----
2293		n.d.		----	3107	EN14372	n.d.		----
2295		n.d.		----	3116	EN14372	0.405		----
2296		----		----	3117	EN14372	0.489		----
2309	CPSC-C1001-09.3	0.05		----	3118		0.395		----
2310	CPSC-C1001-09.3	0.025		----	3122	CPSC-C1001-09.3	0.197		----
2311	CPSC-C1001-09.3	0.056		----	3146		<0.4		----
2313	CPSC-C1001-09.3	0.021		----	3150		----		----
2316	EN14372	0.29		----	3153	CPSC-C1001-09.3	0.505		----
2353	EN14372	0.405		----	3163		----		----

3166		0.397	----	3218		0.480	----
3167	EN14372	0.593	----	3220	CPSC-C1001-09.3	n.d.	----
3169	CPSC-C1001-09.3	<0.01	----	3225	INH-2002	0.417	----
3172		0.098	----	3228	CPSC-C1001-09.3	0.40	----
3176		n.d.	----	3233		n.d.	----
3180		----	----	3237		----	----
3182	CPSC-C1001-09.3	0.378	----	3238		----	----
3185	CPSC-C1001-09.3	0.463	----	3239		----	----
3190	CPSC-C1001-09.3	0.415	----	3242		n.d.	----
3191	CPSC-C1001-09.3	0.389	----	3243	in house	----	----
3197		----	----	3246	EN14372	0.58	----
3199	CPSD-AN-00095	0.502	----	3248	in house	0.042	----
3210		----	----	8005		----	----
3213		----	----	8006	JTSS-ST2012	0.406	----
3214		0.436	----	8007	CPSC-C1001-09.3	0.404	----

normality not OK
n 87 +41x "less then" or n.d.
outliers 1
mean (n) 0.3569
st.dev. (n) 0.20419
R(calc.) 0.5717
R(EN14372:04) (0.0899)

<u>Group 1</u>	<u>Group 2</u>
OK	not OK
20 (+ 41)	65
0	3
0.0406	0.4397
0.03262	0.10236
0.0913	0.2866
(0.0102)	(0.1108)

Lab 2129: First reported 0.71
Lab 2438: First reported 0.569
Lab 2475: First reported 1.098



Determination of BBP, DNOP and DEHP on sample #13044; results in %M/M

lab	method	BBP	mark	DNOP	mark	DEHP	mark	remarks
110		n.d.		n.d.		n.d.		
213		----		----		----		
310	in house	0		0		0		
330		<0.005		<0.02		<0.003		
339		<0.01		<0.01		<0.01		
551		n.d.		n.d.		0.002329		
622	CPSC-C1001-09.3	n.d.		n.d.		10.481	C,false+?	First reported 9.90
1213		<0.05		<0.05		<0.05		
2102		----		0.07		0.01		
2104		<0.0005		<0.0005		0.0013		
2115		----		----		----		
2121		----		----		----		
2127		0.001		0.001		0.004		
2129		<0.01		<0.01		<0.01		
2132	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2137		----		----		----		
2138		----		----		----		
2139		----		----		----		
2146		----		----		----		
2152		----		----		----		
2156		0.005		0.005		0.005		
2165	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2169	CPSC-C1001-09.3	<0.003		<0.003		0.003		
2170		----		----		----		
2172	in house	n.d.		n.d.		n.d.		
2173		----		----		0.005		
2175		<0.005		----		0.0060		
2179		n.d.		n.d.		n.d.		
2182	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2184	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2190		<0.01		<0.01		0.01		
2196		n.d.		n.d.		n.d.		
2197		----		----		----		
2201	CPSC-C1001-09.3	<0.010		<0.010		<0.010		
2213		n.d.		n.d.		n.d.		
2215		n.d.		n.d.		n.d.		
2217		----		----		----		
2218		----		----		----		
2226		----		----		----		
2229	EN14372	<0.010		<0.010		<0.010		
2230	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2232		n.d.		n.d.		n.d.		
2236		<0.005		<0.005		<0.005		
2237	in house	<0.01		<0.01		<0.01		
2238	CPSC-C1001-09.3	<0.010		<0.010		<0.010		
2240		<0.005		<0.005		<0.005		
2242		----		----		----		
2245		----		----		----		
2247		<0.005		<0.005		<0.005		
2253		----		----		----		
2254		----		----		----		
2255		----		----		----		
2256	EN14372	n.d.		n.d.		n.d.		
2258		0.00		0.00		0.00		
2264		----		----		----		
2266	EN15777	0		0.11		0		
2267		n.d.		n.d.		n.d.		
2268	CPSC-C1001-09.3	<0.015		<0.015		<0.015		
2269		----		----		----		
2277	in house	0.000		0.000		0.000		
2284	CPSC-C1001-09.3	<0.0005		<0.005		<0.005		
2288	CPSC-C1001-09.3	<0.01		<0.01		<0.01		
2289		----		----		0.010		
2290	CPSC-C1001-09.3	<0.020		<0.020		<0.020		
2293		n.d.		n.d.		n.d.		
2295		0.096		n.d.		n.d.		
2296		----		----		----		
2309	CPSC-C1001-09.3	<0.010		<0.005		<0.005		
2310	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2311	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2313	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2316		----		----		----		
2353	EN14372	n.d.		n.d.		n.d.		

2359	in house	n.d.	n.d.	n.d.	
2361	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2366		n.d.	n.d.	n.d.	
2372	EN14372	n.d.	n.d.	n.d.	
2375		----	----	----	
2380	D3421	n.d.	n.d.	n.d.	
2386	CPSC-C1001-09.3	<0.01	<0.01	<0.01	
2390	D3421	n.d.	n.d.	n.d.	
2406		0.000	0.000	0.000	
2410		<0.01	<0.01	<0.01	
2412	INH-24613	<0.005	<0.005	<0.005	
2413	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2415		----	----	----	
2425		----	----	----	
2426		----	----	----	
2429	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2431	CPSC-C1001-09.3	<0.01	<0.01	<0.01	
2432		----	----	----	
2433		----	----	----	
2438		n.d.	n.d.	n.d.	
2442		----	----	----	
2452		----	----	----	
2453		----	----	----	
2459	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2460		0.000	0.000	0.006	
2465	in house	0.000	0.000	0.000	
2470	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2475	in house	n.d.	n.d.	0.008	
2476	CPSC-C1001-09.3	<0.006	<0.006	<0.006	
2479		----	----	0.005	
2482		<0.01	<0.01	<0.01	
2486	in house	<0.005	<0.005	<0.005	
2488		<0.01	<0.01	<0.01	
2489		<0.005	<0.005	<0.005	
2492		----	----	----	
2493		----	----	----	
2494		n.d.	n.d.	0.025	
2495		0.000	0.000	0.003	
2496	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2497		----	----	----	
2500	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2503	CPSC-C1001-09.3	0.004	n.d.	----	
2507	CPSC-C1001-09.3	<0.100	<0.100	<0.100	
2510		----	----	----	
2511	in house	<0.005	<0.005	0.005	
2514		----	----	----	
2515		<0.005	<0.005	<0.005	
2516	INH-370	<0.005	<0.005	<0.005	
2521		----	----	----	
2522		----	----	----	
2526		n.d.	n.d.	n.d.	
2529		----	----	----	
2530	NBR16040	n.d.	n.d.	0.005	
2531		0.000	0.000	0.000	
2537	in house	<0.068	<0.028	<0.003	
2543		----	----	----	
2546		----	----	0.007	
2548	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2549		n.d.	n.d.	n.d.	
2553		----	----	----	
2555	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2556		----	----	----	
2557		n.d.	n.d.	0.007	
3100	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
3107	EN14372	n.d.	n.d.	0.003	
3116	EN14372	n.d.	n.d.	n.d.	
3117		----	----	----	
3118		----	----	----	
3122		----	----	----	
3146		<0.03	<0.03	<0.03	
3150		----	----	0.00269	
3153		----	----	----	
3163		----	----	1.23	False +?
3166		----	----	----	
3167	EN14372	n.d.	n.d.	0.0237	
3169	CPSC-C1001-09.3	<0.005	<0.0005	<0.0005	
3172		<0.01	<0.01	<0.01	

3176		n.d.	n.d.	n.d.
3180		----	----	0.012
3182		----	----	----
3185	CPSC-C1001-09.3	<0.010	<0.010	<0.010
3190	CPSC-C1001-09.3	<0.010	<0.010	<0.010
3191	CPSC-C1001-09.3	<0.01	<0.01	<0.01
3197		----	----	----
3199	CPSD-AN-00095	<0.005	<0.005	0.0114
3210		----	----	0.080
3213		----	----	----
3214		n.d.	n.d.	n.d.
3218		<0.010	<0.010	<0.010
3220	CPSC-C1001-09.3	n.d.	n.d.	n.d.
3225		----	----	----
3228		----	----	----
3233		n.d.	n.d.	n.d.
3237		----	----	----
3238		----	----	----
3239		----	----	----
3242		n.d.	n.d.	n.d.
3243		----	----	----
3246	EN14372	n.d.	n.d.	n.d.
3248		----	----	----
8005		----	----	n.d.
8006	JTSS-ST2012	n.d.	n.d.	n.d.
8007	CPSC-C1001-09.3	n.d.	n.d.	n.d.
	normality	n.a.	n.a.	n.a.
	n	109	109	117
	outliers	0	0	0
	mean (n)	<0.1 / n.d.	<0.1 / n.d.	<0.1 / n.d.
	st.dev. (n)	n.a.	n.a.	n.a.
	R(calc.)	n.a.	n.a.	n.a.
	R(EN14372:04)	n.a.	n.a.	n.a.

Determination of DiBP, DHP and Other Phthalates on sample #13044; results in %M/M

lab	method	DiBP	mark	DHP	mark	Other	mark	remarks
110		n.d.		n.d.		n.d.		
213		----		----		----		
310	in house	0		0		0		
330		<0.02		----		<0.005		
339		<0.01		<0.01		----		
551		n.d.		n.d.		n.d.		
622	CPSC-C1001-09.3	n.d.		----		----		
1213		<0.05		----		----		
2102		----		----		----		
2104		0.0022		<0.0005		<0.005		
2115		----		----		----		
2121		----		----		----		
2127		0.001		0.001		----		
2129		<0.01		<0.01		<0.01		
2132	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2137		0.008		----		----		
2138		----		----		----		
2139		----		----		----		
2146		----		----		----		
2152		----		----		----		
2156		0.005		0.005		----		
2165	CPSC-C1001-09.3	<0.005		<0.005		----		
2169	CPSC-C1001-09.3	----		----		----		
2170		----		----		----		
2172	in house	n.d.		n.d.		n.d.		
2173		0.003		----		----		
2175		----		----		----		
2179		----		----		----		
2182	CPSC-C1001-09.3	n.d.		n.d.		----		
2184	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2190		----		----		----		
2196		n.d.		n.d.		n.d.		
2197		----		----		----		
2201	CPSC-C1001-09.3	<0.010		<0.010		----		
2213		n.d.		----		----		
2215		n.d.		n.d.		n.d.		
2217		0.052		----		----		
2218		----		----		----		
2226		----		----		----		
2229	EN14372	<0.010		<0.010		<0.010		
2230	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2232		n.d.		n.d.		n.d.		
2236		<0.005		<0.005		----		
2237	in house	<0.01		<0.01		----		
2238	CPSC-C1001-09.3	<0.010		<0.010		----		
2240		<0.005		<0.005		----		
2242		----		----		----		
2245		----		----		----		
2247		<0.005		<0.005		<0.005		
2253		----		----		----		
2254		----		----		----		
2255		----		----		----		
2256	EN14372	n.d.		n.d.		----		
2258		0.00		0.00		0.00		
2264		----		----		----		
2266	EN15777	0.01		0		----		
2267		0.85	False+?	n.d.		n.d.		
2268	CPSC-C1001-09.3	0.034		<0.015		----		
2269		----		----		----		
2277	in house	0.000		0.000		----		
2284	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2288	CPSC-C1001-09.3	<0.01		<0.01		----		
2289		----		----		----		
2290	CPSC-C1001-09.3	<0.020		<0.020		----		
2293		n.d.		n.d.		----		
2295		n.d.		n.d.		n.d.		
2296		----		----		----		
2309	CPSC-C1001-09.3	----		----		----		
2310	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2311	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2313	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2316		----		----		----		
2353	EN14372	n.d.		n.d.		----		

2359	in house	n.d.	n.d.	n.d.
2361	CPSC-C1001-09.3	----	----	----
2366		n.d.	n.d.	----
2372	EN14372	n.d.	n.d.	n.d.
2375		----	----	----
2380	D3421	n.d.	n.d.	n.d.
2386	CPSC-C1001-09.3	<0.01	<0.01	----
2390	D3421	n.d.	n.d.	n.d.
2406		0.000	0.000	0.000
2410		<0.01	<0.01	<0.01
2412	INH-24613	0.033	<0.005	<0.005
2413	CPSC-C1001-09.3	n.d.	n.d.	n.d.
2415		----	----	----
2425		----	----	----
2426		----	----	----
2429	CPSC-C1001-09.3	n.d.	n.d.	----
2431	CPSC-C1001-09.3	<0.01	<0.01	----
2432		----	----	----
2433		----	----	----
2438		n.d.	n.d.	n.d.
2442		----	----	----
2452		0.1473	False +?	----
2453		----	----	----
2459	CPSC-C1001-09.3	n.d.	n.d.	----
2460		----	----	----
2465	in house	0.000	0.000	----
2470	CPSC-C1001-09.3	n.d.	----	----
2475	in house	0.062	n.d.	n.d.
2476	CPSC-C1001-09.3	<0.006	<0.006	----
2479		0.003	----	----
2482		<0.01	<0.01	<0.01
2486	in house	<0.005	<0.005	<0.005
2488		<0.01	<0.01	----
2489		<0.005	<0.005	<0.005
2492		----	----	----
2493		----	----	----
2494		n.d.	n.d.	----
2495		0.010	0.000	----
2496	CPSC-C1001-09.3	n.d.	n.d.	n.d.
2497		----	----	----
2500	CPSC-C1001-09.3	n.d.	n.d.	----
2503	CPSC-C1001-09.3	n.d.	n.d.	----
2507	CPSC-C1001-09.3	----	----	----
2510		----	----	----
2511	in house	<0.005	<0.005	<0.005
2514		----	----	----
2515		<0.005	<0.005	<0.005
2516	INH-370	<0.005	<0.005	----
2521		----	----	----
2522		0.009	----	----
2526		n.d.	n.d.	n.d.
2529		----	----	----
2530	NBR16040	----	----	----
2531		0.000	0.000	0.000
2537	in house	----	----	----
2543		----	----	----
2546		0.007	----	----
2548	CPSC-C1001-09.3	----	----	----
2549		n.d.	n.d.	n.d.
2553		----	----	----
2555	CPSC-C1001-09.3	n.d.	n.d.	n.d.
2556		----	----	----
2557		n.d.	n.d.	n.d.
3100	CPSC-C1001-09.3	n.d.	n.d.	n.d.
3107	EN14372	0.050	n.d.	----
3116	EN14372	n.d.	n.d.	----
3117		----	----	----
3118		----	----	----
3122		----	----	----
3146		<0.03	<0.03	----
3150		----	----	----
3153		----	----	----
3163		0.0350	----	----
3166		----	----	----
3167	EN14372	n.d.	n.d.	n.d.
3169	CPSC-C1001-09.3	0.0400	<0.0005	----
3172		<0.01	<0.01	----

3176		0.0077	n.d.	----
3180		----	----	----
3182		0.029	----	----
3185	CPSC-C1001-09.3	<0.010	<0.010	----
3190	CPSC-C1001-09.3	<0.010	<0.010	----
3191	CPSC-C1001-09.3	0.031	<0.01	<0.01
3197		----	----	----
3199	CPSD-AN-00095	<0.005	<0.005	----
3210		0.096	----	----
3213		0.0194	----	----
3214		n.d.	n.d.	n.d.
3218		<0.010	<0.010	<0.010
3220	CPSC-C1001-09.3	n.d.	n.d.	----
3225		----	----	----
3228		----	----	----
3233		0.011	n.d.	n.d.
3237		----	----	----
3238		0.05	----	----
3239		0.016	----	0.011
3242		n.d.	n.d.	nil
3243		----	----	----
3246	EN14372	n.d.	n.d.	n.d.
3248		----	----	----
8005		----	----	----
8006	JTSS-ST2012	n.d.	n.d.	----
8007	CPSC-C1001-09.3	n.d.	n.d.	----
normality		n.a.	n.a.	n.a.
n		109	95	51
outliers		0	0	0
mean (n)		<0.1 / n.d.	<0.1 / n.d.	<0.1 / n.d.
st.dev. (n)		n.a.	n.a.	n.a.
R(calc.)		n.a.	n.a.	n.a.
R(EN14372:04)		n.a.	n.a.	n.a.

Determination of DBP on sample #13045; results in %M/M

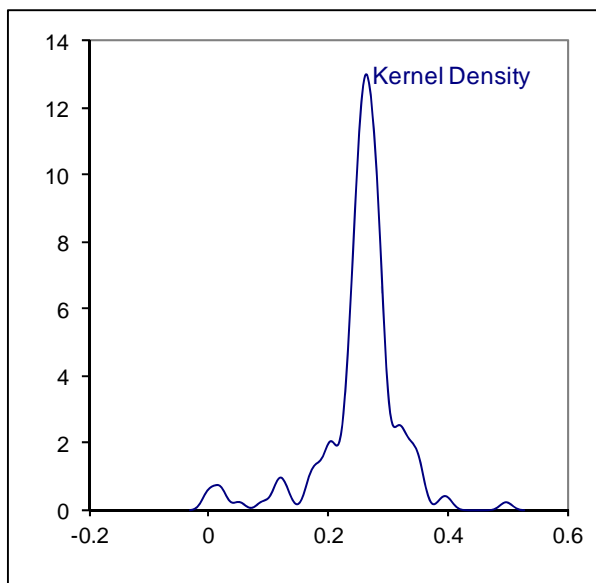
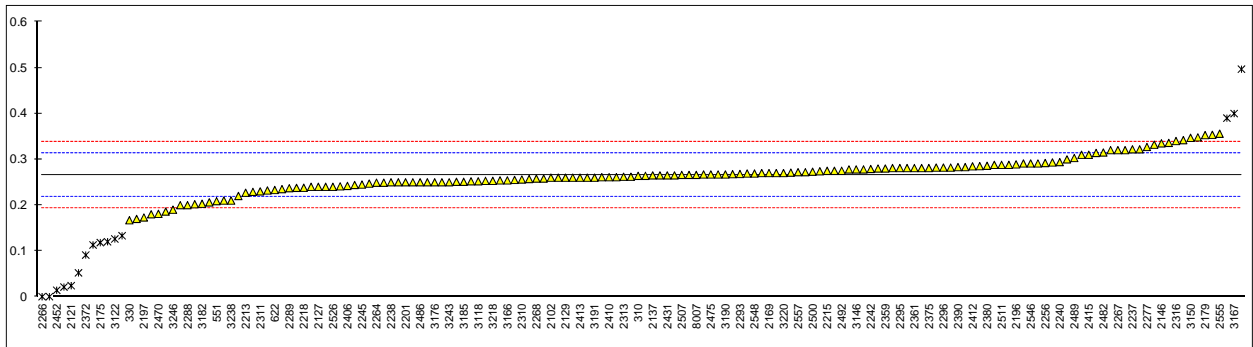
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
110		0.261		-0.20	2359	in house	0.280		0.60
213		-----		-----	2361	CPSC-C1001-09.3	0.281		0.64
310	in house	0.264		-0.07	2366		0.274		0.35
330		0.167		-4.13	2372	EN14372	0.091	DG(0.05)	-7.31
339		<0.01	False -?	-----	2375	in house	0.281		0.64
551		0.2087	C	-2.38	2380	D3421	0.286		0.85
622	CPSC-C1001-09.3	0.233		-1.37	2386	CPSC-C1001-09.3	0.261		-0.20
1213		0.25		-0.66	2390	D3421	0.283		0.73
2102		0.26		-0.24	2406		0.242		-0.99
2104		0.28		0.60	2410		0.261		-0.20
2115		-----		-----	2412	INH-24613	0.2847		0.80
2121	ISO/TS16181	0.024	G(0.01)	-10.11	2413	CPSC-C1001-09.3	0.260		-0.24
2127		0.240		-1.07	2415	D3421	0.31		1.85
2129		0.26		-0.24	2425	EN15777	0.232		-1.41
2132	CPSC-C1001-09.3	0.300		1.44	2426	CPSC-C1001-09.3	0.3536		3.68
2137		0.265		-0.03	2429	CPSC-C1001-09.3	0.265		-0.03
2138		0.291		1.06	2431	CPSC-C1001-09.3	0.265		-0.03
2139	CPSC-C1001-09.3	0.249		-0.70	2432		0.24		-1.07
2146	in house	0.335		2.90	2433		-----		-----
2152		0.22		-1.91	2438		0.322	C	2.36
2156		0.26		-0.24	2442	in house	0.18		-3.58
2165	CPSC-C1001-09.3	0.244		-0.91	2452	EN15777	0.014	G(0.01)	-10.53
2169	CPSC-C1001-09.3	0.270		0.18	2453		-----		-----
2170	CPSC-C1001-09.3	0.320		2.27	2459	CPSC-C1001-09.3	0.2290		-1.53
2172	in house	0.281		0.64	2460		0.270		0.18
2173		0.253		-0.53	2465	in house	0.282		0.68
2175		0.1181	DG(0.05)	-6.17	2470	CPSC-C1001-09.3	0.181		-3.54
2179		0.353		3.65	2475	in house	0.267		0.06
2182	CPSC-C1001-09.3	0.267		0.06	2476	CPSC-C1001-09.3	0.254		-0.49
2184	CPSC-C1001-09.3	0.251		-0.61	2479		0.269		0.14
2190		0.20		-2.75	2482		0.315		2.06
2196		0.289		0.98	2486	in house	0.250		-0.66
2197		0.173		-3.88	2488		0.3099		1.85
2201	CPSC-C1001-09.3	0.250		-0.66	2489		0.303		1.56
2213		0.227		-1.62	2492		0.275		0.39
2215		0.275		0.39	2493		-----		-----
2217		0.186		-3.33	2494		0.332		2.77
2218	CPSC-C1001-09.3	0.238		-1.16	2495		0	G(0.05)	-11.11
2226		0.2932		1.15	2496	CPSC-C1001-09.3	0.283		0.73
2229	EN14372	0.113	C,DG(0.05)	-6.39	2497		-----		-----
2230	CPSC-C1001-09.3	0.25		-0.66	2500	CPSC-C1001-09.3	0.273		0.31
2232		0.278		0.52	2503	CPSC-C1001-09.3	0.497	G(0.05)	9.68
2236		0.282		0.68	2507	CPSC-C1001-09.3	0.266		0.01
2237	in house	0.322	C	2.36	2510	in house	0.348		3.44
2238	CPSC-C1001-09.3	0.250		-0.66	2511	in house	0.288		0.93
2240		0.294		1.19	2514		0.262		-0.15
2242	CPSC-C1001-09.3	0.279		0.56	2515		0.252		-0.57
2245	EN14372	0.2449		-0.87	2516	INH-370	0.235		-1.28
2247		0.288		0.93	2521	in house	0.25		-0.66
2253	CPSC-C1001-09.3	0.260		-0.24	2522	CPSC-C1001-09.3	0.257		-0.36
2254		-----		-----	2526		0.24		-1.07
2255		0.27		0.18	2529	CPSC-C1001-09.3	0.2676		0.08
2256	EN14372	0.292		1.10	2530	NBR16040	0.314	C	2.02
2258		0.1699		-4.01	2531		0.133	C,DG(0.05)	-5.55
2264	CPSC-C1001-09.3	0.249	C	-0.70	2537	in house	0.052	G(0.01)	-8.94
2266	EN15777	0	G(0.05)	-11.11	2543		-----		-----
2267		0.32		2.27	2546		0.291		1.06
2268	CPSC-C1001-09.3	0.258		-0.32	2548	CPSC-C1001-09.3	0.269		0.14
2269		0.281		0.64	2549		0.258		-0.32
2277	in house	0.327		2.57	2553	EN14372	0.26		-0.24
2284	CPSC-C1001-09.3	0.281		0.64	2555	CPSC-C1001-09.3	0.356		3.78
2288		0.20		-2.75	2556	GB/T22048	0.342		3.19
2289		0.237		-1.20	2557		0.272		0.26
2290	CPSC-C1001-09.3	0.275		0.39	3100	CPSC-C1001-09.3	0.272		0.26
2293		0.268	C	0.10	3107	EN14372	0.021	G(0.01)	-10.23
2295		0.281		0.64	3116	EN14372	0.265		-0.03
2296	CPSC-C1001-09.3	0.282		0.68	3117	EN14372	0.336		2.94
2309	CPSC-C1001-09.3	0.24		-1.07	3118		0.252		-0.57
2310	CPSC-C1001-09.3	0.256		-0.40	3122	CPSC-C1001-09.3	0.126	C,DG(0.05)	-5.84
2311	CPSC-C1001-09.3	0.230		-1.49	3146		0.278		0.52
2313	CPSC-C1001-09.3	0.262		-0.15	3150		0.347		3.40
2316	EN14372	0.34		3.11	3153	CPSC-C1001-09.3	0.267		0.06
2353	EN14372	0.271		0.22	3163	in house	0.3900	DG(0.05)	5.20

3166		0.254		-0.49	3218		0.253	-0.53
3167	EN14372	0.400	DG(0.05)	5.62	3220	CPSC-C1001-09.3	0.27	0.18
3169	CPSC-C1001-09.3	0.266		0.01	3225	INH-2002	0.278	0.52
3172		0.320		2.27	3228	CPSC-C1001-09.3	0.25	-0.66
3176		0.25		-0.66	3233		0.247	-0.78
3180		0.120	DG(0.05)	-6.09	3237		0.202	-2.66
3182	CPSC-C1001-09.3	0.203		-2.62	3238		0.21	-2.33
3185	CPSC-C1001-09.3	0.251		-0.61	3239	INH-134	0.206	-2.50
3190	CPSC-C1001-09.3	0.267		0.06	3242		0.291	1.06
3191	CPSC-C1001-09.3	0.260		-0.24	3243	in house	0.25	-0.66
3197	EN14372	0.2851		0.81	3246	EN14372	0.19	-3.16
3199	CPSD-AN-00095	0.255		-0.45	3248	in house	0.288	0.93
3210	ISO/TS16181	0.21		-2.33	8005		-----	-----
3213		0.2377		-1.17	8006	JTSS-ST2012	0.264	-0.07
3214		0.241		-1.03	8007	CPSC-C1001-09.3	0.266	0.01

normality	not OK
n	151
outliers	15
mean (n)	0.2657
st.dev. (n)	0.03740
R(calc.)	0.1047
R(EN14372:04)	0.0669

Only THF	Only Soxhlet
not OK	OK
97	26
3	6
0.2622	0.2797
0.03283	0.04603
0.0919	0.1289
0.0661	0.0705

Lab 551: First reported 0.0902
 Lab 2229: First reported 0.113
 Lab 2237: First reported 0.032
 Lab 2264: First reported 0.460
 Lab 2293: First reported 0.256
 Lab 2438: First reported 0.282
 Lab 2530: First reported 0.417
 Lab 2531: First reported 0.181
 Lab 3122: First reported 0.090



Determination of BBP on sample #13045; results in %M/M

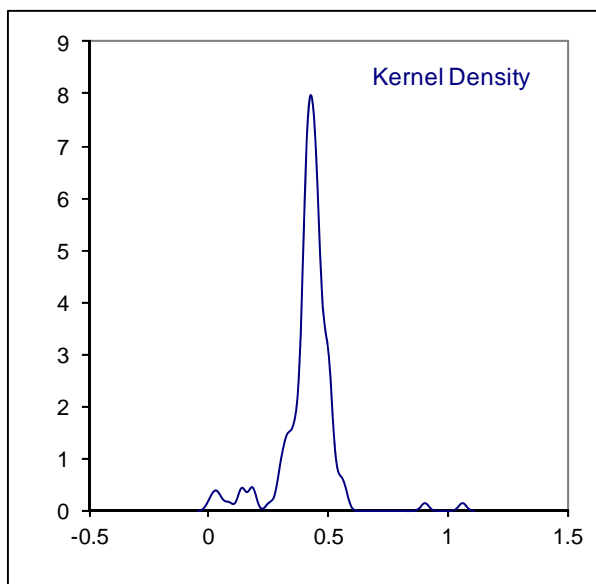
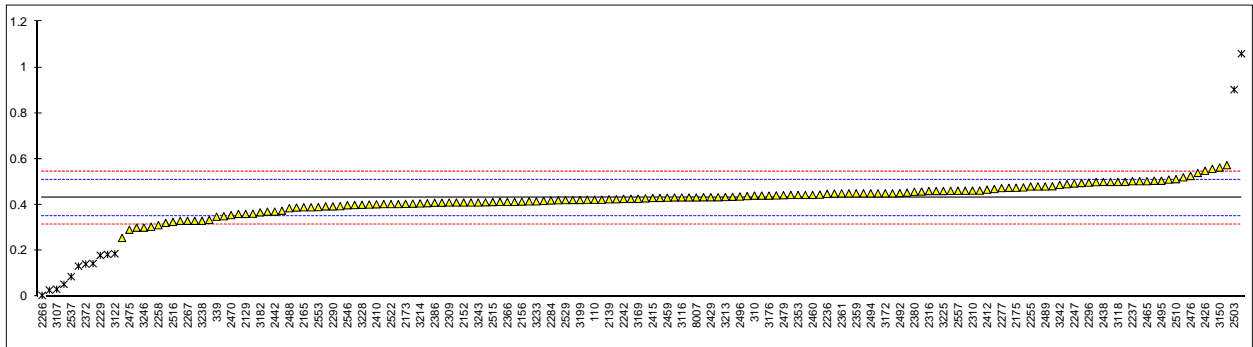
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
110		0.422		-0.19	2359	in house	0.450		0.53
213		-----		-----	2361	CPSC-C1001-09.3	0.450		0.53
310	in house	0.440		0.27	2366		0.413		-0.43
330		0.255		-4.51	2372	EN14372	0.141	G(0.05)	-7.46
339		0.348		-2.11	2375	in house	0.443		0.35
551		0.36	C	-1.80	2380	D3421	0.457		0.71
622	CPSC-C1001-09.3	0.1830	C,G(0.05)	-6.38	2386	CPSC-C1001-09.3	0.409		-0.53
1213		0.33		-2.57	2390	D3421	0.503		1.90
2102		0.37		-1.54	2406		0.403		-0.68
2104		0.41		-0.50	2410		0.402		-0.71
2115		0.0524	G(0.01)	-9.76	2412	INH-24613	0.4660		0.95
2121	ISO/TS16181	0.027	G(0.01)	-10.41	2413	CPSC-C1001-09.3	0.432		0.07
2127		0.420		-0.24	2415	D3421	0.43		0.01
2129		0.36		-1.80	2425	EN15777	0.410		-0.50
2132	CPSC-C1001-09.3	0.520		2.34	2426	CPSC-C1001-09.3	0.5486		3.08
2137		0.474		1.15	2429	CPSC-C1001-09.3	0.433		0.09
2138		0.505		1.95	2431	CPSC-C1001-09.3	0.415		-0.37
2139	CPSC-C1001-09.3	0.424		-0.14	2432		0.45		0.53
2146	in house	0.490		1.57	2433		-----		-----
2152		0.41		-0.50	2438		0.500		1.83
2156		0.414		-0.40	2442	in house	0.37		-1.54
2165	CPSC-C1001-09.3	0.389		-1.05	2452		-----		-----
2169	CPSC-C1001-09.3	0.460		0.79	2453		-----		-----
2170	CPSC-C1001-09.3	0.499		1.80	2459	CPSC-C1001-09.3	0.4310		0.04
2172	in house	0.441		0.30	2460		0.443		0.35
2173		0.404		-0.66	2465	in house	0.503		1.90
2175		0.4744		1.16	2470	CPSC-C1001-09.3	0.355		-1.93
2179		1.06	G(0.01)	16.31	2475	in house	0.291		-3.58
2182	CPSC-C1001-09.3	0.443		0.35	2476	CPSC-C1001-09.3	0.526		2.50
2184	CPSC-C1001-09.3	0.409		-0.53	2479		0.442		0.32
2190		0.35		-2.06	2482		0.426		-0.09
2196		0.449		0.51	2486	in house	0.401		-0.74
2197		0.361		-1.77	2488		0.3850		-1.15
2201	CPSC-C1001-09.3	0.405		-0.63	2489		0.480		1.31
2213		0.389		-1.05	2492		0.451		0.56
2215		0.422		-0.19	2493		-----		-----
2217		0.304		-3.25	2494		0.450		0.53
2218	CPSC-C1001-09.3	0.458		0.74	2495		0.505		1.95
2226		0.4445		0.39	2496	CPSC-C1001-09.3	0.436		0.17
2229	EN14372	0.179	C,G(0.05)	-6.48	2497		-----		-----
2230	CPSC-C1001-09.3	0.393		-0.94	2500	CPSC-C1001-09.3	0.417		-0.32
2232		0.330		-2.57	2503	CPSC-C1001-09.3	0.903	G(0.01)	12.25
2236		0.448		0.48	2507	CPSC-C1001-09.3	0.469		1.02
2237	in house	0.503	C	1.90	2510	in house	0.512		2.14
2238	CPSC-C1001-09.3	0.394		-0.92	2511	in house	0.461		0.82
2240		0.476		1.20	2514		0.450		0.53
2242	CPSC-C1001-09.3	0.426		-0.09	2515		0.412		-0.45
2245	EN14372	0.4209		-0.22	2516	INH-370	0.325		-2.70
2247		0.493		1.64	2521		-----		-----
2253	CPSC-C1001-09.3	0.413		-0.43	2522	CPSC-C1001-09.3	0.403		-0.68
2254		-----		-----	2526		0.481		1.33
2255		0.48		1.31	2529	CPSC-C1001-09.3	0.4207		-0.23
2256	EN14372	0.433		0.09	2530	NBR16040	0.500	C	1.83
2258		0.311		-3.06	2531		0.132	C,G(0.05)	-7.70
2264	CPSC-C1001-09.3	0.321	C	-2.81	2537	in house	0.086	G(0.01)	-8.89
2266	EN15777	0.004	G(0.05)	-11.01	2543		-----		-----
2267		0.33		-2.57	2546		0.398		-0.81
2268	CPSC-C1001-09.3	0.438		0.22	2548	CPSC-C1001-09.3	0.424		-0.14
2269		0.480		1.31	2549		0.428		-0.04
2277	in house	0.473		1.13	2553	EN14372	0.39		-1.02
2284	CPSC-C1001-09.3	0.419		-0.27	2555	CPSC-C1001-09.3	0.495	C	1.70
2288		0.45		0.53	2556	GB/T22048	0.462		0.84
2289		0.435		0.14	2557		0.461		0.82
2290	CPSC-C1001-09.3	0.393		-0.94	3100	CPSC-C1001-09.3	0.411		-0.48
2293		0.422	C	-0.19	3107	EN14372	0.031	G(0.01)	-10.31
2295		0.374		-1.43	3116	EN14372	0.432		0.07
2296	CPSC-C1001-09.3	0.497		1.75	3117	EN14372	0.573		3.71
2309	CPSC-C1001-09.3	0.41		-0.50	3118		0.500		1.83
2310	CPSC-C1001-09.3	0.462		0.84	3122	CPSC-C1001-09.3	0.186	C,G(0.01)	-6.30
2311	CPSC-C1001-09.3	0.453		0.61	3146		0.44		0.27
2313	CPSC-C1001-09.3	0.399		-0.79	3150		0.563		3.46
2316	EN14372	0.46		0.79	3153	CPSC-C1001-09.3	0.432		0.07
2353	EN14372	0.443		0.35	3163	in house	0.5100		2.08

3166		0.403		-0.68	3218		0.388		-1.07
3167	EN14372	0.557		3.30	3220	CPSC-C1001-09.3	0.5		1.83
3169	CPSC-C1001-09.3	0.426		-0.09	3225	INH-2002	0.460		0.79
3172		0.450		0.53	3228	CPSC-C1001-09.3	0.40		-0.76
3176		0.44		0.27	3233		0.415		-0.37
3180		0.143	G(0.01)	-7.41	3237		0.539		2.83
3182	CPSC-C1001-09.3	0.367		-1.62	3238		0.33		-2.57
3185	CPSC-C1001-09.3	0.407		-0.58	3239	INH-134	0.334		-2.47
3190	CPSC-C1001-09.3	0.433		0.09	3242		0.487		1.49
3191	CPSC-C1001-09.3	0.413		-0.43	3243	in house	0.41		-0.50
3197	EN14372	0.4500		0.53	3246	EN14372	0.30		-3.35
3199	CPSD-AN-00095	0.421		-0.22	3248	in house	0.461		0.82
3210	ISO/TS16181	0.30		-3.35	8005		-----		-----
3213		0.4338		0.11	8006	JTSS-ST2012	0.430		0.01
3214		0.406		-0.61	8007	CPSC-C1001-09.3	0.432		0.07

normality	not OK
n	153
outliers	13
mean (n)	0.4295
st.dev. (n)	0.05618
R(calc.)	0.1573
R(EN14372:04)	0.1082

Only THF		Only Soxhlet	
OK	97	OK	25
	3		5
0.4293	0.04919	0.4448	0.06924
0.1377	0.1939		
0.1082	0.1121		

Lab 551: First reported 0.1585
 Lab 662: First reported 0.273
 Lab 2229: First reported 0.158
 Lab 2237: First reported <0.050
 Lab 2264: First reported 0.729
 Lab 2293: First reported 0.357
 Lab 2530: First reported 0.665
 Lab 2531: First reported 0.273
 Lab 2555: First reported 0.585
 Lab 3122: First reported 0.147



Determination of DIDP on sample #13045; results in %M/M

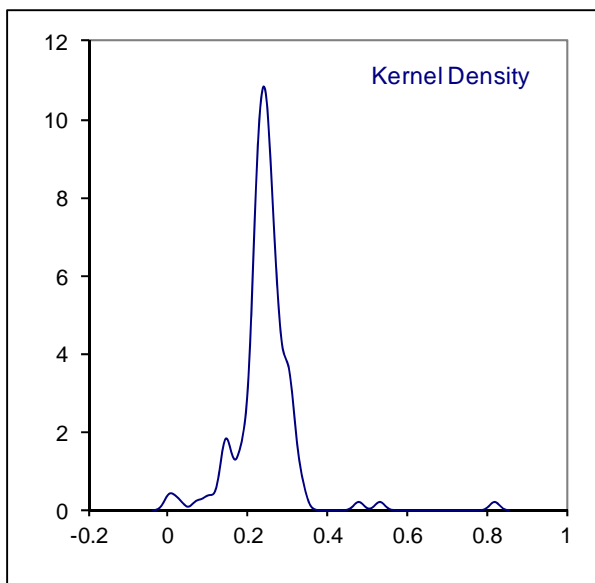
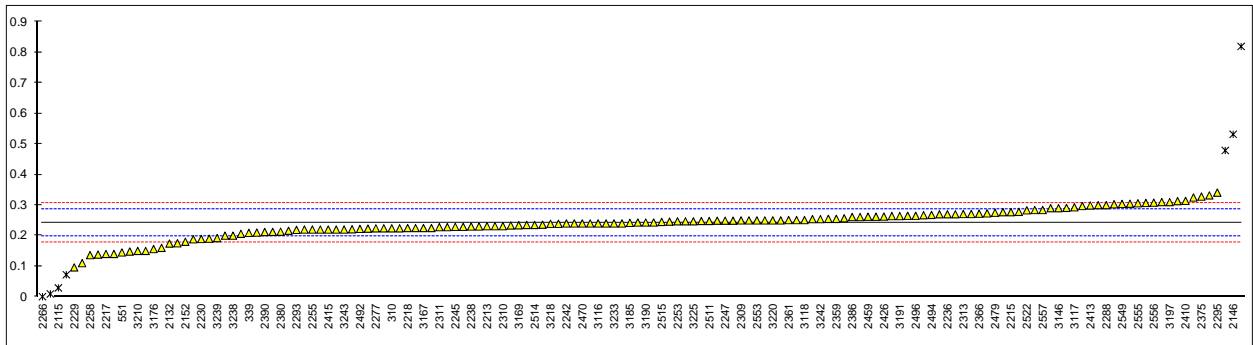
lab	method	value	mark	z(targ)	lab	method	value	mark	z(targ)
110		0.267		1.19	2359	in house	0.255		0.64
213		----		----	2361	CPSC-C1001-09.3	0.251		0.45
310	in house	0.224		-0.79	2366		0.272		1.42
330		0.110		-6.04	2372	EN14372	n.d.	False -?	----
339		0.209		-1.48	2375	in house	0.328		4.00
551		0.1449	C	-4.44	2380	D3421	0.213		-1.30
622	CPSC-C1001-09.3	n.d.	False -?	----	2386	CPSC-C1001-09.3	0.261		0.91
1213		0.22		-0.98	2390	D3421	0.212		-1.34
2102		0.20		-1.90	2406		0.230		-0.51
2104		0.24		-0.05	2410		0.314		3.36
2115		0.0287	G(0.01)	-9.79	2412	INH-24613	0.2209		-0.93
2121		----		----	2413	CPSC-C1001-09.3	0.299		2.66
2127		0.332		4.18	2415	D3421	0.22		-0.98
2129		0.19		-2.36	2425	EN15777	0.225		-0.75
2132	CPSC-C1001-09.3	0.174		-3.09	2426	CPSC-C1001-09.3	0.2624		0.98
2137		0.271		1.37	2429	CPSC-C1001-09.3	0.243		0.08
2138		0.297		2.57	2431	CPSC-C1001-09.3	0.254		0.59
2139	CPSC-C1001-09.3	0.307		3.03	2432		0.27		1.33
2146	in house	0.532	G(0.01)	13.40	2433		----		----
2152		0.18		-2.82	2438		n.d.	C, False-?	----
2156		0.265		1.10	2442	in house	0.16		-3.74
2165	CPSC-C1001-09.3	0.224		-0.79	2452		----		----
2169	CPSC-C1001-09.3	----		----	2453		----		----
2170	CPSC-C1001-09.3	0.313		3.31	2459	CPSC-C1001-09.3	0.2620		0.96
2172	in house	0.224		-0.79	2460		0.273		1.47
2173		0.291		2.30	2465	in house	0.220		-0.98
2175		----		----	2470	CPSC-C1001-09.3	0.240		-0.05
2179		0.25		0.41	2475	in house	0.251		0.45
2182	CPSC-C1001-09.3	0.325		3.86	2476	CPSC-C1001-09.3	0.247		0.27
2184	CPSC-C1001-09.3	0.249		0.36	2479		0.275		1.56
2190		0.29		2.25	2482		<0.01	False -?	<-10.65
2196		0.264		1.05	2486	in house	0.240		-0.05
2197		----		----	2488		0.3047		2.93
2201	CPSC-C1001-09.3	0.231		-0.47	2489		0.249		0.36
2213		0.231		-0.47	2492		0.222		-0.88
2215		0.277		1.65	2493		----		----
2217		0.140		-4.66	2494		0.268		1.24
2218	CPSC-C1001-09.3	0.225		-0.75	2495		0.140	C	-4.66
2226		0.2333		-0.36	2496	CPSC-C1001-09.3	0.265		1.10
2229	EN14372	0.096	C	-6.69	2497		----		----
2230	CPSC-C1001-09.3	0.189		-2.40	2500	CPSC-C1001-09.3	0.261		0.91
2232		0.188		-2.45	2503	CPSC-C1001-09.3	n.d.	False-?	----
2236		0.270		1.33	2507	CPSC-C1001-09.3	0.206		-1.62
2237	in house	0.278	C	1.70	2510		----		----
2238	CPSC-C1001-09.3	0.230		-0.51	2511	in house	0.248		0.31
2240		0.220		-0.98	2514		0.235		-0.28
2242	CPSC-C1001-09.3	0.240		-0.05	2515		0.245		0.18
2245	EN14372	0.2289		-0.57	2516	INH-370	0.138		-4.75
2247		0.249		0.36	2521	in house	0.82	G(0.01)	26.67
2253	CPSC-C1001-09.3	0.247		0.27	2522	CPSC-C1001-09.3	0.283		1.93
2254		----		----	2526		0.310		3.17
2255		0.22		-0.98	2529	CPSC-C1001-09.3	0.2123		-1.33
2256	EN14372	0.277		1.65	2530	NBR16040	n.d.	False -?	----
2258		0.1362		-4.84	2531		0.148		-4.29
2264		----		----	2537	in house	<0.025	False -?	<-9.96
2266	EN15777	0	G(0.05)	-11.11	2543		----		----
2267		0.27		1.33	2546		0.262		0.96
2268	CPSC-C1001-09.3	0.235		-0.28	2548	CPSC-C1001-09.3	0.284		1.97
2269		0.248		0.31	2549		0.304		2.89
2277	in house	0.224		-0.79	2553	EN14372	0.25		0.41
2284	CPSC-C1001-09.3	0.303		2.85	2555	CPSC-C1001-09.3	0.306	C	2.99
2288		0.30		2.71	2556	GB/T22048	0.308		3.08
2289		0.210		-1.44	2557		0.284		1.97
2290	CPSC-C1001-09.3	0.229		-0.56	3100	CPSC-C1001-09.3	0.250		0.41
2293		0.219	C	-1.02	3107	EN14372	0.009	G(0.01)	-10.70
2295		0.341		4.60	3116	EN14372	0.240		-0.05
2296	CPSC-C1001-09.3	0.2570	C	0.73	3117	EN14372	0.293		2.39
2309	CPSC-C1001-09.3	0.25		0.41	3118		0.251		0.45
2310	CPSC-C1001-09.3	0.231		-0.47	3122	CPSC-C1001-09.3	0.072	C,G(0.05)	-7.79
2311	CPSC-C1001-09.3	0.228		-0.61	3146		0.29		2.25
2313	CPSC-C1001-09.3	0.271		1.37	3150		0.479	G(0.01)	10.96
2316	EN14372	0.30		2.71	3153	CPSC-C1001-09.3	0.216		-1.16
2353	EN14372	0.255		0.64	3163	in house	----		----

3166		0.240	-0.05	3218		0.239	-0.10
3167	EN14372	0.225	-0.75	3220	CPSC-C1001-09.3	0.25	0.41
3169	CPSC-C1001-09.3	0.234	-0.33	3225	INH-2002	0.247	0.27
3172		0.246	0.22	3228	CPSC-C1001-09.3	0.25	0.41
3176		0.156	-3.92	3233		0.240	-0.05
3180		0.236	-0.24	3237		0.175	-3.05
3182	CPSC-C1001-09.3	0.223	-0.84	3238		0.20	-1.90
3185	CPSC-C1001-09.3	0.242	0.04	3239	INH-134	0.192	-2.27
3190	CPSC-C1001-09.3	0.243	0.08	3242		0.254	0.59
3191	CPSC-C1001-09.3	0.264	1.05	3243	in house	0.22	-0.98
3197	EN14372	0.3100	3.17	3246	EN14372	0.15	-4.20
3199	CPSD-AN-00095	0.243	0.08	3248	in house	0.225	-0.75
3210	ISO/TS16181	0.15	-4.20	8005		-----	-----
3213		-----	-----	8006	JTSS-ST2012	0.240	-0.05
3214		0.228	-0.61	8007	CPSC-C1001-09.3	0.239	-0.10

normality	not OK
n	145
outliers	7
mean (n)	0.2412
st.dev. (n)	0.04527
R(calc.)	0.1268
R(EN14372:04)	0.0608

Only THF		Only Soxhlet	
OK	93	OK	26
	0		3
0.2443	0.03752	0.2304	0.05736
0.1050	0.1606		
0.0616	0.0581		

Lab 551: First reported 0.0823
 Lab 2229: First reported 0.079
 Lab 2237: First reported 0.056
 Lab 2293: First reported 0.084
 Lab 2296: First reported 1.212
 Lab 2438: First reported 0.262
 Lab 2495: First reported 0.109
 Lab 2555: First reported 0.369
 Lab 3122: First reported 0.065



Determination of DINP, DNOP and DEHP on sample #13045; results in %M/M

lab	method	DINP	mark	DNOP	mark	DEHP	mark	remarks
110		n.d.		n.d.		n.d.		
213		----		----		----		
310	in house	0		0		0		
330		<0.01		<0.02		<0.003		
339		<0.01		<0.01		<0.01		
551		0.0069		0.0023		0.0016		
622	CPSC-C1001-09.3	n.d.		n.d.		3.6554	C,false+?	First reported 4.415
1213		----		<0.05		<0.05		
2102		----		----		0.02		
2104		0.014		<0.0005		0.0012		
2115		0.0313		----		----		
2121		----		----		----		
2127		0.005		0.001		0.001		
2129		0.01		<0.01		<0.01		
2132	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2137		----		----		----		
2138		----		----		----		
2139		----		----		----		
2146		----		----		----		
2152		----		----		----		
2156		0.005		0.005		0.005		
2165	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2169	CPSC-C1001-09.3	<0.003		<0.003		<0.003		
2170		----		----		----		
2172	in house	n.d.		n.d.		n.d.		
2173		----		----		----		
2175		----		----		<0.005		
2179		n.d.		n.d.		0.0207		
2182	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2184	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2190		0.03		<0.01		<0.01		
2196		n.d.		n.d.		n.d.		
2197		----		----		----		
2201	CPSC-C1001-09.3	0.016		<0.010		<0.010		
2213		n.d.		n.d.		n.d.		
2215		n.d.		n.d.		n.d.		
2217		----		----		----		
2218		----		----		----		
2226		----		----		----		
2229	EN14372	<0.020		<0.010		<0.010		
2230	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2232		n.d.		n.d.		n.d.		
2236		<0.005		<0.005		<0.005		
2237	in house	<0.01		<0.01		<0.01		
2238	CPSC-C1001-09.3	0.014		<0.010		<0.010		
2240		<0.005		<0.005		<0.005		
2242		----		----		----		
2245		----		----		----		
2247		<0.005		<0.005		<0.005		
2253		----		----		----		
2254		----		----		----		
2255		----		----		----		
2256	EN14372	n.d.		n.d.		n.d.		
2258		0.00		0.00		0.00		
2264		----		----		----		
2266	EN15777	0		0		0		
2267		0.026		n.d.		n.d.		
2268	CPSC-C1001-09.3	<0.015		<0.015		<0.015		
2269		----		----		----		
2277	in house	0.000		0.000		0.000		
2284	CPSC-C1001-09.3	0.010		<0.005		<0.005		
2288	CPSC-C1001-09.3	<0.01		<0.01		<0.01		
2289		----		----		----		
2290	CPSC-C1001-09.3	<0.020		<0.020		<0.020		
2293		n.d.		n.d.		n.d.		
2295		n.d.		n.d.		n.d.		
2296		----		----		----		
2309	CPSC-C1001-09.3	<0.010		<0.005		<0.005		
2310	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2311	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2313	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2316		----		----		----		
2353	EN14372	n.d.		n.d.		n.d.		

2359	in house	n.d.	n.d.	n.d.	
2361	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2366		n.d.	n.d.	n.d.	
2372	EN14372	n.d.	n.d.	n.d.	
2375		----	----	----	
2380	D3421	n.d.	n.d.	n.d.	
2386	CPSC-C1001-09.3	<0.01	<0.01	<0.01	
2390	D3421	n.d.	n.d.	n.d.	
2406		0.000	0.000	0.000	
2410		<0.01	<0.01	<0.01	
2412	INH-24613	<0.015	<0.005	<0.005	
2413	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2415		----	----	----	
2425		----	----	----	
2426		----	----	----	
2429	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2431	CPSC-C1001-09.3	<0.01	<0.01	<0.01	
2432		----	----	----	
2433		----	----	----	
2438		n.d.	n.d.	n.d.	
2442		----	----	----	
2452		----	----	----	
2453		----	----	----	
2459	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2460		0.000	0.000	0.006	
2465	in house	0.000	0.000	0.000	
2470	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2475	in house	n.d.	n.d.	n.d.	
2476	CPSC-C1001-09.3	<0.006	<0.006	<0.006	
2479		----	----	----	
2482		<0.01	<0.01	<0.01	
2486	in house	<0.005	<0.005	<0.005	
2488		<0.01	<0.01	<0.01	
2489		<0.005	<0.005	<0.005	
2492		----	----	----	
2493		----	----	----	
2494		0.043	n.d.	n.d.	
2495		0.010	0.000	0.001	
2496	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2497		----	----	----	
2500	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2503	CPSC-C1001-09.3	n.d.	0.060	----	
2507	CPSC-C1001-09.3	0.118	False +? <0.100	<0.100	
2510		----	----	----	
2511	in house	<0.005	<0.005	<0.005	
2514		----	----	----	
2515		<0.005	<0.005	<0.005	
2516	INH-370	<0.005	<0.005	<0.005	
2521		0.76	False+? ----	----	
2522		----	----	----	
2526		n.d.	n.d.	n.d.	
2529		----	----	----	
2530	NBR16040	n.d.	n.d.	0.005	
2531		0.000	0.000	0.000	
2537	in house	<0.056	<0.028	<0.003	
2543		----	----	----	
2546		0.20	C,false +? ----	0.004	First reported 0.270
2548	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2549		n.d.	n.d.	n.d.	
2553		----	----	----	
2555	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
2556		----	----	----	
2557		n.d.	n.d.	n.d.	
3100	CPSC-C1001-09.3	n.d.	n.d.	n.d.	
3107	EN14372	n.d.	n.d.	0.000	
3116	EN14372	n.d.	n.d.	n.d.	
3117		----	----	----	
3118		----	----	----	
3122		----	----	----	
3146		<0.03	<0.03	<0.03	
3150		----	----	----	
3153		----	----	----	
3163		----	----	----	
3166		----	----	----	
3167	EN14372	0.0356	n.d.	<0.01	
3169	CPSC-C1001-09.3	<0.01	<0.005	<0.005	
3172		<0.005	<0.005	<0.005	

3176		n.d.	n.d.	n.d.
3180		----	----	0.012
3182		0.011	----	----
3185	CPSC-C1001-09.3	<0.010	<0.010	<0.010
3190	CPSC-C1001-09.3	0.012	<0.010	<0.010
3191	CPSC-C1001-09.3	<0.01	<0.01	<0.01
3197		----	----	----
3199	CPSD-AN-00095	0.0231	<0.005	<0.005
3210		----	----	----
3213		----	----	----
3214		n.d.	n.d.	n.d.
3218		0.014	<0.010	<0.010
3220	CPSC-C1001-09.3	n.d.	n.d.	n.d.
3225		----	----	----
3228		----	----	----
3233		n.d.	n.d.	n.d.
3237		----	----	----
3238		----	----	----
3239		----	----	----
3242		n.d.	n.d.	n.d.
3243		----	----	----
3246	EN14372	0.02	n.d.	n.d.
3248		----	----	----
8005		----	----	n.d.
8006	JTSS-ST2012	n.d.	n.d.	n.d.
8007	CPSC-C1001-09.3	n.d.	n.d.	n.d.
normality		n.a.	n.a.	n.a.
n		107	108	111
outliers		0	0	0
mean (n)		<0.1 / n.d.	<0.1 / n.d.	<0.1 / n.d.
st.dev. (n)		n.a.	n.a.	n.a.
R(calc.)		n.a.	n.a.	n.a.
R(EN14372:04)		n.a.	n.a.	n.a.

Determination of DiBP, DHP and Other Phthalates on sample #13045; results in %M/M

lab	method	DiBP	mark	DHP	Mark	Other	mark	remarks
110		n.d.		n.d.		----		
213		----		----		----		
310	in house	0		0		0		
330		<0.02		----		<0.005		
339		<0.01		<0.01		----		
551		0.002353		n.d.		n.d.		
622	CPSC-C1001-09.3	n.d.		----		----		
1213		<0.05		----		----		
2102		----		----		----		
2104		0.0012		<0.0005		<0.005		
2115		----		----		----		
2121		----		----		----		
2127		0.001		0.001		----		
2129		<0.01		<0.01		<0.01		
2132	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2137		----		----		----		
2138		----		----		----		
2139		----		----		----		
2146		----		----		----		
2152		----		----		----		
2156		0.005		0.005		----		
2165	CPSC-C1001-09.3	<0.005		<0.005		----		
2169	CPSC-C1001-09.3	----		----		----		
2170		----		----		----		
2172	in house	n.d.		n.d.		n.d.		
2173		----		----		----		
2175		----		----		----		
2179		----		----		----		
2182	CPSC-C1001-09.3	n.d.		n.d.		----		
2184	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2190		----		----		----		
2196		n.d.		n.d.		n.d.		
2197		----		----		----		
2201	CPSC-C1001-09.3	<0.010		<0.010		----		
2213		n.d.		----		----		
2215		n.d.		n.d.		n.d.		
2217		----		----		----		
2218		----		----		----		
2226		----		----		----		
2229	EN14372	<0.010		<0.010		<0.010		
2230	CPSC-C1001-09.3	<0.005		<0.005		----		
2232		n.d.		n.d.		n.d.		
2236		<0.005		<0.005		----		
2237	in house	<0.01		<0.01		<0.01		
2238	CPSC-C1001-09.3	<0.010		<0.010		----		
2240		<0.005		<0.005		----		
2242		----		----		----		
2245		----		----		----		
2247		<0.005		<0.005		<0.005		
2253		----		----		----		
2254		----		----		----		
2255		----		----		----		
2256	EN14372	n.d.		n.d.		----		
2258		0.00		0.00		----		
2264		2.831	False+?	0.238	C,false+?	----		First reported 0.523
2266	EN15777	0		0		----		
2267		n.d.		n.d.		----		
2268	CPSC-C1001-09.3	<0.015		<0.015		----		
2269		----		----		----		
2277	in house	0.000		0.000		----		
2284	CPSC-C1001-09.3	<0.005		<0.005		<0.005		
2288	CPSC-C1001-09.3	<0.01		<0.01		----		
2289		----		----		----		
2290	CPSC-C1001-09.3	<0.020		<0.020		----		
2293		n.d.		n.d.		----		
2295		n.d.		n.d.		----		
2296		----		----		----		
2309	CPSC-C1001-09.3	----		----		----		
2310	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2311	CPSC-C1001-09.3	n.d.		n.d.		----		
2313	CPSC-C1001-09.3	n.d.		n.d.		n.d.		
2316		----		----		----		
2353	EN14372	n.d.		n.d.		----		

2359	in house	n.d.		n.d.	n.d.	
2361	CPSC-C1001-09.3	----		----	----	
2366		n.d.		n.d.	----	
2372	EN14372	n.d.		n.d.	n.d.	
2375		----		----	----	
2380	D3421	n.d.		n.d.	n.d.	
2386	CPSC-C1001-09.3	<0.01		<0.01	----	
2390	D3421	n.d.		n.d.	n.d.	
2406		0.000		0.000	0.000	
2410		<0.01		<0.01	<0.01	
2412	INH-24613	<0.005		<0.005	----	
2413	CPSC-C1001-09.3	n.d.		n.d.	n.d.	
2415		----		----	----	
2425		----		----	----	
2426		----		----	----	
2429	CPSC-C1001-09.3	n.d.		n.d.	----	
2431	CPSC-C1001-09.3	<0.01		<0.01	----	
2432		----		----	----	
2433		----		----	----	
2438		n.d.		n.d.	n.d.	
2442		----		----	----	
2452		0.128	False+?	----	----	
2453		----		----	----	
2459	CPSC-C1001-09.3	n.d.		n.d.	----	
2460		----		----	----	
2465	in house	0.000		0.000	----	
2470	CPSC-C1001-09.3	----		----	----	
2475	in house	n.d.		n.d.	n.d.	
2476	CPSC-C1001-09.3	<0.006		<0.006	----	
2479		----		----	----	
2482		<0.01		<0.01	<0.01	
2486	in house	<0.005		<0.005	<0.005	
2488		<0.01		<0.01	----	
2489		<0.005		<0.005	<0.005	
2492		----		----	----	
2493		----		----	----	
2494		n.d.		n.d.	----	
2495		0.240	C,false+?	0.000	----	First reported 0.282
2496	CPSC-C1001-09.3	n.d.		n.d.	n.d.	
2497		0.0844	C	----	----	First reported 0.209
2500	CPSC-C1001-09.3	n.d.		n.d.	----	
2503	CPSC-C1001-09.3	n.d.		n.d.	----	
2507	CPSC-C1001-09.3	----		----	----	
2510		----		----	----	
2511	in house	<0.005		<0.005	----	
2514		----		----	----	
2515		<0.005		<0.005	<0.005	
2516	INH-370	<0.005		<0.005	----	
2521		----		----	----	
2522		----		----	----	
2526		n.d.		n.d.	n.d.	
2529		----		----	----	
2530	NBR16040	----		----	----	
2531		0.000		0.000	----	
2537	in house	----		----	----	
2543		----		----	----	
2546		----		0.182	False+?	----
2548	CPSC-C1001-09.3	----		----	----	
2549		n.d.		n.d.	----	
2553		----		----	----	
2555	CPSC-C1001-09.3	n.d.		n.d.	n.d.	
2556		----		----	----	
2557		n.d.		n.d.	n.d.	
3100	CPSC-C1001-09.3	n.d.		n.d.	n.d.	
3107	EN14372	n.d.		n.d.	----	
3116	EN14372	n.d.		n.d.	----	
3117		----		----	----	
3118		----		----	----	
3122		----		----	----	
3146		<0.03		<0.03	----	
3150		----		----	----	
3153		----		----	----	
3163		0.0025		----	----	
3166		----		----	----	
3167	EN14372	n.d.		n.d.	n.d.	
3169	CPSC-C1001-09.3	<0.005		<0.005	----	
3172		<0.005		<0.005	----	

3176		n.d.	n.d.	----
3180		----	----	----
3182		----	----	----
3185	CPSC-C1001-09.3	<0.010	<0.010	----
3190	CPSC-C1001-09.3	<0.010	<0.010	----
3191	CPSC-C1001-09.3	<0.01	<0.01	<0.01
3197		----	----	----
3199	CPSD-AN-00095	<0.005	<0.005	----
3210		----	----	----
3213		----	----	----
3214		n.d.	n.d.	n.d.
3218		<0.010	<0.010	<0.010
3220	CPSC-C1001-09.3	n.d.	n.d.	----
3225		----	----	----
3228		----	----	----
3233		n.d.	n.d.	n.d.
3237		----	----	----
3238		----	----	----
3239		----	----	----
3242		n.d.	n.d.	nil
3243		----	----	----
3246	EN14372	n.d.	n.d.	n.d.
3248		----	----	----
8005		----	----	----
8006	JTSS-ST2012	n.d.	n.d.	----
8007	CPSC-C1001-09.3	n.d.	n.d.	----
	normality	n.a.	n.a.	n.a.
	n	12	10	2
	outliers	0	0	0
	mean (n)	<0.1 / n.d.	<0.1 / n.d.	<0.1 / n.d.
	st.dev. (n)	n.a.	n.a.	n.a.
	R(calc.)	n.a.	n.a.	n.a.
	R(EN14372:04)	n.a.	n.a.	n.a.

APPENDIX 2

Method information

lab	Type(s) of plastic identified	Identification Technique	Extraction Technique	Solvent used	Sample #13044 accessible part in mouth
110	unknown / PVC	FTIR	Ultrasonic	THF:hexane (1:2)	YES
213	--	--	--	--	--
310	PVC / PVC	FTIR	Ultrasonic	THF	--
330	--	--	Soxhlet	DCM:methanol	YES
339	--	--	Soxhlet	Chloroform:methanol	--
551	PVC / --	Flame test	Soxhlet / Ultrasonic	Chloroform:methanol / THF	YES
622	--	--	Soxhlet	THF	YES
1213	--	--	Ultrasonic	THF	--
2102	PVC	FTIR	Ultrasonic	THF	--
2104	--	--	Mechanical Shaker	DCM	YES
2115	--	--	--	--	--
2121	PVC	Beilsteintest	Ultrasonic	Hexane;acetone	YES
2127	--	--	--	--	--
2129	soft PVC / hard	FTIR	Ultrasonic	THF	YES
2132	PVC	FTIR	Mechanical Shaker	THF	YES
2137	PVC	FTIR	Ultrasonic	THF	YES
2138	PVC	FTIR	Ultrasonic	THF	YES
2139	PVC	FTIR	Ultrasonic	THF	YES
2146	PVC / PVC	IR / IR	Soxhlet / other	Diethylether / THF	YES
2152	--	--	Ultrasonic	THF	YES
2156	--	--	Soxhlet	DCM	NO
2165	--	--	Ultrasonic	MTBE:Acetone:n-Hexane	YES
2169	PVC	FTIR	Ultrasonic	THF	YES
2170	--	--	Ultrasonic	THF:n-hexane	YES
2172	PVC	FTIR	Ultrasonic	THF	NO
2173	PVC	flame	Ultrasonic	THF:n-hexane	YES
2175	--	--	Ultrasonic	n-hexane:acetone	--
2179	PVC	FTIR	Soxhlet	Toluene	NO
2182	--	--	Ultrasonic	THF	NO
2184	--	--	Ultrasonic	MTBE:Acetone:n-Hexane	YES
2190	--	--	--	--	YES
2196	PP / PVC	--	Ultrasonic	THF	NO
2197	PVC	Beilstein	--	THF	--
2201	--	--	Ultrasonic	THF:n-hexane	YES
2213	--	--	Soxhlet / Ultrasonic	Diethylether / THF	YES
2215	PVC	FTIR&Beilstein	Ultrasonic	THF	NO
2217	--	--	Ultrasonic	Toluene	YES
2218	--	--	Ultrasonic	THF	YES
2226	--	--	Ultrasonic	THF	YES
2229	--	--	Soxhlet	n-Hexane	NO
2230	PVC	FTIR	Ultrasonic	THF	YES
2232	PVC	FTIR	Ultrasonic	THF	YES
2236	PVC	FTIR	Ultrasonic	THF	YES
2237	--	--	Ultrasonic	DMF:Toluene (1:9)	NO
2238	PVC	FTIR	Shaking	THF	YES
2240	--	--	Ultrasonic	THF	NO
2242	--	--	Ultrasonic	THF	YES
2245	--	--	Soxhlet	Ether;n-hexane	NO
2247	PVC	FTIR	Ultrasonic	THF	YES
2253	PVC	--	Soxhlet	THF	YES
2254	--	--	--	--	--
2255	PVC	FTIR&ballestine	Ultrasonic	THF:n-hexane	--
2256	PVC	FTIR	Soxhlet	Diethylether	YES
2258	--	--	Ultrasonic	THF	YES
2264	--	--	Ultrasonic	THF	YES
2266	PVC	FTIR	Randhall	n-Hexane	YES
2267	PVC	FTIR	Ultrasonic	Acetone;n-hexane	--
2268	--	--	Ultrasonic	THF	NO
2269	--	--	Ultrasonic	DCM	NO
2277	PVC	comparing	Ultrasonic	DCM	YES
2284	--	--	Ultrasonic	Chloroform	YES
2288	PVC	FTIR	Ultrasonic	THF:n-hexane	YES
2289	--	--	Ultrasonic	THF	YES
2290	--	--	Ultrasonic	THF	YES
2293	Polydiallyl / PVC	FTIR	Ultrasonic	THF	YES
2295	--	--	Ultrasonic	THF	--
2296	PVC	Beilentest	Ultrasonic	THF	--

2309	PVC	Beilstein	Ultrasonic	THF	YES
2310	PVC	FTIR	Ultrasonic	THF, Hexane	YES
2311	PVC	Beilstein	Ultrasonic	THF	YES
2313	PVC	Beilstein	Ultrasonic	THF	YES
2316	--	--	Soxhlet / Ultrasonic	DEE / THF	NO
2353	PVC	FTIR	Soxhlet	DEE	YES
2359	--	--	Ultrasonic	Chloroform	NO
2361	PVC	FTIR	Shaking	THF: n-hexane	YES
2366	PVC	burning	Ultrasonic	THF	YES
2372	PVC	FTIR	Ultrasonic	THF:n-hexane	YES
2375	--	--	Ultrasonic	Chloroform	YES
2380	--	--	Soxhlet	other	YES
2386	PVC	IR	--	THF	YES
2390	PVC	IR	Soxhlet	DCM:Methanol	NO
2406	--	--	Ultrasonic	THF	YES
2410	PVC	FTIR	Orbital Shaker	THF:n-hexane	YES
2412	PVC	--	Soxhlet	DCM	NO
2413	PVC	Beilstein	Ultrasonic	THF	YES
2415	PVC	Beilstein	Soxhlet	Chloroform	NO
2425	PVC	Beilstein	Ultrasonic	DCM	YES
2426	--	--	Ultrasonic	THF	NO
2429	--	--	Shaker	THF	YES
2431	--	--	Ultrasonic	THF:n-hexane	YES
2432	--	--	Ultrasonic	THF	--
2433	--	--	--	--	--
2438	PVC	FTIR	Soxhlet	Chloroform;methanol (1:2)	NO
2442	--	--	Ultrasonic	THF	--
2452	--	--	Soxhlet	n-Hexane	YES
2453	--	--	Ultrasonic	THF, n-Hexane	YES
2459	PVC	Beilstein	Shaker	THF	YES
2460	--	--	Ultrasonic	THF	YES
2465	--	--	Soxhlet	DCM	YES
2470	--	--	Ultrasonic	THF: n-hexane	YES
2475	--	--	Ultrasonic	THF	YES
2476	--	--	Ultrasonic	THF	YES
2479	PVC	flame	Ultrasonic	THF:n-hexane	YES
2482	--	--	Ultrasonic	Toluene	YES
2486	PVC	FTIR	Ultrasonic	THF	YES
2488	--	--	Ultrasonic	MTBE:Acetone:hexane	YES
2489	PVC	--	Ultrasonic	THF	YES
2492	--	--	Ultrasonic	THF	YES
2493	--	--	--	--	--
2494	--	--	Ultrasonic	THF	YES
2495	--	--	Ultrasonic	THF	YES
2496	PVC	FTIR	Ultrasonic	THF	YES
2497	PVC	IR	Ultrasonic	THF:n-hexane	YES
2500	PVC	FTIR	Ultrasonic	THF	YES
2503	PVC	Melting point	Microwave extraction	Cyclhexane:Isopropanol	YES
2507	--	--	Ultrasonic	THF:n-hexane	YES
2510	Polystyrene	FTIR	--	THF:n-hexane	NO
2511	--	--	--	--	NO
2514	PVC	FTIR	Ultrasonic	THF:n-hexane	--
2515	PVC	FTIR	Ultrasonic	THF	--
2516	PVC	IR	immersion	Acetone:n-hexane (3;7)	NO
2521	--	--	Soxhlet	n-hexane	NO
2522	PVC	FTIR	Ultrasonic	THF	YES
2526	PE / PVC	FTIR	Ultrasonic	DEE	YES
2529	PVC	FTIR	Ultrasonic	THF	YES
2530	PVC	Beilstein	Soxhlet	DCM	YES
2531	--	--	Soxhlet / Ultrasonic	DEE / THF	NO
2537	--	--	Soxhlet	DEE	NO
2543	--	--	--	--	--
2546	PVC	FTIR	--	THF	YES
2548	PVC	FTIR	Wrist Shaker	THF	YES
2549	--	--	Soxhlet	DCM:methanol	YES
2553	PVC	FTIR	Ultrasonic	THF	YES
2555	PVC	FTIR	Ultrasonic	THF	NO
2556	PVC	IR	Soxhlet	DCM	NO
2557	PVC	FTIR	Ultrasonic	THF	NO
3100	--	--	Shake	THF	YES
3107	--	--	Soxhlet	DEE	NO
3116	PVC	FTIR	Soxhlet	Diethylether	YES

3117	PVC	FTIR	Soxhlet	Diethylether	NO
3118	--	--	Ultrasonic	THF:n-hexane	NO
3122	PVC	FTIR	Microwave	Methanol	YES
3146	PVC	FTIR,ATR	Ultrasonic	THF	YES
3150	--	--	Ultrasonic	Acetone:n-hexane	YES
3153	PVC	FTIR	Dissolution	THF	YES
3163	--	--	Thermal desorption	--	--
3166	--	--	Ultrasonic	DCM	--
3167	PVC	FTIR	Soxhlet	DCM	NO
3169	--	--	--	THF	NO
3172	--	--	Ultrasonic	THF	--
3176	--	--	--	--	YES
3180	--	--	Ultrasonic	THF	YES
3182	--	--	Ultrasonic	THF	--
3185	--	--	Shaking	THF:n-hexane	YES
3190	PVC	FTIR	Shaking	THF:n-hexane	YES
3191	--	--	Soxhlet / Ultrasonic	DCM / THF	YES
3197	PVC	FTIR	Soxhlet / Ultrasonic	DEE / THF:n-hexane	YES
3199	--	--	Ultrasonic	THF	YES
3210	--	--	Ultrasonic	n-Hexane:Acetone	--
3213	PVC	FTIR	Ultrasonic	THF	--
3214	PVC	FTIR	Ultrasonic	THF	YES
3218	PVC	FTIR	Ultrasonic	THF	YES
3220	--	--	Ultrasonic	THF	--
3225	--	--	--	n-Hexane:acetone (7:3)	YES
3228	--	--	Ultrasonic	MTBE:Acetone;n-hexane	--
3233	--	--	Ultrasonic	THF:ACN	YES
3237	--	--	Ultrasonic	THF	--
3238	PVC	With Copper	--	THF:ethanol	NO
3239	PVC	FTIR	Soxhlet	DCM	YES
3242	PVC	FTIR	Soxhlet	DCM:methanol (1:1)	YES
3243	PVC	IR (ATR)	Ultrasonic	DCM	NO
3246	--	--	heating	Diethylether	NO
3248	PVC	Flame	Ultrasonic	THF:ACN	YES
8005	PVC	FTIR	Soxhlet	Methylenechloride: Methanol	YES
8006	PVC	FTIR	Shaking	Acetone:n-hexane	YES
8007	PVC	FTIR	Ultrasonic	THF	YES

APPENDIX 3**Number of participating laboratories per country**

6 labs in BANGLADESH
4 labs in BRAZIL
1 lab in DENMARK
1 lab in EGYPT
1 lab in FINLAND
9 labs in FRANCE
9 labs in GERMANY
2 labs in GUATEMALA
18 labs in HONG KONG
2 labs in HUNGARY
12 labs in INDIA
4 labs in INDONESIA
1 lab in IRELAND
6 labs in ITALY
4 labs in JAPAN
5 labs in KOREA
2 labs in MALAYSIA
1 lab in MEXICO
1 lab in MOROCCO
34 labs in P.R. of CHINA
3 labs in PAKISTAN
1 lab in PERU
1 lab in PHILIPPINES
2 labs in PORTUGAL
4 labs in SINGAPORE
2 labs in SPAIN
1 lab in SRI LANKA
1 lab in SWITZERLAND
3 labs in TAIWAN R.O.C.
2 labs in THAILAND
4 labs in THE NETHERLANDS
2 labs in TUNESIA
7 labs in TURKEY
13 labs in U.S.A.
2 labs in UNITED KINGDOM
5 labs in VIETNAM

APPENDIX 4

Abbreviations:

C	= final result after checking of first reported suspect 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
n.a.	= not applicable
n.d.	= not detected
fr	= first reported result

Literature:

- 1 iis Interlaboratory Studies, Protocol for the Organisation, Statistics & Evaluation, January 2010
- 2 ASTM D3421:75: "extraction and analysis of plasticizer mixtures from vinyl chloride plastics".
- 3 Chromatographia, Vol.47, "Gas Chromatographic Analysis of Phthalate Esters in Plastic Toys" S.C. Rastogi
- 4 ASTM E178-02
- 5 ASTM E1301-03
- 6 ISO 5725: 1986
- 7 ISO 5725, parts 1-6, 1994
- 8 2001/804/EC, Official Journal of the European Communities, L304/26, (2001)
- 9 98/485/EC, Official Journal of the European Communities, L217/35, (1998)
- 10 M. Thompson and R. Wood, J. AOAC Int, 76, 926, (1993)
- 11 W.J. Youden and E.H. Steiner, Statistical Manual of the AOAC, (1975)
- 12 IP 367/84
- 13 DIN 38402 T41/42
- 14 P.L. Davies, Fr. Z. Anal. Chem, 331, 513, (1988)
- 15 J.N. Miller, Analyst, 118, 455, (1993)
- 16 ASTM F963:"standard consumer safety specification on toy safety"
- 17 Analytical Methods Committee Technical brief, No4 January 2001.
- 18 The Royal Society of Chemistry 2002, Analyst 2002, 127 pages 1359-1364, P.J. Lowthian and M. Thompson
- 19 ISO/FDIS 13528, 2005e, Statistical methods for use in proficiency testing by interlaboratory comparisons
- 20 R.G. Visser, Reliability of proficiency test results for metals and phthalates in plastics, Accred Qual Assur, 14:29-34 (2009)
- 21 EC I.03.101, JRS Ispra, Summary Risk Assessment Report DINP (2003)
- 22 EC I.03.103, JRS Ispra, Summary Risk Assessment Report DIDP (2003)
- 23 Annex XVII to REACH Regulation 1907/2006
- 24 Guideline on the interpretation of the concept "which can be placed in the mouth" as laid down in the entry 52 of Annex XVII to REACH Regulation 1907/2006, published July 18, 2012 on <http://echa.europe.eu>
- 25 16 C.F.R. Part 1501 and 16 C.F.R. 1500.50-53
- 26 16 C.F.R. 1199, Federal Register /Vol. 78, No. 31 /Thursday, February 14, 2013