

Results of Proficiency Test
Phthalates in Plastics
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Author: dr. R.G. Visser
Corrector: ing. R.J. Starink & ing. N. Boelhouwer
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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 PVC 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 February 2011.

In the 2011 iis interlaboratory study iis11P01, 124 laboratories in 29 different countries did participate. See appendix 3 for a list of 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. On request also DHP (not banned in the EU) was investigated in this PT. Both PVC materials were prepared by a Chinese factory by addition of technical mixtures of phthalates to PVC and subsequent homogenization. Analyses were subcontracted to an accredited laboratory.

2.1 QUALITY SYSTEM

The Institute for Interlaboratory Studies in Spijkensisse, the Netherlands, has implemented a quality system based on ISO guide 43, ILAC-G13:2007 and ISO17043:2010. This ensures 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 present in this report must be regarded as confidential and for use by the participating companies only. Disclosure of the information in this report is only allowed by means of the entire report. Use of the contents of this report for third parties is only allowed by written permission of the Institute for Interlaboratory Studies. Disclosure of the identity of one or more of the participating companies will be done only after receipt of a written agreement of the companies involved.

2.4 SAMPLES

Two samples were prepared from two different bulk materials.

The first bulk material was a blue coloured PVC, to which small amounts of 3 banned phthalates (2 g BBP, 5 g DEHP and 3 g DINP per kg raw material) were added and, to get the desired plasticity (to easify homogenization), 20-25% of a phthalate that is not banned.

The material was cut into pieces, mixed well, and divided over 150 plastic bags of 3 gram each and labelled #11012.

The homogeneity of the subsamples #11012 was checked by determination of phthalates on 8 stratified randomly selected subsamples.

	BBP in %M/M	DEHP in %M/M	DINP in %M/M
Sample #11012-1	0.204	0.499	0.354
Sample #11012-2	0.197	0.477	0.337
Sample #11012-3	0.202	0.488	0.328
Sample #11012-4	0.203	0.487	0.331
Sample #11012-5	0.209	0.500	0.367
Sample #11012-6	0.212	0.515	0.371
Sample #11012-7	0.206	0.492	0.374
Sample #11012-8	0.204	0.489	0.355

Table 1: results of the homogeneity test on the subsamples #11012

The second bulk material was an orange PVC, to which small, known amounts of 7 different phthalates were added. The material was cut into pieces, mixed well, and homogenized. This material was used as a quality control sample in a testing laboratory already for 6 months and during its use it proved to be sufficiently homogeneous. The bulk material was distributed over 150 plastic bags (3 gram each) and labelled #11013.

	average in %M/M	st. dev. in %M/M
BBP	0.15	0.004
DBP	0.19	0.008
DHP	0.10	0.004
DEHP	0.29	0.011
DNOP	0.09	0.004
DINP	0.18	0.015
DIDP	0.29	0.027

Table 2: results of the use of #11013 as QC sample

From the test results of tables 1 and 2, the repeatabilities were calculated and compared with 0.3 times the corresponding target reproducibility in agreement with the procedure of ISO 13528, Annex B2 in the next table:

	r (observed)	0.3*R(ref. method)	reference method
BBP in #11012	0.013	0.052	EN14372:04
DEHP in #11012	0.032	0.124	EN14372:04
DINP in #11012	0.051	0.089	EN14372:04
BBP in #11013	0.013	0.037	EN14372:04
DBP in #11013	0.021	0.047	EN14372:04
DHP in #11013	0.011	0.024	EN14372:04
DEHP in #11013	0.030	0.074	EN14372:04
DNOP in #11013	0.011	0.024	EN14372:04
DINP in #11013	0.042	0.046	EN14372:04
DIDP in #11013	0.075	0.073	EN14372:04

Table 3: evaluation of repeatabilities of phthalate contents of the subsamples #11012 and #11013

The observed repeatabilities of the results of homogeneity tests were all in good agreement with 0.3 times the estimated EN14372 reproducibilities. Therefore, homogeneity of subsamples #11012 and #11013 was assumed.

To each of the participating laboratories, one sample of approx. 3 grams of sample of #11012 and one sample of approx. 3 grams of sample of #11013 were sent on February 16, 2011.

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 #11012 and #11013.

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.

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).

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:

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

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 large problems were encountered during the execution. Four participants did not report any test results. Finally 120 of the 124 participating laboratories reported 1250 numerical results. Observed were 103 statistically outlying test results, which is 8.2% of all results. In proficiency studies outlier percentages of 3% - 7.5% are quite normal.

4.1 EVALUATION PER PHTHALATE/SAMPLE

In this section the results are discussed per component.

Many different test methods were used by the participating laboratories. Many in house methods, but also several standard test methods were used: EN14372 (Soxhlet extraction with diethyl ether) and CPSC-CH-C1001-09 (dissolution in THF). 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 RSDr is given in EN14372:04. Multiplication of RSDr by 2.8 gives the repeatability. Multiplication of the repeatability by 3 gives a good estimate of the target reproducibility. For comparison also a target reproducibility based on the Horwitz equation is given for each phthalate.

General: Only 50 laboratories did identify both materials correctly as PVC.

The presence of a significant amount of phthalates may have hampered the identification of this material by infrared.

The effect of the phthalate releasing technique appeared to be not significant in this PT. Separate evaluation of CPSC test results (dissolution in THF) and comparison with the other reported test results did show that no significant differences are present, this in contrast with the findings in earlier PTs.

DINP: In this PT separate test results for DINP-1 and for DINP-2 were requested to be reported. This because it was found during the previous PT that test results may be different when DINP-1 is present in the sample and DINP-2 is used for the calibration. However, from the test results reported in this PT, it is clear that the effect will be neglectable. The assigned values for DINP-1 and DINP-2 are not significantly different for each of the samples.

The determination of DINP was somewhat problematic at levels of 0.2-0.3 %M/M. In total 24 statistical outliers (11%) were detected. The observed reproducibilities are all larger than the estimated EN14372:04 reproducibility

BBP: The determination of BBP was somewhat problematic at the level of 0.2 %M/M. In total 23 statistical outliers (9.6%) were detected. Both observed reproducibilities are larger than the estimated EN14372:04 reproducibility.

DEHP: The determination of DEHP was somewhat problematic at levels of 0.3-0.5 %M/M. In total 20 statistical outliers (8.4%) were detected. Both observed reproducibilities are larger than the estimated EN14372:04 reproducibility.

DBP: The determination of DBP was problematic at the level of 0.2 %M/M. Only four statistical outliers (3.4%) were detected. However, the observed reproducibility is not at all in agreement with the estimated EN14372:04 reproducibility.

DIDP: In this PT separate test results for DIDP-1 and for DIDP-2 were requested to be reported. This because it was found during the previous PT that test results may be different when DIDP-1 is present in the sample and DIDP-2 is used for the

calibration. From the test results reported in this PT, it is clear that only DIDP-1 was present (in sample #11013) and no comparison with DIDP-2 could be made. The determination of DIDP-1 was somewhat problematic at the level of 0.25 %M/M. Only four statistical outliers (3.7%) were detected. However, the observed reproducibility is not at all in agreement with the estimated EN14372:04 reproducibility.

DNOP: The determination of DNOP was somewhat problematic at the level of 0.1 %M/M. Only five statistical outliers (4.3%) were detected. However, the observed reproducibility is not in agreement with the estimated EN14372:04 reproducibility.

DHP: The determination of DHP was somewhat problematic at the level of 0.1 %M/M. In total 11 statistical outliers (13.9%) were detected. The observed reproducibility is not in agreement with the estimated EN14372:04 reproducibility.

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 reproducibilities of EN14372:2004 (R_{target}) in the next tables:

Parameter	Unit	n	Average	2.8 * sd	R (target)
DINP-1	%M/M	56	0.27	0.09	0.07
DINP-2	%M/M	50	0.28	0.12	0.07
BBP	%M/M	108	0.19	0.07	0.05
DEHP	%M/M	110	0.46	0.16	0.12

Table 4: overview of results for sample #11012

Parameter	Unit	n	Average	2.8 * sd	R (target)
DINP-1	%M/M	55	0.18	0.09	0.05
DINP-2	%M/M	45	0.19	0.06	0.05
DBP	%M/M	115	0.17	0.08	0.04
BBP	%M/M	108	0.14	0.06	0.04
DIDP-1	%M/M	104	0.25	0.11	0.06
DNOP	%M/M	110	0.090	0.037	0.023
DEHP	%M/M	109	0.27	0.09	0.07
DHP	%M/M	68	0.10	0.03	0.02

Table 5: overview of results for sample #11013

4.3 COMPARISON WITH PREVIOUS INTERLABORATORY STUDIES

	February 2011	February 2010	February 2009	February 2008
Number of reporting labs	120	134	102	78
Number of results reported	1250	767	797	760
Statistical outliers	103	59	33	25
Percentage outliers	8.2%	7.7%	4.1%	3.3%

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, significant improvements are observed for the evaluated components, 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.

R (%rel.)	February 2011	February 2010	February 2009	February 2008	February 2007
DINP	33 - 47	42 ^T - 167 ^E	--	69 ^T - 72 ^E	104
DBP	48	39	52 ^T - 61 ^E	42 ^E - 82 ^T	--
DEHP	34 - 36	21 ^T - 153 ^E	46 ^E - 54 ^T	29 ^T - 54 ^E	53 - 59
BBP	37 - 42	39	58 ^E - 127 ^T	64 ^E - 79 ^T	--
DIDP	43	--	--	39 ^T - 51 ^E	--
DNOP	41	--	--	--	--
DHP	30	--	--	--	--

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

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.

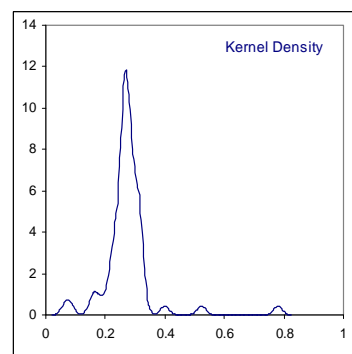
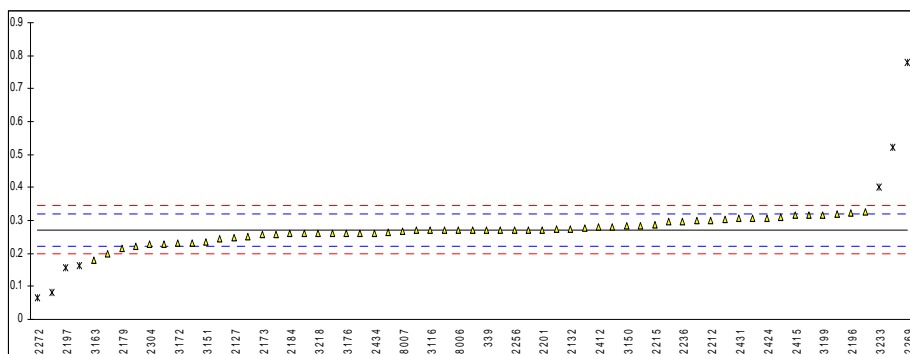
Also, it will be clear from the figures in table 5 that the overall performance of the laboratories that tested phthalates in plastics did improve significantly over the last years. The relative reproducibility for each phthalate was reduced to 35-40%, which means that the interlaboratory standard deviation will be approx. 14% relative. This is still large in comparison with the estimate from the Horwitz equation, and therefore further improvement is still to be expected. Each laboratory has to evaluate its performance in this study and make decisions about necessary and/or possible corrective actions.

APPENDIX 1**Determination of DINP-1 on sample #11012; results in %M/M**

lab	method	value	mark	z(targ)	remarks
310		----		----	
330		----		----	
339	in house	0.271		0.00	
357		----		----	
2102	in house	0.319		1.97	reported as sum of DINP-1 and DINP-2
2104		----		----	
2115		----		----	
2127		0.2470		-0.98	
2129	EN15777	0.27		-0.04	
2132	CPSC-CH-C1001-09.3	0.274		0.13	
2135	in house	n.d.		----	false negative? Did also report n.d. for DINP-2
2146	in house	0.230		-1.68	reported as sum of DINP-1 and DINP-2
2152		----		----	
2156		----		----	
2165	CPSC-CH-C1001-09.3	0.271		0.00	
2172		----		----	
2173	CPSC-CH-C1001-09.3	0.2563		-0.60	
2179	EN14372	0.2144	C	-2.32	first reported 0.3445
2182	CPSC-CH-C1001-09.3	0.261		-0.41	
2184	CPSC-CH-C1001-09.3	0.260		-0.45	
2190		----		----	
2196	CPSC-CH-C1001-09.3	0.322		2.10	
2197		0.155	DG(0.05)	-4.75	
2201	CPSC-CH-C1001-09.3	0.272		0.05	
2212	CPSC-CH-C1001-09.3	0.300		1.19	
2215	in house	0.286		0.62	
2216	CPSC-CH-C1001-09.3	0.264		-0.28	
2225		----		----	
2226	in house	0.272		0.05	
2227		----		----	
2229		----		----	
2234	EN14372	0.262		-0.36	
2236	CPSC	0.297		1.07	
2237		----		----	
2238	CPSC-CH-C1001-09.3	<0.010		----	
2240		----		----	
2242	CPSC-CH-C1001-09.2	0.306		1.44	
2246	D3421	0.299		1.15	
2247		----		----	
2253		----		----	
2255		----		----	
2256	EN14372	0.272		0.05	
2258		----		----	
2260	CPSC-CH-C1001-09.3	0.316		1.85	
2266		----		----	
2268	CPSC-CH-C1001	0.285		0.58	
2269		0.780	G(0.01)	20.88	
2272	ISO-TS16181	0.0645	G(0.05)	-8.47	
2275		----		----	
2277	in house	0.304		1.36	
2279	INH-22048	0.278		0.29	
2284		----		----	
2289		----		----	
2290		----		----	
2293	CPSC-CH-C1001.09.2	0.198	C	-2.99	first reported 5.604
2295	in house	0.083	G(0.01)	-7.71	
2304	CPSC-CH-C1001-09.3	0.229		-1.72	
2306	CPSC-CH-C1001-09.2	<0.010		----	
2307		----		----	
2401		----		----	
2408	CPSC-CH-C1001-09.3	0.163	DG(0.05)	-4.43	reported as sum of DINP1 and DINP-2
2409		----		----	
2410		----		----	
2412	INH-24613	0.2806		0.40	
2413	CPSC-CH-C1001-09.3	0.326		2.26	reported as sum of DINP1 and DINP-2
2414		----		----	
2415	in house	0.316		1.85	
2416		----		----	
2417		----		----	
2422		----		----	
2423		----		----	
2424	CPSC-CH-1001-09.3	0.306		1.44	
2425		----		----	

2427		----		----	
2430		----		----	
2431	CPSL-CH-C1001.09.3	0.305	C	1.40	first reported 0.215
2432		----		----	
2434	in house	0.262		-0.36	
2435		----		----	
2436	EN14372	0.223		-1.96	
2441		----		----	
3100		----		----	
3107	EN14372	n.d.		----	
3116	CPSC-CH-C1001	0.270		-0.04	
3117		----		----	
3122	CPSC-CH-C1001-09.3	n.d.		----	
3134	in house	0.309	C	1.56	first reported 0.335
3150	in house	0.283		0.50	
3151	in house	0.234	C	-1.51	first reported 0.201
3153		----		----	
3154	in house	0.296	C	1.03	first reported '-'
3159		----		----	
3161	in house	0.281		0.41	reported as sum of DINP-1 and DINP-2
3163	in house	0.1779		-3.81	reported as sum of DINP-1 and DINP-2
3166	in house	0.246		-1.02	
3167		----		----	
3169		----		----	
3172	CPSC-CH-C1001.09.3	0.23		-1.68	
3174	CPSC-CH-C1001-09.3	0.271		0.00	
3176	in house	0.261		-0.41	
3180		----		----	
3182	CPSC-CH-C1001-09.2	<0.0100		----	
3185		----		----	
3190	CPSC-CH-C1001-09.3	<0.010		----	
3192		----		----	
3197	EN14372	0.260		-0.45	
3199	CPSD-AN-0095	0.317		1.89	
3208	in house	n.d.		----	false negative? Did also report n.d. for DINP-2
3210		----		----	
3213		----		----	
3218	CPSC-CH-C1001-09.3	0.26		-0.45	
3220	CPSC CH C1001-09.3	n.d.		----	
3225	in house	0.258	C	-0.53	first reported 0.328
3226	ISO TC216	0.523	G(0.01)	10.34	reported as sum of DINP-1 and DINP-2
3233	in house	0.40	G(0.05)	5.30	
3237	in house	0.2295		-1.70	
3238	in house	0.27		-0.04	reported as sum of DINP-1 and DINP-2
3239		----		----	
3242		----		----	
3243	in house	0.25		-0.86	
3248	in house	n.d.		----	
8005	EN14372	0.273		0.09	
8006	F963	0.270		-0.04	
8007	JTSS2002	0.269		-0.08	

	<u>Only THF (CPSC) results:</u>	<u>All other results:</u>
normality	OK	OK
n	56	26
outliers	7	4
mean (n)	0.271	0.268
st.dev. (n)	0.0315	0.0248
R(calc.)	0.088	0.070
R(EN14372)	0.068	0.068
Compare R(Horwitz)	0.055	

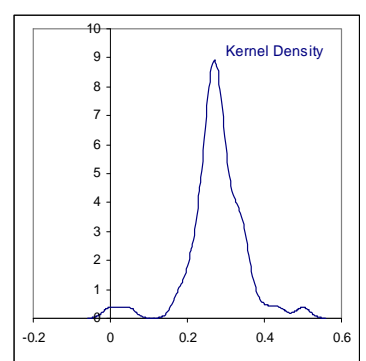
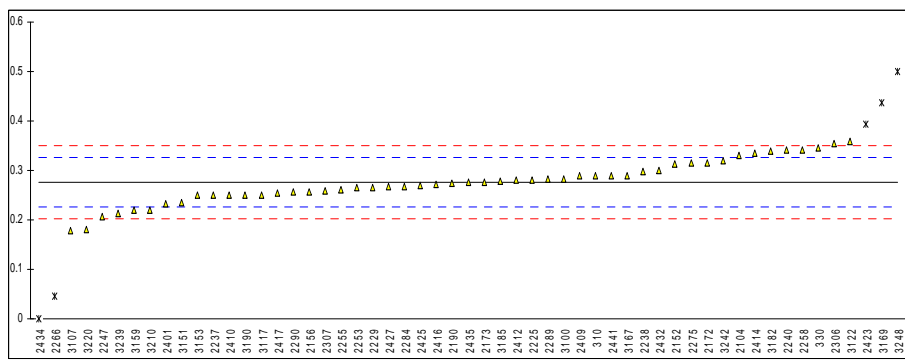


Determination of DINP-2 on sample #11012; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.289		0.51	
330	in house	0.345		2.76	
339		----		----	
357		----		----	
2102		----		----	
2104	in house	0.330		2.15	
2115		----		----	
2127		----		----	
2129		----		----	
2132	CPSC-CH-C1001-09.3	n.d.		----	
2135	in house	n.d.		----	false negative? Did also report n.d. for DINP-1
2146		----		----	
2152	in house	0.313		1.47	
2156	EPA 3540C	0.256		-0.82	
2165	CPSC-CH-C1001-09.3	n.d.		----	
2172	in house	0.316		1.59	
2173	CPSC-CH-C1001-09.3	0.2760	C	-0.02	first reported 0.4476
2179		----		----	
2182		----		----	
2184	CPSC-CH-C1001-09.3	n.d.		----	
2190		0.274		-0.10	
2196		----		----	
2197		----		----	
2201		----		----	
2212		----		----	
2215	in house	n.d.		----	
2216	CPSC-CH-C1001-09.3	<0.05		----	
2225	CPSC-C1001	0.281		0.18	
2226		----		----	
2227		----		----	
2229	in house	0.266		-0.42	
2234		----		----	
2236		----		----	
2237	in house	0.249		-1.10	
2238	CPSC-CH-C1001-09.3	0.298		0.87	
2240	CPSC-CH-C1001-09.3	0.341		2.60	
2242		----		----	
2246	D3421	<0.010		----	
2247	EN14372	0.207		-2.79	
2253	CPSC-CH-C1001-09.1	0.265		-0.46	
2255	CPSC-CH-C1001-09.2	0.26		-0.66	
2256	EN14372	n.d.		----	
2258	CPSC-CH-C1001-09.3	0.342		2.64	
2260		----		----	
2266	EN15777	0.046	G(0.01)	-9.26	reported as sum of DINP-1 and DINP-2
2268		----		----	
2269		----		----	
2272		----		----	
2275	CPSC-CH-C1001.09	0.315		1.55	
2277		----		----	
2279		----		----	
2284	CPSC-CH-C1001-09.3	0.267		-0.38	
2289	CPSC-CH-C1001-09.3	0.282		0.22	
2290	CPSC CH C1001-09.3	0.256		-0.82	
2293		----		----	
2295		----		----	
2304	CPSC-CH-C1001-09.3	n.d.		----	
2306	CPSC-CH-C1001-09.2	0.354		3.12	
2307	CPSC-CH-C1001-09.3	0.259		-0.70	
2401	EN14372	0.2324		-1.77	
2408		----		----	
2409	EN14372	0.289		0.51	
2410	CPSC-CH-C1001-09.3	0.250		-1.06	
2412	INH-24613	0.2806		0.17	
2413		----		----	
2414	CPSC-CH-C1001-09.3	0.335		2.36	
2415		----		----	
2416	INH-22048	0.272		-0.18	reported as sum of DINP-1 and DINP-2
2417		0.255		-0.86	
2422		----		----	
2423	CPSC-CH-C1001.09.1	0.393	C, DG(0.05)	4.69	first reported 0.457
2424		----		----	
2425	D3421	0.27	C	-0.26	first reported '-'

2427	CPCS-CH-C1001-09	0.267		-0.38	
2430		----		----	
2431		----		----	
2432	in house	0.3		0.95	
2434	in house	0.000	G(0.01)	-11.11	
2435	EPA3540C+8270D	0.275		-0.06	
2436		----		----	
2441	in house	0.29		0.55	
3100	CPSC-CH-C1001-09.3	0.283		0.27	
3107	EN14372	0.178		-3.96	
3116		----		----	
3117	EN14372	0.251		-1.02	
3122	CPSC-CH-C1001-09.3	0.359		3.32	
3134		----		----	
3150		----		----	
3151	in house	0.234	C	-1.70	first reported 0.201
3153	CPSC-CH-C1001-09.3	0.249		-1.10	reported as sum of DINP-1 and DINP-2
3154		----		----	
3159	EN14372	0.219		-2.31	
3161		----		----	
3163		----		----	
3166		----		----	
3167	EN14372	0.290		0.55	
3169	in house	0.436	DG(0.05)	6.42	
3172		----		----	
3174		----		----	
3176		----		----	
3180		----		----	
3182	CPSC-CH-C1001-09.2	0.3382		2.48	
3185	CPSC-CH-C1001-09.3	0.278		0.06	
3190	CPSC-CH-C1001-09.3	0.251		-1.02	
3192		----		----	
3197		----		----	
3199		----		----	
3208	in house	n.d.		----	false negative? Did also report n.d. for DINP-1
3210	ISO-TS16181	0.22		-2.27	
3213		----		----	
3218		----		----	
3220	CPSC CH C1001-09.3	0.18		-3.88	
3225		----		----	
3226		----		----	
3233		----		----	
3237		----		----	
3238		----		----	
3239	in house	0.214		-2.51	
3242	D3421	0.319		1.71	
3243	in house	<0.05		----	
3248	in house	0.5	G(0.05)	8.99	
8005		----		----	
8006		----		----	
8007		----		----	

	normality	OK	<u>Only THF (CPSC) results:</u>	<u>All other results:</u>
n	50	OK	OK	OK
outliers	5	OK	26	24
mean (n)	0.276	OK	3	2
st.dev. (n)	0.0424	OK	0.283	0.270
R(calc.)	0.119	OK	0.0387	0.0459
R(EN14372)	0.070	OK	0.109	0.129
Compare R(Horwitz)	0.056	OK	0.071	0.068



Determination of BBP on sample #11012; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.211		1.43	
330	in house	0.23		2.56	
339	in house	0.186		-0.06	
357		-----		-----	
2102	in house	0.190		0.18	
2104	in house	0.210		1.37	
2115		-----		-----	
2127		0.1680		-1.13	
2129	EN15777	0.20		0.77	
2132	CPSC-CH-C1001-09.3	0.197		0.59	
2135	in house	0.08	DG(0.01)	-6.36	
2146	in house	0.221		2.02	
2152	in house	0.129	C	-3.45	first reported 0.099
2156	EPA 3540C	0.231		2.61	
2165	CPSC-CH-C1001-09.3	0.186		-0.06	
2172	in house	0.180		-0.42	
2173	CPSC-CH-C1001-09.3	0.2013		0.85	
2179	EN14372	0.1831	C	-0.23	first reported 0.2615
2182	CPSC-CH-C1001-09.3	0.212		1.49	
2184	CPSC-CH-C1001-09.3	0.190		0.18	
2190		0.195		0.48	
2196	CPSC-CH-C1001-09.3	0.212		1.49	
2197		0.1456		-2.46	
2201	CPSC-CH-C1001-09.3	0.195		0.48	
2212	CPSC-CH-C1001-09.3	0.174		-0.77	
2215	in house	0.185		-0.12	
2216	CPSC-CH-C1001-09.3	0.151		-2.14	
2225	CPSC-C1001	0.187		0.00	
2226	in house	0.345	C,DG(0.05)	9.39	first reported 0.245
2227		-----		-----	
2229	in house	0.172		-0.89	
2234	EN14372	0.184		-0.18	
2236	CPSC	0.175		-0.71	
2237	in house	0.171		-0.95	
2238	CPSC-CH-C1001-09.3	0.180		-0.42	
2240	CPSC-CH-C1001-09.3	0.217		1.78	
2242	CPSC-CH-C1001-09.2	0.200		0.77	
2246	D3421	0.191		0.24	
2247	EN14372	0.175		-0.71	
2253	CPSC-CH-C1001-09.1	0.175		-0.71	
2255	CPSC-CH-C1001-09.2	0.17		-1.01	
2256	EN14372	0.190		0.18	
2258	CPSC-CH-C1001-09.3	0.217		1.78	
2260	CPSC-CH-C1001-09.3	0.212		1.49	
2266	EN15777	0.080	DG(0.01)	-6.36	
2268	CPSC-CH-C1001	0.186		-0.06	
2269		0.238		3.03	
2272	ISO-TS16181	0.0408	DG(0.05)	-8.69	
2275	CPSC-CH-C1001.09	0.192		0.30	
2277	in house	0.209		1.31	
2279	INH-22048	0.189		0.12	
2284	CPSC-CH-C1001-09.3	0.183		-0.24	
2289	CPSC-CH-C1001-09.3	0.183		-0.24	
2290	CPSC CH C1001-09.3	0.189		0.12	
2293	CPSC-CH-C1001.09.2	0.114	C	-4.34	first reported 1.791
2295	in house	0.044	G(0.05)	-8.50	
2304	CPSC-CH-C1001-09.3	0.178		-0.53	
2306	CPSC-CH-C1001-09.2	0.181		-0.36	
2307	CPSC-CH-C1001-09.3	0.162		-1.49	
2401	EN14372	0.1881		0.07	
2408	CPSC-CH-C1001-09.3	0.146		-2.44	
2409	EN14372	0.340	DG(0.05)	9.09	
2410	CPSC-CH-C1001-09.3	0.180		-0.42	
2412	INH-24613	0.1924		0.32	
2413	CPSC-CH-C1001-09.3	0.317	G(0.05)	7.72	
2414	CPSC-CH-C1001-09.3	0.212		1.49	
2415	in house	0.174		-0.77	
2416	INH-22048	0.236		2.91	
2417		0.181		-0.36	
2422	INH-1991	0.195		0.48	
2423	CPSC-CH-C1001.09.1	0.227		2.38	
2424	CPSC-CH-1001-09.3	0.238		3.03	
2425	D3421	0.216		1.72	

2427	CPCS-CH-C1001-09	0.199		0.71
2430		-----		-----
2431	CPSL-CH-C1001.09.3	0.183		-0.24
2432	in house	0.18		-0.42
2434	in house	0.231		2.61
2435	EPA3540C+8270D	0.185		-0.12
2436	EN14372	0.182		-0.30
2441	in house	0.21		1.37
3100	CPSC-CH-C1001-09.3	0.198		0.65
3107	EN14372	0.183		-0.24
3116	CPSC-CH-C1001	0.192		0.30
3117	EN14372	0.183		-0.24
3122	CPSC-CH-C1001-09.3	0.205		1.07
3134	in house	0.203		0.95
3150	in house	0.191		0.24
3151	in house	0.149		-2.26
3153	CPSC-CH-C1001-09.3	0.198	C	0.65 first reported 0.129
3154	in house	0.173	C	-0.83 first reported 0.014
3159	EN14372	0.179		-0.48
3161	in house	0.139	C	-2.85 first reported 0.368
3163	in house	0.1093		-4.62
3166	in house	0.155		-1.90
3167	EN14372	0.173		-0.83
3169	in house	0.338	G(0.05)	8.97
3172	CPSC-CH-C1001.09.3	0.18		-0.42
3174	CPSC-CH-C1001-09.3	0.173		-0.83
3176	in house	0.169		-1.07
3180		0.143		-2.61
3182	CPSC-CH-C1001-09.2	0.1643		-1.35
3185	CPSC-CH-C1001-09.3	0.200		0.77
3190	CPSC-CH-C1001-09.3	0.182		-0.30
3192	in house	0.133		-3.21
3197	EN14372	0.170		-1.01
3199	CPSD-AN-0095	0.203		0.95
3208	in house	0.027	DG(0.05)	-9.51
3210	ISO-TS16181	0.17		-1.01
3213	CPSC-CH-C1001-09.1	0.20083		0.82
3218	CPSC-CH-C1001-09.3	0.18		-0.42
3220	CPSC CH C1001-09.3	0.3	DG(0.01)	6.71
3225	in house	0.178		-0.53
3226	ISO TC216	0.276	G(0.05)	5.29
3233	in house	0.24		3.15
3237	in house	0.1840		-0.18
3238	in house	0.18		-0.42
3239	in house	0.203		0.95
3242	D3421	0.233		2.73
3243	in house	0.16		-1.60
3248	in house	0.295	DG(0.01)	6.42
8005	EN14372	0.182		-0.30
8006	F963	0.194		0.42
8007	JTSS2002	0.185		-0.12

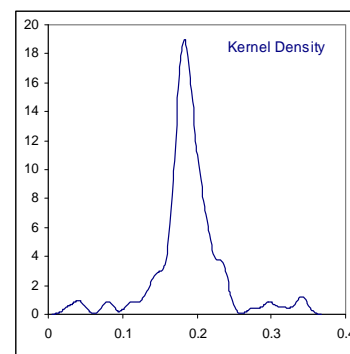
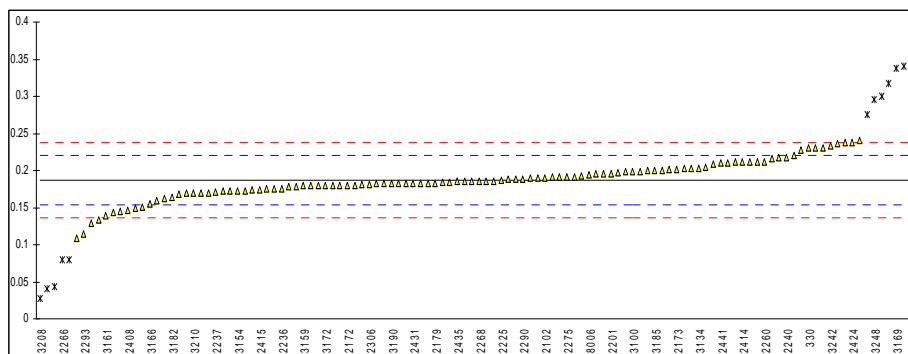
normality	not OK
n	108
outliers	12
mean (n)	0.187
st.dev. (n)	0.0249
R(calc.)	0.070
R(EN14372)	0.047
Compare R(Horwitz)	0.027

Only THF (CPSC) results:

not OK
57
5
0.184
0.0252
0.071
0.047

All other results:

not OK
51
7
0.191
0.0243
0.068
0.048



Determination of DEHP on sample #11012; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.503		1.02	
330	in house	0.56		2.39	
339	in house	0.426		-0.84	
357		-----		-----	
2102	in house	0.518		1.38	
2104	in house	0.530		1.67	
2115		-----		-----	
2127		0.6287		4.05	
2129	EN15777	0.44		-0.50	
2132	CPSC-CH-C1001-09.3	0.471		0.25	
2135	in house	0.1	G(0.05)	-8.70	
2146	in house	0.443		-0.43	
2152	in house	0.553		2.23	
2156	EPA 3540C	0.476	C	0.37	first reported 0.663
2165	CPSC-CH-C1001-09.3	0.446		-0.35	
2172	in house	0.461		0.01	
2173	CPSC-CH-C1001-09.3	0.4716		0.26	
2179	EN14372	0.4875		0.65	
2182	CPSC-CH-C1001-09.3	0.471		0.25	
2184	CPSC-CH-C1001-09.3	0.450		-0.26	
2190		0.429		-0.76	
2196	CPSC-CH-C1001-09.3	0.545		2.03	
2197		0.381		-1.92	
2201	CPSC-CH-C1001-09.3	0.492		0.75	
2212	CPSC-CH-C1001-09.3	0.509		1.16	
2215	in house	0.454		-0.16	
2216	CPSC-CH-C1001-09.3	0.369		-2.21	
2225	CPSC-C1001	0.497		0.88	
2226	in house	0.476		0.37	
2227		-----		-----	
2229	in house	0.480		0.47	
2234	EN14372	0.483		0.54	
2236	CPSC	0.440		-0.50	
2237	in house	0.353		-2.60	
2238	CPSC-CH-C1001-09.3	0.488		0.66	
2240	CPSC-CH-C1001-09.3	0.578		2.83	
2242	CPSC-CH-C1001-09.2	0.441		-0.48	
2246	D3421	0.476		0.37	
2247	EN14372	0.379		-1.97	
2253	CPSC-CH-C1001-09.1	0.439		-0.52	
2255	CPSC-CH-C1001-09.2	0.47		0.22	
2256	EN14372	0.471		0.25	
2258	CPSC-CH-C1001-09.3	0.537		1.84	
2260	CPSC-CH-C1001-09.3	0.551		2.18	
2266	EN15777	0.119	G(0.01)	-8.24	
2268	CPSC-CH-C1001	0.485		0.59	
2269		0.373		-2.12	
2272	ISO-TS16181	0.1334	G(0.01)	-7.89	
2275	CPSC-CH-C1001.09	0.458		-0.07	
2277	in house	0.449		-0.28	
2279	INH-22048	0.480		0.47	
2284	CPSC-CH-C1001-09.3	0.467		0.15	
2289	CPSC-CH-C1001-09.3	0.449		-0.28	
2290	CPSC CH C1001-09.3	0.474		0.32	
2293	CPSC-CH-C1001.09.2	0.137	C, G(0.01)	-7.81	first reported 3.948
2295	in house	0.102	G(0.05)	-8.65	
2304	CPSC-CH-C1001-09.3	0.482		0.51	
2306	CPSC-CH-C1001-09.2	0.535		1.79	
2307	CPSC-CH-C1001-09.3	0.448		-0.31	
2401	EN14372	0.4184		-1.02	
2408	CPSC-CH-C1001-09.3	0.389		-1.73	
2409	EN14372	0.887	G(0.01)	10.28	
2410	CPSC-CH-C1001-09.3	0.418		-1.03	
2412	INH-24613	0.4809		0.49	
2413	CPSC-CH-C1001-09.3	0.685	G(0.05)	5.41	
2414	CPSC-CH-C1001-09.3	0.502		1.00	
2415	in house	0.438		-0.55	
2416	INH-22048	0.540		1.91	
2417		0.477		0.39	
2422	INH-1991	0.451		-0.23	
2423	CPSC-CH-C1001.09.1	0.543		1.98	
2424	CPSC-CH-1001-09.3	0.488		0.66	
2425	D3421	0.322		-3.35	

2427	CPCS-CH-C1001-09	0.470		0.22
2430		-----		-----
2431	CPSL-CH-C1001.09.3	0.389		-1.73
2432	in house	0.44		-0.50
2434	in house	0.397		-1.54
2435	EPA3540C+8270D	0.460		-0.02
2436	EN14372	0.364		-2.33
2441	in house	0.49		0.71
3100	CPSC-CH-C1001-09.3	0.497		0.88
3107	EN14372	0.466		0.13
3116	CPSC-CH-C1001	0.453		-0.19
3117	EN14372	0.500		0.95
3122	CPSC-CH-C1001-09.3	0.426		-0.84
3134	in house	0.511		1.21
3150	in house	0.501		0.97
3151	in house	0.439		-0.52
3153	CPSC-CH-C1001-09.3	0.486		0.61
3154	in house	0.427	C	-0.81 first reported 0.020
3159	EN14372	0.345		-2.79
3161	in house	0.380		-1.95
3163	in house	0.3450		-2.79
3166	in house	0.384		-1.85
3167	EN14372	0.412		-1.17
3169	in house	0.616		3.74
3172	CPSC-CH-C1001.09.3	0.46		-0.02
3174	CPSC-CH-C1001-09.3	0.353		-2.60
3176	in house	0.461		0.01
3180		0.396		-1.56
3182	CPSC-CH-C1001-09.2	0.4527		-0.19
3185	CPSC-CH-C1001-09.3	0.501		0.97
3190	CPSC-CH-C1001-09.3	0.512		1.24
3192	in house	0.290		-4.12
3197	EN14372	0.450		-0.26
3199	CPSD-AN-0095	0.494		0.80
3208	in house	0.065	G(0.05)	-9.54
3210	ISO-TS16181	0.40		-1.46
3213	CPSC-CH-C1001-09.1	0.41836		-1.02
3218	CPSC-CH-C1001-09.3	0.47		0.22
3220	CPSC CH C1001-09.3	0.8	G(0.05)	8.18
3225	in house	0.430		-0.74
3226	ISO TC216	0.731	G(0.05)	6.52
3233	in house	0.49		0.71
3237	in house	0.4966		0.87
3238	in house	0.39		-1.71
3239	in house	0.493		0.78
3242	D3421	0.432		-0.69
3243	in house	0.54		1.91
3248	in house	0.561		2.42
8005	EN14372	0.449		-0.28
8006	F963	0.458		-0.07
8007	JTSS2002	0.442		-0.45

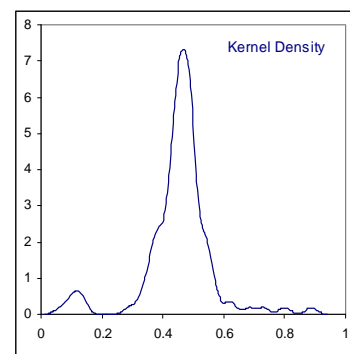
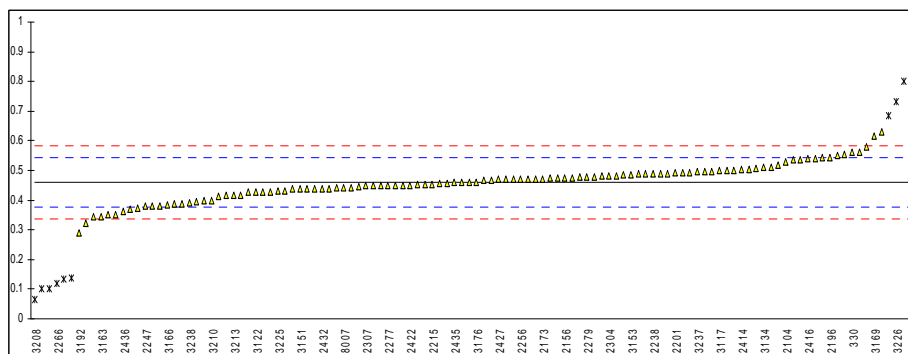
normality	not OK
n	110
outliers	10
mean (n)	0.461
st.dev. (n)	0.0587
R(calc.)	0.164
R(EN14372)	0.116
Compare R(Horwitz)	0.058

Only THF (CPSC) results:

OK	59
	3
	0.471
	0.0548
	0.154
	0.119

All other results:

OK	51
	7
	0.0449
	0.0614
	0.172
	0.113



Determination of DBP, DIDP-1 and DIDP-2 on sample #11012; results in %M/M

lab	method	DBP	mark	DIDP-1	mark	DIDP-2	mark
310		----		----		----	
330	in house	<0.005		0.018		----	
339	in house	<0.01		0.018		----	
357		----		----		----	
2102	in house	0		0.017		----	reported sum of DIDP-1 and DIDP-2
2104	in house	0.001		0.014		----	
2115		----		----		----	
2127		0.0011		0.0163		----	
2129		----		----		----	
2132	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2135	in house	n.d.		n.d.		n.d.	
2146		----		----		----	
2152	in house	<0.075		<0.075		----	
2156	EPA 3540C	0.010		0.010		----	
2165	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2172	in house	n.d.		n.d.		----	
2173	CPSC-CH-C1001-09.3	<0.0030		0.0205	C	----	first reported DIDP-1 0.2802
2179	EN14372	0.0434	G(0.05)	n.d.		----	
2182	CPSC-CH-C1001-09.3	n.d.		n.d.		----	
2184	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2190		----		0.018		----	
2196		----		----		0.026	
2197		0.001		0.027		----	
2201	CPSC-CH-C1001-09.3	<0.010		0.019		----	
2212	CPSC-CH-C1001-09.3	<0.030		<0.030		<0.030	
2215	in house	n.d.		n.d.		n.d.	
2216	CPSC-CH-C1001-09.3	<0.05		<0.05		<0.05	
2225	CPSC-C1001	<0.005		0.019		----	
2226		----		0.035		----	
2227		----		----		----	
2229	in house	<0.010		<0.010		<0.010	
2234	EN14372	<0.006		<0.015		----	
2236		----		----		----	
2237	in house	0.0007		0.0221		----	
2238	CPSC-CH-C1001-09.3	<0.010		0.021		<0.010	
2240	CPSC-CH-C1001-09.3	0.000		0.000		----	
2242		----		----		----	
2246	D3421	<0.010		<0.010		<0.010	
2247	EN14372	<0.005		<0.005		----	
2253	CPSC-CH-C1001-09.1	n.d.		n.d.		----	
2255		----		----		----	
2256	EN14372	n.d.		n.d.		n.d.	
2258		----		----		----	
2260		----		0.021		----	
2266	EN15777	0.000		0.000		----	reported sum of DIDP-1 and DIDP-2
2268	CPSC-CH-C1001	<0.005		<0.015		----	
2269		0.005		0.000		----	
2272	ISO-TS16181	n.d.		n.d.		----	
2275	CPSC-CH-C1001.09	<0.010		0.017		----	
2277	in house	0		0		----	
2279	INH-22048	n.d.		n.d.		----	
2284		----		----		----	
2289		----		0.017		----	
2290	CPSC CH C1001-09.3	n.d.		n.d.		----	
2293	CPSC-CH-C1001.09.2	0.028	C, DG(0.01)	----		n.d.	first reported DBP 0.302
2295	in house	0.0004		----		----	
2304	CPSC-CH-C1001-09.3	n.d.		n.d.		0.020	
2306	CPSC-CH-C1001-09.2	<0.010		<0.010		<0.010	
2307		----		----		0.042	
2401		----		----		----	
2408	CPSC-CH-C1001-09.3	0.024	G(0.01)	0.040		----	reported sum of DIDP-1 and DIDP-2
2409	EN14372	n.d.		n.d.		----	
2410	CPSC-CH-C1001-09.3	<0.01		<0.01		----	
2412	INH-24613	n.d.		n.d.		n.d.	
2413	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2414	CPSC-CH-C1001-09.3	<0.005		0.021		----	
2415	in house	n.d.		n.d.		----	
2416	INH-22048	<0.002		0.033		----	reported sum of DIDP-1 and DIDP-2
2417		0.001		0.018		----	
2422	INH-1991	n.d.		----		----	
2423	CPSC-CH-C1001.09.1	0.011		n.d.		----	
2424		----		----		----	
2425	D3421	n.d.		n.d.		----	

2427	CPCS-CH-C1001-09	<0.03		<0.03		----
2430		----		----		----
2431		----		----		0.019
2432		----		----		----
2434	in house	0.000		0.000		0.000
2435	EPA3540C+8270D	<0.005		<0.005		----
2436		----		0.088	G(0.01)	----
2441	in house	n.d.		n.d.		----
3100	CPSC-CH-C1001-09.3	<0.010		0.018		----
3107	EN14372	0.001		n.d.		n.d.
3116	CPSC-CH-C1001	n.d.		n.d.		----
3117		----		0.016		----
3122	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.
3134	in house	0.029	DG(0.01)	n.d.		----
3150	in house	0.001		----		----
3151	in house	<0.005		<0.005		<0.005
3153	CPSC-CH-C1001-09.3	<0.01		0.024		----
3154		----		----		----
3159	EN14372	<0.004		<0.004		----
3161	in house	n.d.		n.d.		n.d.
3163	in house	0.0021		----		----
3166		----		----		----
3167	EN14372	n.d.		n.d.		----
3169	in house	<0.005		<0.01		----
3172	CPSC-CH-C1001.09.3	<0.01		<0.01		----
3174	CPSC-CH-C1001-09.3	n.d.		0.048	DG(0.05)	----
3176		----		----		----
3180		----		----		----
3182	CPSC-CH-C1001-09.2	<0.0100		0.0551	DG(0.05)	<0.0100
3185	CPSC-CH-C1001-09.3	<0.010		0.018		----
3190	CPSC-CH-C1001-09.3	<0.010		0.019		<0.010
3192	in house	<0.026		----		----
3197		----		----		----
3199	CPSD-AN-0095	<0.005		<0.005		----
3208	in house	<0.01		<0.01		<0.01
3210	ISO-TS16181	<0.005		<0.005		----
3213	CPSC-CH-C1001-09.1	0.00198		----		----
3218		----		0.02		----
3220	CPSC CH C1001-09.3	n.d.		n.d.		n.d.
3225		----		----		----
3226	ISO TC216	0.0014		0.032		----
3233	in house	n.d.		n.d.		----
3237		----		----		----
3238	in house	n.d.		n.d.		----
3239	in house	0.002		----		----
3242	D3421	n.d.		0.01		----
3243	in house	<0.05		<0.05		<0.05
3248	in house	n.d.		0.023		n.d.
8005	EN14372	n.d.		n.d.		----
8006	F963	n.d.		n.d.		----
8007	JTSS2002	n.d.		n.d.		----
	normality	not OK		not OK		unknown
	n	20		35		5
	outliers	4		3		0
	mean (n)	0.0020		0.0178		0.0214
	st.dev. (n)	0.00312		0.00965		0.01509
	R(calc.)	0.0087		0.0270		0.0423
	R(EN14372)	(0.0005)		(0.0045)		(0.0054)

Determination of DNOP, DiBP and DHP on sample #11012; results in %M/M

lab	method	DNOP	mark	DiBP	mark	DHP	mark
310		----		----		----	
330	in house	<0.02		<0.01		----	
339	in house	<0.01		<0.01		<0.01	
357		----		----		----	
2102	in house	0		----		----	
2104	in house	<0.001		<0.001		<0.001	
2115		----		----		----	
2127	in house	0.0021		0.0012		----	
2129		----		----		----	
2132	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2135		n.d.		n.d.		n.d.	
2146		----		----		----	
2152	CPSIA	<0.075		<0.075		<0.075	
2156	USEPA 3540C	0.010	G(0.01)	0.016		0.010	G(0.01)
2165	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2172	in house	n.d.		n.d.		n.d.	
2173	CPSC-CH-C1001-09.3	<0.0030		<0.0030		<0.0030	
2179	EN14372	n.d.		----		----	
2182	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2184	CPSC-CH-C1001-09.3	n.d.		n.d.		n.d.	
2190	in house	----		----		----	
2196		----		----		----	
2197	in house	n.d.		0.001		----	
2201	CPSC-CH-C1001-09.3	<0.010		<0.010		<0.010	
2212	CPSC-CH-C1001-09.3	<0.030		----		<0.030	
2215	in house	n.d.		n.d.		n.d.	
2216	CPSC-CH-C1001-09.3	<0.05		<0.05		<0.05	
2225	CPSC-CH-C1001	<0.005		<0.010		<0.005	
2226	in house	----		----		----	
2227		----		----		----	
2229	in house	<0.010		<0.010		<0.010	
2234	EN14372	<0.006		<0.006		<0.006	
2236		----		----		----	
2237	in house	0		0		0	
2238	CPSC-CH-C1001-09.3	<0.010		<0.010		<0.010	
2240	CPSC-CH-C1001-09.3	0.000		0.000		0.000	
2242		----		----		----	
2246	D3421	<0.010		<0.010		<0.010	
2247	EN14372	<0.005		0.007		<0.005	
2253	CPSC-CH-C1001-09.1	n.d.		n.d.		n.d.	
2255		----		0.0043		----	
2256	EN14372	n.d.		n.d.		n.d.	
2258		----		----		----	
2260	CPSC-CH-C1001-09.3	----		----		----	
2266	EN15777	0.000		0.000		0.000	
2268	CPSC-CH-C1001	<0.005		----		<0.005	
2269	in house	0.000		----		----	
2272	prCEN-ISO-TS16181	n.d.		n.d.		----	
2275	CPSL-CH-C1001.09	<0.010		<0.010		<0.010	
2277	in house	0		----		0	
2279	GB/T22048	n.d.		n.d.		n.d.	
2284		----		----		----	
2289	CPSC-CH-C1001-09.3	----		----		----	
2290	CPSC CH C1001-09.3	n.d.		n.d.		n.d.	
2293		n.d.		----		n.d.	
2295		----		0.0007		----	
2304	CPSC-CH-C1001-09.3	n.d.		----		----	
2306	CPSC-CH-C1001-09.2	<0.010		----		<0.010	
2307		----		----		----	
2401		----		----		----	
2408	CPSC-CH-C1001-09.3	----		0.015		----	
2409	EN14372	n.d.		----		----	
2410	CPSC-CH-C1001-09.3	<0.01		<0.01		<0.01	
2412	GB24613	n.d.		n.d.		n.d.	
2413	CPSC-CH-C1001-09.3	n.d.		----		----	
2414	CPSC-CH-C1001-09.3	<0.005		<0.005		<0.005	
2415	in house	n.d.		n.d.		----	
2416	GB/T22048	<0.006		<0.002		<0.002	
2417	in house	0.000		0.000		0.000	
2422		n.d.		----		----	
2423	CPSL-CH-C1001.09	n.d.		----		----	
2424		----		----		----	
2425	D3421	n.d.		n.d.		n.d.	

2427	CPCS-CH-C1001-09	<0.03	<0.03	<0.03
2430		----	----	----
2431		----	----	----
2432		----	----	----
2434	GC-FID	0.000	0.000	0.000
2435	EPA3540C+8270D	<0.005	<0.005	<0.005
2436	EN14372	----	----	----
2441	in house	n.d.	n.d.	n.d.
3100	CPSC-CH-C1001-09.3	<0.010	<0.010	<0.010
3107	EN14372	n.d.	0.002	n.d.
3116	CPSC-CH-C1001	n.d.	n.d.	n.d.
3117	EN14372	----	----	----
3122	CPSC-CH-C1001-09.3	n.d.	n.d.	n.d.
3134	in house	n.d.	----	----
3150		----	----	----
3151	in house	<0.005	<0.005	<0.005
3153	CPSC-CH-C1001-09.3	<0.01	----	----
3154		----	----	----
3159	EN14372	<0.004	----	----
3161	in house	n.d.	n.d.	n.d.
3163		----	0.0034	----
3166		----	----	----
3167	EN14372	n.d.	----	----
3169	CPSC-CH-C1001-09.3	<0.005	<0.005	<0.005
3172	CPSC-CH-C1001.09.3	<0.01	<0.01	<0.01
3174	CPSC-CH-C1001-09.3	n.d.	----	----
3176		----	----	----
3180		----	----	----
3182	CPSC-CH-C1001-09.2	<0.0100	<0.0100	<0.0100
3185	CPSC-CH-C1001-09.3	<0.010	<0.010	<0.010
3190	CPSC-CH-C1001-09.3	<0.010	<0.010	<0.010
3192		<0.019	<0.028	----
3197		----	----	----
3199	CPSD-AN-0095MTHD	<0.005	<0.005	<0.005
3208	in house	<0.01	----	----
3210	prCEN-ISO-TS16181	<0.005	<0.005	----
3213		n.d.	0.00039	----
3218	CPSC-CH-C1001-09.3	----	----	----
3220	CPSC CH C1001-09.3	n.d.	n.d.	n.d.
3225		----	----	----
3226	ISO TC216	----	0.0005	----
3233	in house	n.d.	n.d.	----
3237		----	----	----
3238	in house	n.d.	----	----
3239		----	0.016	----
3242	D3421	n.d.	0.01	n.d.
3243	in house	<0.05	<0.05	<0.05
3248	in house	n.d.	n.d.	n.d.
8005	EN14372	n.d.	n.d.	n.d.
8006	F963	n.d.	n.d.	n.d.
8007	JTS 2002	n.d.	n.d.	n.d.
	normality	not OK	not OK	unknown
	n	9	18	6
	outliers	1	0	1
	mean (n)	0.0002	0.0043	n.a.
	st.dev. (n)	0.0007	0.00589	n.a.
	R(calc.)	0.0020	0.0165	n.a.
	R(EN14372)	(0.0001)	(0.0011)	n.a.

Determination of DINP-1 on sample #11013; results in %M/M

lab	method	value	mark	z(targ)	remarks
310		----		----	
330		----		----	
339	in house	0.168		-0.72	
357		----		----	
2102	in house	0.218		2.37	reported as sum of DINP-1 and DINP-2
2104		----		----	
2115		----		----	
2127		0.1669		-0.79	
2129	EN15777	0.21		1.87	
2132	CPSC-CH-C1001-09.3	0.194		0.88	
2135	in house	n.d.		----	false negative? Did also report n.d. for DINP-2
2146	in house	0.168		-0.72	reported as sum of DINP-1 and DINP-2
2152		----		----	
2156		----		----	
2165	CPSC-CH-C1001-09.3	0.171		-0.54	
2172		----		----	
2173	CPSC-CH-C1001-09.3	0.1861		0.39	
2179	EN14372	0.1886	C	0.55	first reported 0.3558
2182	CPSC-CH-C1001-09.3	0.166		-0.85	
2184	CPSC-CH-C1001-09.3	0.175		-0.29	
2190		----		----	
2196	CPSC-CH-C1001-09.3	0.213		2.06	
2197		0.109		-4.37	
2201	CPSC-CH-C1001-09.3	0.179		-0.04	
2212	CPSC-CH-C1001-09.3	0.210		1.87	
2215	in house	0.177		-0.17	
2216	CPSC-CH-C1001-09.3	0.184		0.27	
2225		----		----	
2226	in house	0.181		0.08	
2227		----		----	
2229		----		----	
2234	EN14372	0.168		-0.72	
2236	CPSC	0.245		4.04	
2237		----		----	
2238	CPSC-CH-C1001-09.3	<0.010		----	
2240		----		----	
2242	CPSC-CH-C1001-09.2	0.204		1.50	
2246	D3421	0.187		0.45	
2247		----		----	
2253		----		----	
2255		----		----	
2256	EN14372	0.187		0.45	
2258		----		----	
2260	CPSC-CH-C1001-09.3	0.209		1.81	
2266		----		----	
2268	CPSC-CH-C1001	0.176		-0.23	
2269		0.509	G(0.01)	20.36	
2272	ISO-TS16181	0.0445	G(0.05)	-8.36	
2275		----		----	
2277	in house	0.200		1.25	
2279	INH-22048	0.179		-0.04	
2284		----		----	
2289		----		----	
2290		----		----	
2293	CPSC-CH-C1001.09.2	n.d.		----	false negative? Did also report n.d. for DINP-2
2295	in house	0.064	DG(0.01)	-7.15	
2304	CPSC-CH-C1001-09.3	0.154		-1.59	
2306	CPSC-CH-C1001-09.2	<0.010		----	
2307		----		----	
2401		----		----	
2408	CPSC-CH-C1001-09.3	0.115		-4.00	reported as sum of DINP-1 and DINP-2
2409		----		----	
2410		----		----	
2412	INH-24613	0.183		0.20	
2413	CPSC-CH-C1001-09.3	0.265		5.27	reported as sum of DINP-1 and DINP-2
2414		----		----	
2415	in house	0.215		2.18	
2416		----		----	
2417		----		----	
2422		----		----	
2423		----		----	
2424	CPSC-CH-1001-09.3	0.211		1.93	
2425		----	C	----	first reported 0.184

2427		----		----
2430		----		----
2431	CPSL-CH-C1001.09.3	0.169		-0.66
2432		----		----
2434	in house	0.064	DG(0.01)	-7.15
2435		----		----
2436	EN14372	0.145		-2.15
2441		----		----
3100		----		----
3107	EN14372	n.d.		----
3116	CPSC-CH-C1001	0.185		0.33
3117		----		----
3122	CPSC-CH-C1001-09.3	n.d.		----
3134	in house	0.164		-0.97
3150	in house	0.193		0.82
3151	in house	0.126		-3.32
3153		----		----
3154		----		----
3159		----		----
3161	in house	n.d.		----
3163	in house	0.1446		-2.17
3166	in house	0.157		-1.40
3167		----		----
3169		----		----
3172	CPSC-CH-C1001.09.3	0.14		-2.46
3174	CPSC-CH-C1001-09.3	0.186		0.39
3176	in house	0.138		-2.58
3180		----		----
3182	CPSC-CH-C1001-09.2	<0.0100		----
3185		----		----
3190	CPSC-CH-C1001-09.3	<0.010		----
3192		----		----
3197	EN14372	0.190		0.64
3199	CPSD-AN-0095	0.226		2.86
3208	in house	<0.01		----
3210		----		----
3213		----		----
3218	CPSC-CH-C1001-09.3	0.17		-0.60
3220	CPSC CH C1001-09.3	n.d.		----
3225	in house	0.225		2.80
3226	ISO TC216	0.352	G(0.01)	10.65
3233	in house	0.17		-0.60
3237	in house	0.1240		-3.44
3238	in house	0.17		-0.60
3239		----		----
3242		----		----
3243	in house	0.15		-1.84
3248	in house	n.d.		----
8005	EN14372	0.181		0.08
8006	F963	0.188		0.51
8007	JTSS2002	0.180		0.02

reported as sum of DINP-1 and DINP-2

false negative? Did also report n.d. for DINP-2
reported as sum of DINP-1 and DINP-2

false negative? Did also report <0.01 for DINP-2

false negative? Did also report n.d. for DINP-2

reported as sum of DINP-1 and DINP-2

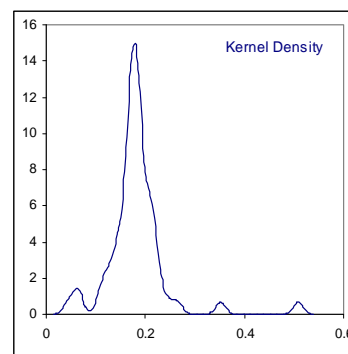
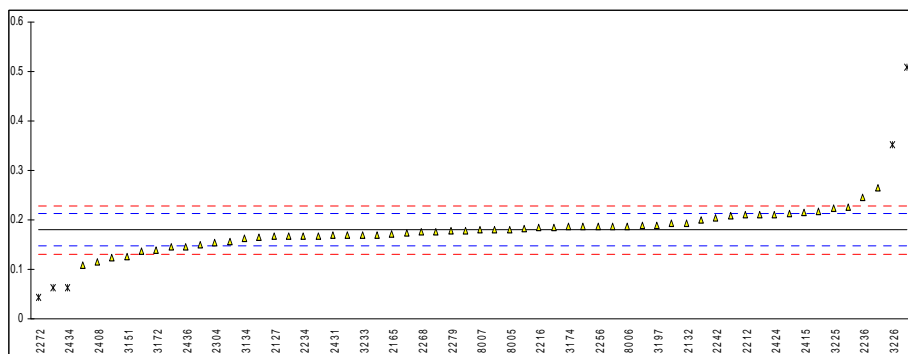
normality	OK
n	55
outliers	5
mean (n)	0.180
st.dev. (n)	0.0303
R(calc.)	0.085
R(EN14372)	0.045
Compare R(Horwitz)	0.039

Only THF (CPSC) results:

OK
32
0
0.179
0.0357
0.100
0.045

All other results:

OK
23
5
0.180
0.0215
0.060
0.045

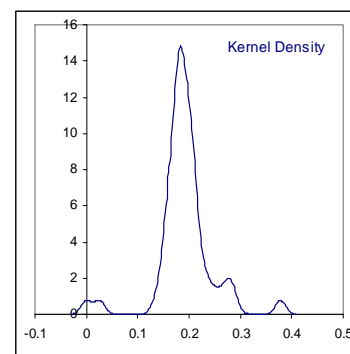
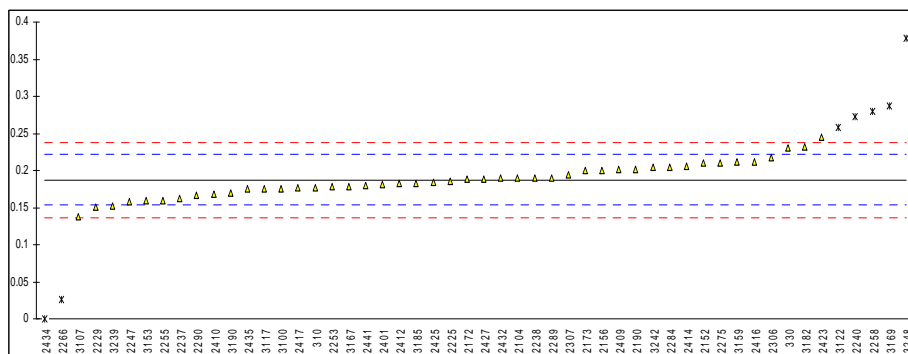


Determination of DINP-2 on sample #11013; results in %M/M

lab	method	value	mark	z(target)	remarks
310	in house	0.177		-0.62	
330	in house	0.23		2.53	
339		----		----	
357		----		----	
2102		----		----	
2104	in house	0.190		0.16	
2115		----		----	
2127		----		----	
2129		----		----	
2132	CPSC-CH-C1001-09.3	n.d.		----	
2135	in house	n.d.		----	false negative? Did also report n.d. for DINP-1
2146		----		----	
2152	in house	0.210		1.34	
2156	EPA 3540C	0.200		0.75	
2165	CPSC-CH-C1001-09.3	n.d.		----	
2172	in house	0.188		0.04	
2173	CPSC-CH-C1001-09.3	0.1993	C	0.71	first reported 0.3188
2179		----		----	
2182		----		----	
2184	CPSC-CH-C1001-09.3	n.d.		----	
2190		0.202		0.87	
2196		----		----	
2197		----		----	
2201		----		----	
2212		----		----	
2215	in house	n.d.		----	
2216	CPSC-CH-C1001-09.3	<0.05		----	
2225	CPSC-C1001	0.186		-0.08	
2226		----		----	
2227		----		----	
2229	in house	0.151		-2.16	
2234		----		----	
2236		----		----	
2237	in house	0.162		-1.50	
2238	CPSC-CH-C1001-09.3	0.190		0.16	
2240	CPSC-CH-C1001-09.3	0.272	DG(0.05)	5.02	
2242		----		----	
2246	D3421	<0.010		----	
2247	EN14372	0.158		-1.74	
2253	CPSC-CH-C1001-09.1	0.178		-0.56	
2255	CPSC-CH-C1001-09.2	0.16		-1.62	
2256	EN14372	n.d.		----	
2258	CPSC-CH-C1001-09.3	0.279	DG(0.05)	5.43	
2260	CPSC-CH-C1001-09.3	<0.005		----	
2266	EN15777	0.026	G(0.01)	-9.57	reported as sum of DINP-1 and DINP-2
2268		----		----	
2269		----		----	
2272		----		----	
2275	CPSC-CH-C1001.09	0.210		1.34	
2277		----		----	
2279		----		----	
2284	CPSC-CH-C1001-09.3	0.205		1.04	
2289	CPSC-CH-C1001-09.3	0.190		0.16	
2290	CPSC CH C1001-09.3	0.166		-1.27	
2293		----		----	
2295		----		----	
2304	CPSC-CH-C1001-09.3	n.d.		----	
2306	CPSC-CH-C1001-09.2	0.218		1.82	
2307	CPSC-CH-C1001-09.3	0.194		0.39	
2401	EN14372	0.1813		-0.36	
2408		----		----	
2409	EN14372	0.201		0.81	
2410	CPSC-CH-C1001-09.3	0.168		-1.15	
2412	INH-24613	0.183		-0.26	
2413		----		----	
2414	CPSC-CH-C1001-09.3	0.206		1.10	
2415		----		----	
2416	INH-22048	0.212		1.46	reported as sum of DINP-1 and DINP-2
2417		0.177		-0.62	
2422		----		----	
2423	CPSC-CH-C1001.09.1	0.245	C	3.42	first reported 0.318
2424		----		----	
2425	D3421	0.184	C	-0.20	first reported '-'

2427	CPCS-CH-C1001-09	0.189		0.10	
2430		----		----	
2431		----		----	
2432	in house	0.19		0.16	
2434	in house	0.000	G(0.01)	-11.11	
2435	EPA3540C+8270D	0.175		-0.73	
2436		----		----	
2441	in house	0.18		-0.44	
3100	CPSC-CH-C1001-09.3	0.176		-0.67	
3107	EN14372	0.137		-2.99	
3116		----		----	
3117	EN14372	0.176		-0.67	
3122	CPSC-CH-C1001-09.3	0.258	DG(0.05)	4.19	
3134		----		----	
3150		----		----	
3151		----		----	
3153	CPSC-CH-C1001-09.3	0.159		-1.68	
3154		----		----	
3159	EN14372	0.211		1.40	
3161	in house	n.d.		----	false negative? Did also report n.d. for DINP-1
3163		----		----	
3166		----		----	
3167	EN14372	0.178		-0.56	
3169	in house	0.287	DG(0.05)	5.91	
3172		----		----	
3174		----		----	
3176		----		----	
3180		----		----	
3182	CPSC-CH-C1001-09.2	0.2315		2.62	
3185	CPSC-CH-C1001-09.3	0.183		-0.26	
3190	CPSC-CH-C1001-09.3	0.169		-1.09	
3192		----		----	
3197		----		----	
3199		----		----	
3208	in house	<0.01		----	false negative? Did also report <0.01 for DINP-1
3210		----		----	
3213		----		----	
3218		----		----	
3220	CPSC CH C1001-09.3	n.d.		----	false negative? Did also report n.d. for DINP-1
3225		----		----	
3226		----		----	
3233		----		----	
3237		----		----	
3238		----		----	
3239	in house	0.152		-2.10	
3242	D3421	0.204		0.99	
3243	in house	<0.05		----	
3248	in house	0.378	G(0.05)	11.30	
8005		----		----	
8006		----		----	
8007		----		----	

	Only THF (CPSC) results:	All other results:
normality	OK	OK
n	45	22
outliers	7	3
mean (n)	0.187	0.184
st.dev. (n)	0.0225	0.0230
R(calc.)	0.063	0.065
R(EN14372)	0.047	0.046
Compare R(Horwitz)	0.041	



Determination of DBP on sample #11013; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.187		1.05	
330	in house	0.20		1.89	
339	in house	0.168		-0.19	
357		-----		-----	
2102	in house	0.183		0.79	
2104	in house	0.180		0.59	
2115		-----		-----	
2127		0.1701		-0.05	
2129	EN15777	0.20		1.89	
2132	CPSC-CH-C1001-09.3	0.170		-0.06	
2135	in house	0.1		-4.61	
2146	in house	0.174		0.20	
2152	in house	0.211		2.61	
2156	EPA 3540C	0.235		4.17	
2165	CPSC-CH-C1001-09.3	0.180		0.59	
2172	in house	0.169		-0.12	
2173	CPSC-CH-C1001-09.3	0.1552		-1.02	
2179	EN14372	0.1823		0.74	
2182	CPSC-CH-C1001-09.3	0.176		0.33	
2184	CPSC-CH-C1001-09.3	0.173		0.14	
2190		0.160		-0.71	
2196	CPSC-CH-C1001-09.3	0.187		1.05	
2197		0.113		-3.76	
2201	CPSC-CH-C1001-09.3	0.187		1.05	
2212	CPSC-CH-C1001-09.3	0.166		-0.32	
2215	in house	0.165		-0.38	
2216	CPSC-CH-C1001-09.3	0.132		-2.53	
2225	CPSC-C1001	0.175		0.27	
2226	in house	0.238		4.37	
2227		-----		-----	
2229	in house	0.159		-0.77	
2234	EN14372	0.175		0.27	
2236	CPSC	0.175		0.27	
2237	in house	0.0947		-4.95	
2238	CPSC-CH-C1001-09.3	0.176		0.33	
2240	CPSC-CH-C1001-09.3	0.184		0.85	
2242	CPSC-CH-C1001-09.2	0.173		0.14	
2246	D3421	0.172		0.07	
2247	EN14372	0.154		-1.10	
2253	CPSC-CH-C1001-09.1	0.169		-0.12	
2255	CPSC-CH-C1001-09.2	0.16		-0.71	
2256	EN14372	0.172		0.07	
2258	CPSC-CH-C1001-09.3	0.254		5.41	note: DBP not confirmed
2260	CPSC-CH-C1001-09.3	0.183		0.79	
2266	EN15777	0.089		-5.32	
2268	CPSC-CH-C1001	0.170		-0.06	
2269		0.185		0.92	
2272	ISO-TS16181	0.0595	G(0.05)	-7.24	
2275	CPSC-CH-C1001.09	0.169		-0.12	
2277	in house	0.104		-4.35	
2279	INH-22048	0.171		0.01	
2284	CPSC-CH-C1001-09.3	0.176		0.33	
2289	CPSC-CH-C1001-09.3	0.178		0.46	
2290	CPSC CH C1001-09.3	0.156		-0.97	
2293	CPSC-CH-C1001.09.2	0.107	C	-4.15	first reported 1.522
2295	in house	0.056	DG(0.01)	-7.47	
2304	CPSC-CH-C1001-09.3	0.176		0.33	
2306	CPSC-CH-C1001-09.2	0.183		0.79	
2307	CPSC-CH-C1001-09.3	0.159		-0.77	
2401	EN14372	0.1842		0.87	
2408	CPSC-CH-C1001-09.3	0.156		-0.97	
2409	EN14372	0.285	G(0.05)	7.42	
2410	CPSC-CH-C1001-09.3	0.148		-1.49	
2412	INH-24613	0.1656		-0.34	
2413	CPSC-CH-C1001-09.3	0.128		-2.79	
2414	CPSC-CH-C1001-09.3	0.186		0.98	
2415	in house	0.136		-2.27	
2416	INH-22048	0.155		-1.03	
2417		0.164		-0.45	
2422	INH-1991	0.178		0.46	
2423	CPSC-CH-C1001.09.1	0.183		0.79	
2424	CPSC-CH-1001-09.3	0.192		1.37	
2425	D3421	0.143		-1.81	

2427	CPCS-CH-C1001-09	0.161		-0.64
2430		-----		-----
2431	CPSL-CH-C1001.09.3	0.162		-0.58
2432	in house	0.15		-1.36
2434	in house	0.184		0.85
2435	EPA3540C+8270D	0.168		-0.19
2436	EN14372	0.186		0.98
2441	in house	0.15		-1.36
3100	CPSC-CH-C1001-09.3	0.188		1.11
3107	EN14372	0.189		1.18
3116	CPSC-CH-C1001	0.172		0.07
3117	EN14372	0.229		3.78
3122	CPSC-CH-C1001-09.3	0.175		0.27
3134	in house	0.183		0.79
3150	in house	0.165		-0.38
3151	in house	0.138		-2.14
3153	CPSC-CH-C1001-09.3	0.183		0.79
3154	in house	0.145	C	-1.68 first reported 0.016
3159	EN14372	0.178		0.46
3161	in house	0.172		0.07
3163	in house	0.1721		0.08
3166	in house	0.143		-1.81
3167	EN14372	0.183		0.79
3169	in house	0.246		4.89
3172	CPSC-CH-C1001.09.3	0.19		1.24
3174	CPSC-CH-C1001-09.3	0.140		-2.01
3176	in house	0.174		0.20
3180		0.124		-3.05
3182	CPSC-CH-C1001-09.2	0.1919		1.37
3185	CPSC-CH-C1001-09.3	0.182		0.72
3190	CPSC-CH-C1001-09.3	0.168		-0.19
3192	in house	0.136		-2.27
3197	EN14372	0.130		-2.66
3199	CPSD-AN-0095	0.180		0.59
3208	in house	0.046	DG(0.01)	-8.12
3210		-----		-----
3213	CPSC-CH-C1001-09.1	0.16579		-0.33
3218	CPSC-CH-C1001-09.3	0.17		-0.06
3220	CPSC CH C1001-09.3	0.2		1.89
3225	in house	0.152		-1.23
3226	ISO TC216	0.233		4.04
3233	in house	0.20		1.89
3237	in house	0.1264		-2.89
3238	in house	0.15		-1.36
3239	in house	0.195		1.57
3242	D3421	0.185		0.92
3243	in house	0.19		1.24
3248	in house	0.257		5.60
8005	EN14372	0.168		-0.19
8006	F963	0.170		-0.06
8007	JTSS2002	0.170		-0.06

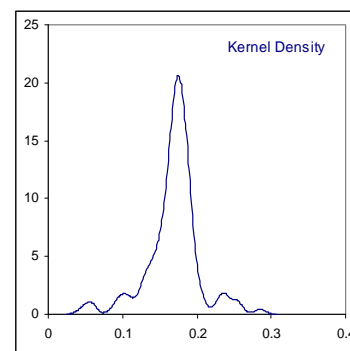
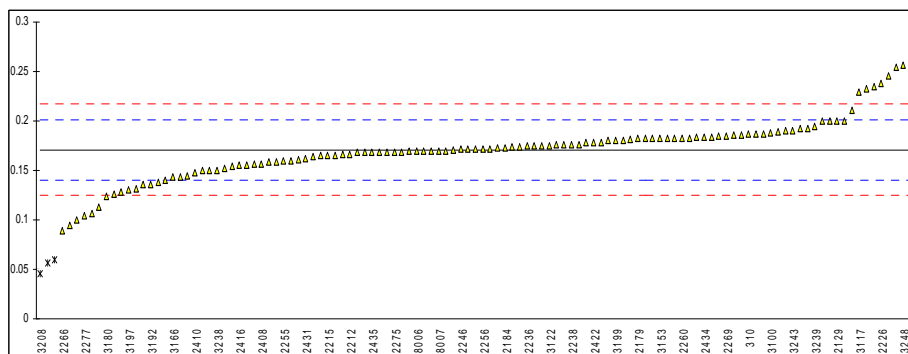
normality	not OK
n	115
outliers	4
mean (n)	0.171
st.dev. (n)	0.0292
R(calc.)	0.082
R(EN14372)	0.043
Compare R(Horwitz)	0.025

Only THF (CPSC) results:

not OK	62
0	0
0.174	0.174
0.0290	0.0290
0.081	0.081
0.043	0.043

All other results:

not OK	53
4	4
0.168	0.168
0.0295	0.0295
0.083	0.083
0.042	0.042



Determination of BBP on sample #11013; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.149		0.58	
330	in house	0.175		2.62	
339	in house	0.131		-0.83	
357		-----		-----	
2102	in house	0.142		0.03	
2104	in house	0.140		-0.13	
2115		-----		-----	
2127		0.1249		-1.31	
2129	EN15777	0.16		1.44	
2132	CPSC-CH-C1001-09.3	0.143		0.11	
2135	in house	0.07	DG(0.05)	-5.62	
2146	in house	0.172		2.38	
2152	in house	0.094	C	-3.74	first reported 0.080
2156	EPA 3540C	0.170		2.23	
2165	CPSC-CH-C1001-09.3	0.135		-0.52	
2172	in house	0.126		-1.23	
2173	CPSC-CH-C1001-09.3	0.1486		0.55	
2179	EN14372	0.2229	C, DG(0.05)	6.38	first reported 0.4310
2182	CPSC-CH-C1001-09.3	0.153		0.89	
2184	CPSC-CH-C1001-09.3	0.130		-0.91	
2190		0.152		0.81	
2196	CPSC-CH-C1001-09.3	0.156		1.13	
2197		0.104		-2.95	
2201	CPSC-CH-C1001-09.3	0.137		-0.36	
2212	CPSC-CH-C1001-09.3	0.130		-0.91	
2215	in house	0.130		-0.91	
2216	CPSC-CH-C1001-09.3	0.107		-2.72	
2225	CPSC-C1001	0.144		0.19	
2226	in house	0.153		0.89	
2227		-----		-----	
2229	in house	0.120		-1.70	
2234	EN14372	0.139		-0.21	
2236	CPSC	0.142		0.03	
2237	in house	0.122		-1.54	
2238	CPSC-CH-C1001-09.3	0.133		-0.68	
2240	CPSC-CH-C1001-09.3	0.158		1.28	
2242	CPSC-CH-C1001-09.2	0.159		1.36	
2246	D3421	0.139		-0.21	
2247	EN14372	0.151		0.74	
2253	CPSC-CH-C1001-09.1	0.130		-0.91	
2255	CPSC-CH-C1001-09.2	0.153	C	0.89	first reported 0.084
2256	EN14372	0.144		0.19	
2258	CPSC-CH-C1001-09.3	0.186		3.48	
2260	CPSC-CH-C1001-09.3	0.154		0.97	
2266	EN15777	0.065	DG(0.05)	-6.01	
2268	CPSC-CH-C1001	0.139		-0.21	
2269		0.185		3.40	
2272	ISO-TS16181	0.0395	DG(0.01)	-8.01	
2275	CPSC-CH-C1001.09	0.134		-0.60	
2277	in house	0.155		1.05	
2279	INH-22048	0.141		-0.05	
2284	CPSC-CH-C1001-09.3	0.139		-0.21	
2289	CPSC-CH-C1001-09.3	0.142		0.03	
2290	CPSC CH C1001-09.3	0.133		-0.68	
2293	CPSC-CH-C1001.09.2	0.107	C	-2.72	first reported 1.490
2295	in house	0.034	DG(0.01)	-8.44	
2304	CPSC-CH-C1001-09.3	0.127		-1.15	
2306	CPSC-CH-C1001-09.2	0.128		-1.07	
2307	CPSC-CH-C1001-09.3	0.126		-1.23	
2401	EN14372	0.1492		0.59	
2408	CPSC-CH-C1001-09.3	0.121		-1.62	
2409	EN14372	0.234	G(0.05)	7.25	
2410	CPSC-CH-C1001-09.3	0.145		0.26	
2412	INH-24613	0.133		-0.68	
2413	CPSC-CH-C1001-09.3	0.240	DG(0.05)	7.72	
2414	CPSC-CH-C1001-09.3	0.151		0.74	
2415	in house	0.139		-0.21	
2416	INH-22048	0.181	C	3.09	first reported 0.205
2417		0.132		-0.76	
2422	INH-1991	0.185		3.40	
2423	CPSC-CH-C1001.09.1	0.167		1.99	
2424	CPSC-CH-1001-09.3	0.156	C	1.13	first reported 0.193
2425	D3421	0.117	C	-1.93	first reported 0.196

2427	CPCS-CH-C1001-09	0.143		0.11
2430		-----		-----
2431	CPSL-CH-C1001.09.3	0.142		0.03
2432	in house	0.13		-0.91
2434	in house	0.177		2.78
2435	EPA3540C+8270D	0.140		-0.13
2436	EN14372	0.136		-0.44
2441	in house	0.15		0.66
3100	CPSC-CH-C1001-09.3	0.140		-0.13
3107	EN14372	0.163		1.68
3116	CPSC-CH-C1001	0.140		-0.13
3117	EN14372	0.143		0.11
3122	CPSC-CH-C1001-09.3	0.159		1.36
3134	in house	0.143		0.11
3150	in house	0.142		0.03
3151	in house	0.107		-2.72
3153	CPSC-CH-C1001-09.3	0.140		-0.13
3154	in house	0.130	C	-0.91 first reported 0.013
3159	EN14372	0.148		0.50
3161	in house	0.337	CG(0.01)	15.33 first reported 0.777
3163	in house	0.0948		-3.67
3166	in house	0.113		-2.25
3167	EN14372	0.125		-1.30
3169	in house	0.212	DG(0.05)	5.52
3172	CPSC-CH-C1001.09.3	0.15		0.66
3174	CPSC-CH-C1001-09.3	0.128		-1.07
3176	in house	0.116		-2.01
3180		0.124		-1.38
3182	CPSC-CH-C1001-09.2	0.1109		-2.41
3185	CPSC-CH-C1001-09.3	0.142		0.03
3190	CPSC-CH-C1001-09.3	0.134		-0.60
3192	in house	0.1		-3.27
3197	EN14372	0.105		-2.87
3199	CPSD-AN-0095	0.144		0.19
3208	in house	0.017	G(0.05)	-9.78
3210		-----		-----
3213	CPSC-CH-C1001-09.1	0.19540	C	4.22 first reported 0.35041
3218	CPSC-CH-C1001-09.3	0.13		-0.91
3220	CPSC CH C1001-09.3	0.2		4.58
3225	in house	0.142		0.03
3226	ISO TC216	0.200		4.58
3233	in house	0.17		2.23
3237	in house	0.1336		-0.63
3238	in house	0.13		-0.91
3239	in house	0.151		0.74
3242	D3421	0.169		2.15
3243	in house	0.13		-0.91
3248	in house	0.247	DG(0.05)	8.27
8005	EN14372	0.142		0.03
8006	F963	0.135		-0.52
8007	JTSS2002	0.139		-0.21

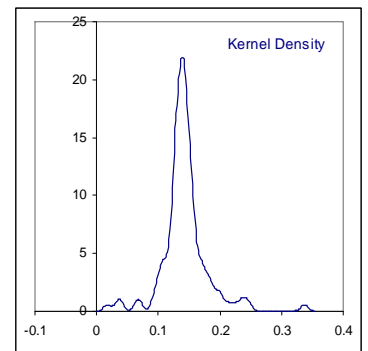
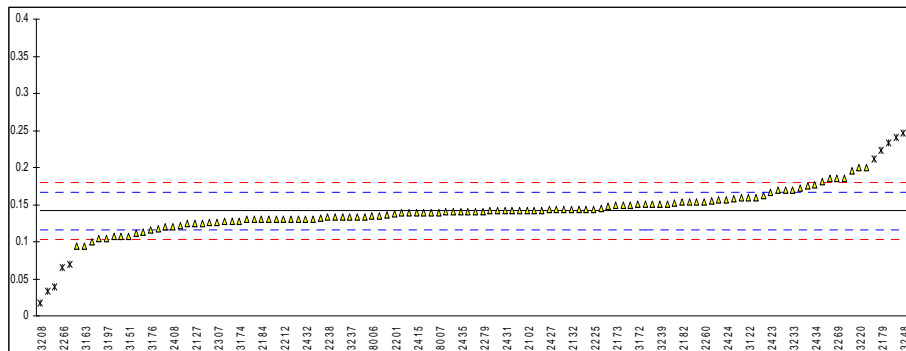
normality	not OK
n	108
outliers	11
mean (n)	0.142
st.dev. (n)	0.0211
R(calc.)	0.059
R(EN14372)	0.036
Compare R(Horwitz)	0.021

Only THF (CPSC) results:

not OK	59
OK	49
outliers	3
mean (n)	0.139
st.dev. (n)	0.0206
R(calc.)	0.058
R(EN14372)	0.036

All other results:

OK	49
outliers	8
mean (n)	0.145
st.dev. (n)	0.0215
R(calc.)	0.060
R(EN14372)	0.037

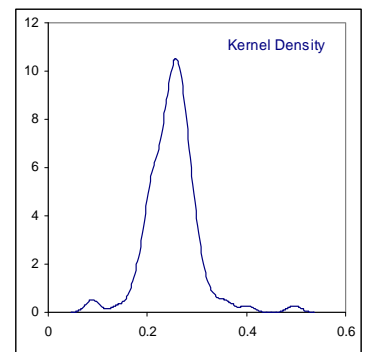
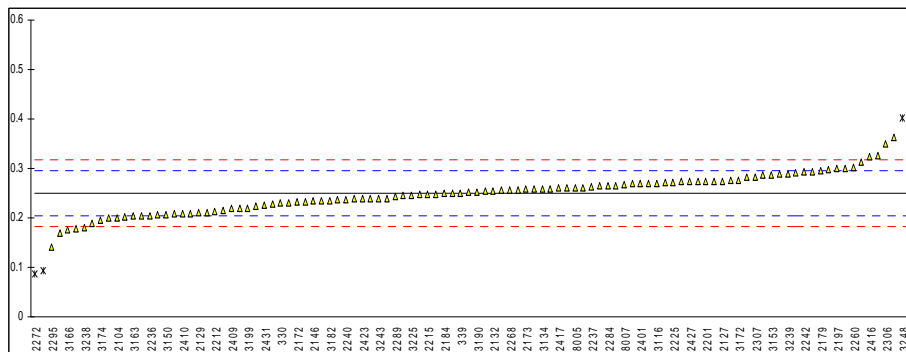


Determination of DIDP-1 on sample #11013; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.266		0.72	
330	in house	0.23		-0.88	
339	in house	0.250		0.01	
357		-----		-----	
2102	in house	0.223		-1.19	reported as sum of DIDP-1 and DIDP-2
2104	in house	0.200		-2.21	
2115		-----		-----	
2127		0.2743		1.09	
2129	EN15777	0.21		-1.77	
2132	CPSC-CH-C1001-09.3	0.255		0.24	
2135	in house	n.d.		-----	false negative? Did also report n.d. for DIDP-2
2146	in house	0.234		-0.70	reported as sum of DIDP-1 and DIDP-2
2152	in house	0.209		-1.81	
2156	EPA 3540C	0.326		3.39	
2165	CPSC-CH-C1001-09.3	0.246		-0.17	
2172	in house	0.232		-0.79	
2173	CPSC-CH-C1001-09.3	0.2579	C	0.36	first reported 0.2038
2179	EN14372	0.2962		2.07	
2182	CPSC-CH-C1001-09.3	0.298		2.15	
2184	CPSC-CH-C1001-09.3	0.249		-0.03	
2190		0.189		-2.70	
2196	CPSC-CH-C1001-09.3	0.291		1.84	
2197		0.299		2.19	
2201	CPSC-CH-C1001-09.3	0.273		1.04	
2212	CPSC-CH-C1001-09.3	0.212		-1.68	
2215	in house	0.248		-0.08	
2216	CPSC-CH-C1001-09.3	0.178		-3.19	
2225	CPSC-C1001	0.272		0.99	
2226	in house	0.313	C	2.82	first reported 0.161
2227		-----		-----	
2229	in house	0.275		1.13	
2234	EN14372	0.248		-0.08	
2236	CPSC	0.205		-1.99	
2237	in house	0.264		0.64	
2238	CPSC-CH-C1001-09.3	0.301		2.28	
2240	CPSC-CH-C1001-09.3	0.237		-0.57	
2242	CPSC-CH-C1001-09.2	0.293		1.93	
2246	D3421	0.256		0.28	
2247	EN14372	0.231		-0.83	
2253	CPSC-CH-C1001-09.1	0.252		0.10	
2255	CPSC-CH-C1001-09.2	0.24		-0.43	
2256	EN14372	0.265		0.68	
2258	CPSC-CH-C1001-09.3	0.237		-0.57	
2260	CPSC-CH-C1001-09.3	0.303		2.37	
2266		-----		-----	
2268	CPSC-CH-C1001	0.256		0.28	
2269		0.259		0.41	
2272	ISO-TS16181	0.0864	G(0.05)	-7.27	
2275	CPSC-CH-C1001.09	0.269		0.86	
2277	in house	0.204		-2.03	
2279	INH-22048	0.254		0.19	
2284	CPSC-CH-C1001-09.3	0.266		0.72	
2289	CPSC-CH-C1001-09.3	0.243		-0.30	
2290		-----		-----	
2293		-----		-----	
2295	in house	0.141		-4.84	
2304	CPSC-CH-C1001-09.3	0.256		0.28	
2306	CPSC-CH-C1001-09.2	0.350		4.46	
2307	CPSC-CH-C1001-09.3	0.283		1.48	
2401	EN14372	0.2693		0.87	
2408	CPSC-CH-C1001-09.3	0.215		-1.54	reported as sum of DIDP-1 and DIDP-2
2409	EN14372	0.219		-1.37	
2410	CPSC-CH-C1001-09.3	0.208		-1.86	
2412	INH-24613	0.248		-0.08	
2413	CPSC-CH-C1001-09.3	0.273		1.04	reported as sum of DIDP-1 and DIDP-2
2414	CPSC-CH-C1001-09.3	0.289		1.75	
2415	in house	0.211		-1.72	
2416	INH-22048	0.325		3.35	reported as sum of DIDP-1 and DIDP-2
2417		0.260		0.46	
2422		-----		-----	
2423	CPSC-CH-C1001.09.1	0.240	C	-0.43	first reported 0.413
2424	CPSC-CH-1001-09.3	0.282		1.44	
2425	D3421	0.272		0.99	

2427	CPCS-CH-C1001-09	0.273		1.04	
2430		-----		-----	
2431	CPSL-CH-C1001.09.3	0.227		-1.01	
2432	in house	0.27		0.90	
2434	in house	0.093	G(0.05)	-6.97	
2435	EPA3540C+8270D	0.258		0.37	
2436	EN14372	0.208		-1.86	
2441	in house	0.24		-0.43	
3100	CPSC-CH-C1001-09.3	0.274		1.08	
3107	EN14372	0.228		-0.97	
3116	CPSC-CH-C1001	0.270		0.90	
3117	EN14372	0.294		1.97	
3122	CPSC-CH-C1001-09.3	0.235		-0.65	
3134	in house	0.258		0.37	
3150	in house	0.207		-1.90	
3151	in house	0.239		-0.48	
3153	CPSC-CH-C1001-09.3	0.287		1.66	
3154		-----		-----	
3159	EN14372	0.203		-2.08	
3161	in house	<0.38		-----	
3163	in house	0.2038		-2.04	reported as sum of DIDP-1 and DIDP-2
3166	in house	0.177		-3.24	
3167	EN14372	0.286		1.61	
3169	in house	0.496	G(0.01)	10.96	
3172	CPSC-CH-C1001.09.3	0.277	C	1.21	first reported 0.34
3174	CPSC-CH-C1001-09.3	0.196		-2.39	
3176	in house	0.25	C	0.01	first reported 0.144
3180		-----		-----	
3182	CPSC-CH-C1001-09.2	0.2353		-0.64	
3185	CPSC-CH-C1001-09.3	0.273		1.04	
3190	CPSC-CH-C1001-09.3	0.253		0.15	
3192		-----		-----	
3197	EN14372	0.206		-1.95	
3199	CPSD-AN-0095	0.220		-1.32	
3208	in house	<0.01		-----	false negative? Did also report <0.01 for DIDP-2
3210		-----		-----	
3213		-----		-----	
3218	CPSC-CH-C1001-09.3	0.26		0.46	
3220	CPSC CH C1001-09.3	0.17		-3.55	
3225	in house	0.246		-0.17	
3226	ISO TC216	0.364		5.09	
3233	in house	0.20		-2.21	
3237	in house	0.2336		-0.72	
3238	in house	0.18		-3.10	reported as sum of DIDP-1 and DIDP-2
3239	in house	0.289		1.75	
3242	D3421	0.22		-1.32	
3243	in house	0.24		-0.43	
3248	in house	0.402	G(0.05)	6.78	
8005	EN14372	0.260		0.46	
8006	F963	0.261		0.50	
8007	JTSS2002	0.268		0.81	

	<u>Only THF (CPSC) results:</u>	<u>All other results:</u>
normality	OK	OK
n	104	48
outliers	4	2
mean (n)	0.250	0.249
st.dev. (n)	0.0381	0.0402
R(calc.)	0.107	0.112
R(EN14372)	0.063	0.063
Compare R(Horwitz)	0.052	

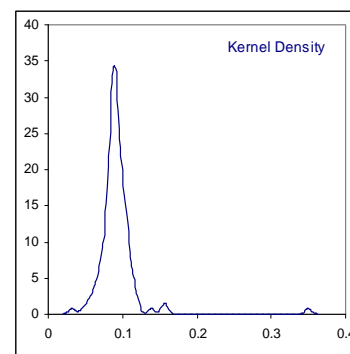
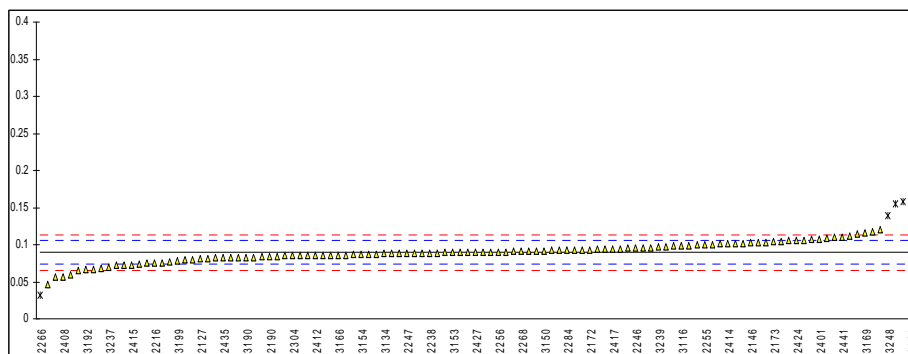


Determination of DNOP on sample #11013; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.097		0.92	
330	in house	0.12		3.78	
339	in house	0.081		-1.06	
357		-----		-----	
2102	in house	0.102		1.54	
2104	in house	0.068		-2.67	
2115		-----		-----	
2127		0.0805		-1.12	
2129	EN15777	0.10		1.30	
2132	CPSC-CH-C1001-09.3	0.102		1.54	
2135	in house	n.d.		-----	
2146	in house	0.103		1.67	
2152	in house	0.082		-0.94	
2156	EPA 3540C	0.114		3.03	
2165	CPSC-CH-C1001-09.3	0.090		0.06	
2172	in house	0.093		0.43	
2173	CPSC-CH-C1001-09.3	0.1038		1.77	
2179	EN14372	0.0745	C	-1.87	first reported 0.1141
2182	CPSC-CH-C1001-09.3	0.095		0.68	
2184	CPSC-CH-C1001-09.3	0.095		0.68	
2190		0.084		-0.69	
2196	CPSC-CH-C1001-09.3	0.118		3.53	
2197		0.087		-0.32	
2201	CPSC-CH-C1001-09.3	0.098		1.05	
2212	CPSC-CH-C1001-09.3	0.0924		0.35	
2215	in house	0.090		0.06	
2216	CPSC-CH-C1001-09.3	0.075		-1.81	
2225	CPSC-C1001	0.092		0.30	
2226	in house	0.093		0.43	
2227		-----		-----	
2229	in house	0.072		-2.18	
2234	EN14372	0.089		-0.07	
2236	CPSC	0.101	C	1.42	first reported 0.504
2237	in house	0.0890		-0.07	
2238	CPSC-CH-C1001-09.3	0.089		-0.07	
2240	CPSC-CH-C1001-09.3	0.084		-0.69	
2242	CPSC-CH-C1001-09.2	0.103		1.67	
2246	D3421	0.095		0.68	
2247	EN14372	0.0881	C	-0.18	first reported 0.127
2253	CPSC-CH-C1001-09.1	0.086		-0.44	
2255	CPSC-CH-C1001-09.2	0.1		1.30	
2256	EN14372	0.090		0.06	
2258	CPSC-CH-C1001-09.3	0.158	G(0.01)	8.49	
2260	CPSC-CH-C1001-09.3	0.108		2.29	
2266	EN15777	0.032	G(0.05)	-7.14	
2268	CPSC-CH-C1001	0.091		0.18	
2269		0.066		-2.92	
2272	ISO-TS16181	n.d.		-----	
2275	CPSC-CH-C1001.09	0.090		0.06	
2277	in house	0.094		0.55	
2279	INH-22048	0.091		0.18	
2284	CPSC-CH-C1001-09.3	0.093		0.43	
2289	CPSC-CH-C1001-09.3	0.093		0.43	
2290	CPSC CH C1001-09.3	0.085		-0.57	
2293	CPSC-CH-C1001.09.2	0.065	C	-3.05	first reported 0.792
2295	in house	0.047		-5.28	
2304	CPSC-CH-C1001-09.3	0.085		-0.57	
2306	CPSC-CH-C1001-09.2	0.106		2.04	
2307	CPSC-CH-C1001-09.3	0.107		2.16	
2401	EN14372	0.1078		2.26	
2408	CPSC-CH-C1001-09.3	0.056		-4.16	
2409	EN14372	0.085		-0.57	
2410	CPSC-CH-C1001-09.3	0.087		-0.32	
2412	INH-24613	0.0852		-0.54	
2413	CPSC-CH-C1001-09.3	0.085		-0.57	
2414	CPSC-CH-C1001-09.3	0.101		1.42	
2415	in house	0.073		-2.05	
2416	INH-22048	0.106		2.04	
2417		0.094		0.55	
2422	INH-1991	0.094		0.55	
2423	CPSC-CH-C1001.09.1	0.103		1.67	
2424	CPSC-CH-1001-09.3	0.106		2.04	
2425	D3421	0.076	C	-1.68	first reported 0.064

2427	CPCS-CH-C1001-09	0.090		0.06
2430		-----		-----
2431	CPSL-CH-C1001.09.3	0.088		-0.19
2432	in house	0.08		-1.19
2434	in house	0.111		2.66
2435	EPA3540C+8270D	0.082		-0.94
2436	EN14372	0.082		-0.94
2441	in house	0.11		2.54
3100	CPSC-CH-C1001-09.3	0.093		0.43
3107	EN14372	0.086		-0.44
3116	CPSC-CH-C1001	0.098		1.05
3117	EN14372	0.110		2.54
3122	CPSC-CH-C1001-09.3	0.105		1.92
3134	in house	0.088		-0.19
3150	in house	0.092		0.30
3151	in house	0.082		-0.94
3153	CPSC-CH-C1001-09.3	0.090		0.06
3154	in house	0.087	C	-0.32 first reported '-'
3159	EN14372	0.083		-0.81
3161	in house	0.350	C, G(0.01)	32.31 first reported 0.117
3163	in house	0.0560		-4.16
3166	in house	0.086		-0.44
3167	EN14372	0.0765		-1.62
3169	in house	0.116		3.28
3172	CPSC-CH-C1001.09.3	0.09		0.06
3174	CPSC-CH-C1001-09.3	0.086		-0.44
3176	in house	0.087		-0.32
3180		0.073		-2.05
3182	CPSC-CH-C1001-09.2	0.0888		-0.09
3185	CPSC-CH-C1001-09.3	0.098		1.05
3190	CPSC-CH-C1001-09.3	0.082		-0.94
3192	in house	0.066		-2.92
3197	EN14372	0.075		-1.81
3199	CPSD-AN-0095	0.0777		-1.47
3208	in house	<0.01		-----
3210		-----		-----
3213	CPSC-CH-C1001-09.1	0.08368		-0.73
3218	CPSC-CH-C1001-09.3	0.10		1.30
3220	CPSC CH C1001-09.3	n.d.		-----
3225	in house	0.088		-0.19
3226	ISO TC216	0.155	G(0.01)	8.12
3233	in house	0.08		-1.19
3237	in house	0.0692		-2.53
3238	in house	0.09		0.06
3239	in house	0.097		0.92
3242	D3421	0.09		0.06
3243	in house	0.06		-3.67
3248	in house	0.139	G(0.05)	6.13
8005	EN14372	0.094		0.55
8006	F963	0.092		0.30
8007	JTSS2002	0.096		0.80

	Only THF (CPSC) results:	All other results:
normality	OK	OK
n	110	51
outliers	5	3
mean (n)	0.090	0.089
st.dev. (n)	0.0132	0.0145
R(calc.)	0.037	0.041
R(EN14372)	0.023	0.023
Compare R(Horwitz)	0.014	



Determination of DEHP on sample #11013; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.293		0.75	
330	in house	0.32		1.85	
339	in house	0.240		-1.39	
357		-----		-----	
2102	in house	0.305		1.24	
2104	in house	0.320		1.85	
2115		-----		-----	
2127		0.3520		3.14	
2129	EN15777	0.27		-0.18	
2132	CPSC-CH-C1001-09.3	0.289		0.59	
2135	in house	0.07	DG(0.01)	-8.28	
2146	in house	0.267		-0.30	
2152	in house	0.314	C	1.60	first reported 0.369
2156	EPA 3540C	0.298	C	0.96	first reported 0.413
2165	CPSC-CH-C1001-09.3	0.280		0.23	
2172	in house	0.259		-0.62	
2173	CPSC-CH-C1001-09.3	0.2785		0.17	
2179	EN14372	0.2837	C	0.38	first reported 0.3587
2182	CPSC-CH-C1001-09.3	0.305		1.24	
2184	CPSC-CH-C1001-09.3	0.275		0.02	
2190		0.264		-0.42	
2196	CPSC-CH-C1001-09.3	0.311		1.48	
2197		0.227		-1.92	
2201	CPSC-CH-C1001-09.3	0.296		0.87	
2212	CPSC-CH-C1001-09.3	0.302		1.12	
2215	in house	0.256		-0.74	
2216	CPSC-CH-C1001-09.3	0.216		-2.36	
2225	CPSC-C1001	0.278		0.15	
2226	in house	0.283		0.35	
2227		-----		-----	
2229	in house	0.265		-0.38	
2234	EN14372	0.282		0.31	
2236	CPSC	0.262		-0.50	
2237	in house	0.204		-2.85	
2238	CPSC-CH-C1001-09.3	0.284		0.39	
2240	CPSC-CH-C1001-09.3	0.325		2.05	
2242	CPSC-CH-C1001-09.2	0.261		-0.54	
2246	D3421	0.281		0.27	
2247	EN14372	0.247		-1.11	
2253	CPSC-CH-C1001-09.1	0.247		-1.11	
2255	CPSC-CH-C1001-09.2	0.24		-1.39	
2256	EN14372	0.271		-0.14	
2258	CPSC-CH-C1001-09.3	0.373		3.99	
2260	CPSC-CH-C1001-09.3	0.307		1.32	
2266	EN15777	0.072	DG(0.01)	-8.20	
2268	CPSC-CH-C1001	0.253		-0.87	
2269		0.285		0.43	
2272	ISO-TS16181	0.0809	G(0.01)	-7.84	
2275	CPSC-CH-C1001.09	0.278		0.15	
2277	in house	0.288		0.55	
2279	INH-22048	0.282		0.31	
2284	CPSC-CH-C1001-09.3	0.288		0.55	
2289	CPSC-CH-C1001-09.3	0.280		0.23	
2290	CPSC CH C1001-09.3	0.268		-0.26	
2293	CPSC-CH-C1001.09.2	0.208	C	-2.69	first reported 2.221
2295	in house	0.080	G(0.01)	-7.87	
2304	CPSC-CH-C1001-09.3	0.290		0.63	
2306	CPSC-CH-C1001-09.2	0.297		0.92	
2307	CPSC-CH-C1001-09.3	0.278		0.15	
2401	EN14372	0.2589		-0.63	
2408	CPSC-CH-C1001-09.3	0.234		-1.64	
2409	EN14372	0.450	DG(0.05)	7.11	
2410	CPSC-CH-C1001-09.3	0.240		-1.39	
2412	INH-24613	0.2799		0.22	
2413	CPSC-CH-C1001-09.3	0.353		3.18	
2414	CPSC-CH-C1001-09.3	0.306		1.28	
2415	in house	0.259		-0.62	
2416	INH-22048	0.337		2.54	
2417		0.278		0.15	
2422	INH-1991	0.286		0.47	
2423	CPSC-CH-C1001.09.1	0.324		2.01	
2424	CPSC-CH-1001-09.3	0.302		1.12	
2425	D3421	0.342		2.74	

2427	CPCS-CH-C1001-09	0.272		-0.10
2430		-----		-----
2431	CPSL-CH-C1001.09.3	0.262		-0.50
2432	in house	0.26		-0.58
2434	in house	0.232		-1.72
2435	EPA3540C+8270D	0.270		-0.18
2436	EN14372	0.245		-1.19
2441	in house	0.26		-0.58
3100	CPSC-CH-C1001-09.3	0.297		0.92
3107	EN14372	0.315		1.64
3116	CPSC-CH-C1001	0.275		0.02
3117	EN14372	0.301		1.08
3122	CPSC-CH-C1001-09.3	0.232		-1.72
3134	in house	0.282		0.31
3150	in house	0.263		-0.46
3151	in house	0.245		-1.19
3153	CPSC-CH-C1001-09.3	0.282		0.31
3154	in house	0.251	C	-0.95 first reported 0.014
3159	EN14372	0.230		-1.80
3161	in house	0.229		-1.84
3163	in house	0.2303		-1.79
3166	in house	0.242		-1.31
3167	EN14372	0.246		-1.15
3169	in house	0.442	G(0.05)	6.79
3172	CPSC-CH-C1001.09.3	0.28		0.23
3174	CPSC-CH-C1001-09.3	0.225		-2.00
3176	in house	0.257		-0.70
3180		0.241		-1.35
3182	CPSC-CH-C1001-09.2	0.2553		-0.77
3185	CPSC-CH-C1001-09.3	0.287		0.51
3190	CPSC-CH-C1001-09.3	0.290		0.63
3192	in house	0.176		-3.98
3197	EN14372	0.260		-0.58
3199	CPSD-AN-0095	0.293		0.75
3208	in house	0.046	G(0.05)	-9.25
3210		-----		-----
3213	CPSC-CH-C1001-09.1	0.21992		-2.21
3218	CPSC-CH-C1001-09.3	0.28		0.23
3220	CPSC CH C1001-09.3	0.43	G(0.01)	6.30
3225	in house	0.251		-0.95
3226	ISO TC216	0.433	G(0.01)	6.42
3233	in house	0.35		3.06
3237	in house	0.2796		0.21
3238	in house	0.23		-1.80
3239	in house	0.301		1.08
3242	D3421	0.26		-0.58
3243	in house	0.31		1.44
3248	in house	0.471	DG(0.05)	7.96
8005	EN14372	0.268		-0.26
8006	F963	0.278		0.15
8007	JTSS2002	0.270		-0.18

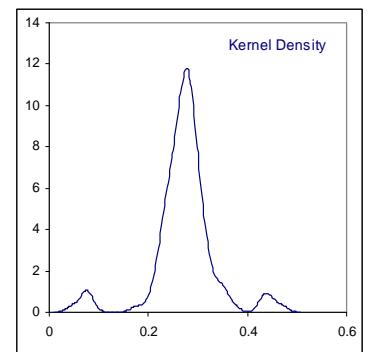
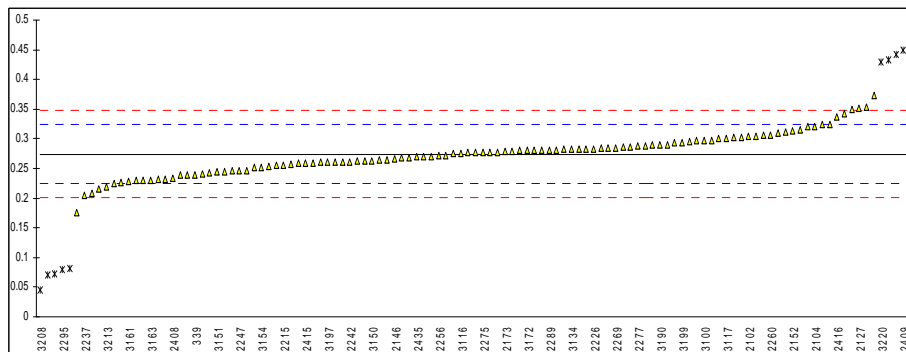
normality	OK
n	109
outliers	10
mean (n)	0.274
st.dev. (n)	0.0335
R(calc.)	0.094
R(EN14372)	0.069
Compare R(Horwitz)	0.037

Only THF (CPSC) results:

OK
59
3
0.276
0.0335
0.094
0.069

All other results:

OK
50
7
0.272
0.0337
0.094
0.069

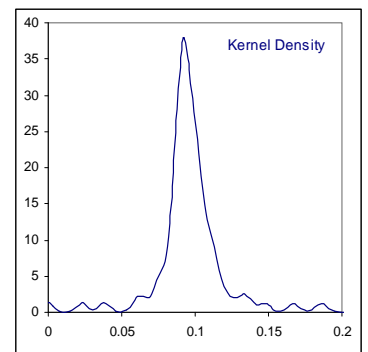
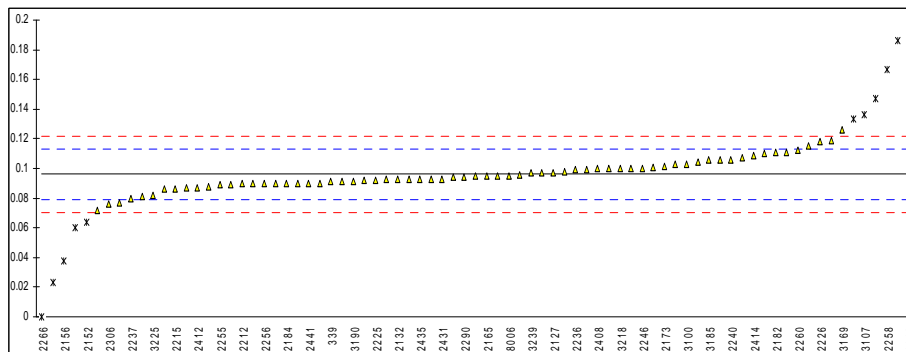


Determination of DHP on sample #11013; results in %M/M

lab	method	value	mark	z(targ)	remarks
310	in house	0.095		-0.13	
330		----		----	
339	in house	0.091		-0.59	
357		----		----	
2102		----		----	
2104	in house	0.110		1.61	
2115		----		----	
2127		0.0971		0.12	
2129		----		----	
2132	CPSC-CH-C1001-09.3	0.093		-0.36	
2135	in house	n.d.		----	
2146		----		----	
2152	in house	0.064	DG(0.05)	-3.71	
2156	EPA 3540C	0.038	G(0.01)	-6.72	
2165	CPSC-CH-C1001-09.3	0.095		-0.13	
2172	in house	0.089		-0.82	
2173	CPSC-CH-C1001-09.3	0.1016		0.64	
2179		----		----	
2182	CPSC-CH-C1001-09.3	0.111		1.72	
2184	CPSC-CH-C1001-09.3	0.090		-0.70	
2190		----		----	
2196	CPSC-CH-C1001-09.3	0.111		1.72	
2197		----		----	
2201	CPSC-CH-C1001-09.3	0.103		0.80	
2212	CPSC-CH-C1001-09.3	0.0895		-0.76	
2215	in house	0.086		-1.17	
2216	CPSC-CH-C1001-09.3	0.072		-2.79	
2225	CPSC-C1001	0.092		-0.47	
2226	in house	0.118		2.53	
2227		----		----	
2229	in house	0.077		-2.21	
2234	EN14372	0.093		-0.36	
2236	CPSC	0.099	C	0.34	first reported 0.495
2237	in house	0.0798		-1.88	
2238	CPSC-CH-C1001-09.3	0.095		-0.13	
2240	CPSC-CH-C1001-09.3	0.106		1.15	
2242		----		----	
2246	D3421	0.100		0.45	
2247	EN14372	0.115		2.19	
2253	CPSC-CH-C1001-09.1	0.090		-0.70	
2255	CPSC-CH-C1001-09.2	0.089		-0.82	
2256	EN14372	0.090		-0.70	
2258	CPSC-CH-C1001-09.3	0.167	G(0.05)	8.20	
2260	CPSC-CH-C1001-09.3	0.112		1.84	
2266	EN15777	0.000	G(0.01)	-11.11	
2268	CPSC-CH-C1001	0.091		-0.59	
2269		----		----	
2272		----		----	
2275	CPSC-CH-C1001.09	0.096		-0.01	
2277	in house	0.104		0.92	
2279	INH-22048	0.090		-0.70	
2284	CPSC-CH-C1001-09.3	0.093		-0.36	
2289	CPSC-CH-C1001-09.3	0.092		-0.47	
2290	CPSC CH C1001-09.3	0.094		-0.24	
2293	CPSC-CH-C1001.09.2	0.953	C, G(0.01)	99.09	first reported 9.121
2295	in house	0.023	G(0.01)	-8.45	
2304		----		----	
2306	CPSC-CH-C1001-09.2	0.076		-2.32	
2307	CPSC-CH-C1001-09.3	0.107		1.26	
2401		----		----	
2408	CPSC-CH-C1001-09.3	0.100		0.45	
2409		----		----	
2410	CPSC-CH-C1001-09.3	0.099		0.34	
2412	INH-24613	0.0871		-1.04	
2413		----		----	
2414	CPSC-CH-C1001-09.3	0.109		1.49	
2415		----		----	
2416	INH-22048	0.119		2.65	
2417		0.093		-0.36	
2422		----		----	
2423		----		----	
2424		----		----	
2425	D3421	0.133	DG(0.05)	4.27	

2427	CPCS-CH-C1001-09	0.087		-1.05
2430		-----		-----
2431	CPSL-CH-C1001.09.3	0.093		-0.36
2432		-----		-----
2434	in house	0.106		1.15
2435	EPA3540C+8270D	0.093		-0.36
2436	EN14372	0.186	G(0.01)	10.40
2441	in house	0.09		-0.70
3100	CPSC-CH-C1001-09.3	0.103		0.80
3107	EN14372	0.136	DG(0.05)	4.62
3116	CPSC-CH-C1001	0.101		0.57
3117	EN14372	0.097		0.11
3122	CPSC-CH-C1001-09.3	0.090	C	-0.70 first reported 0.232
3134		-----		-----
3150		-----		-----
3151	in house	0.086		-1.17
3153		-----		-----
3154		-----		-----
3159		-----		-----
3161	in house	n.d.		-----
3163		-----		-----
3166	in house	0.081		-1.74
3167		-----		-----
3169	in house	0.126		3.46
3172	CPSC-CH-C1001.09.3	0.10		0.45
3174		-----		-----
3176		-----		-----
3180		-----		-----
3182	CPSC-CH-C1001-09.2	0.0877		-0.97
3185	CPSC-CH-C1001-09.3	0.106		1.15
3190	CPSC-CH-C1001-09.3	0.091		-0.59
3192		-----		-----
3197	EN14372	0.060	DG(0.05)	-4.17
3199	CPSD-AN-0095	0.0940		-0.24
3208		-----		-----
3210		-----		-----
3213		-----		-----
3218	CPSC-CH-C1001-09.3	0.10		0.45
3220	CPSC CH C1001-09.3	n.d.		-----
3225	in house	0.082		-1.63
3226		-----		-----
3233		-----		-----
3237		-----		-----
3238		-----		-----
3239	in house	0.097		0.11
3242		-----		-----
3243	in house	0.09		-0.70
3248	in house	0.147	G(0.05)	5.89
8005	EN14372	0.100		0.45
8006	F963	0.095		-0.13
8007	JTSS2002	0.098		0.22

	Only THF (CPSC) results:	All other results:
normality	OK	not OK
n	68	28
outliers	11	7
mean (n)	0.096	0.095
st.dev. (n)	0.0103	0.0102
R(calc.)	0.029	0.029
R(EN14372)	0.024	0.024
Compare R(Horwitz)	0.015	



Determination of DIDP-2 and DiBP on sample #11013; results in %M/M

lab	method	DIDP-2	mark	DiBP	mark	remarks
310		----		----		
330	in house	----		<0.01		
339	in house	----		<0.01		
357		----		----		
2102		----		----		
2104	in house	----		<0.001		
2115		----		----		
2127		----		0.0007		
2129		----		----		
2132	CPSC-CH-C1001-09.3	n.d.		n.d.		
2135	in house	n.d.		n.d.		
2146		----		----		
2152	in house	----		<0.075		
2156	EPA 3540C	----		0.014	DG(0.01)	
2165	CPSC-CH-C1001-09.3	n.d.		n.d.		
2172	in house	----		n.d.		
2173	CPSC-CH-C1001-09.3	----		<0.0030		
2179		----		----		
2182	CPSC-CH-C1001-09.3	----		n.d.		
2184	CPSC-CH-C1001-09.3	n.d.		n.d.		
2190		----		----		
2196		----		----		
2197		----		0.002		
2201	CPSC-CH-C1001-09.3	----		<0.010		
2212		----		----		
2215	in house	n.d.		n.d.		
2216	CPSC-CH-C1001-09.3	<0.05		<0.05		
2225	CPSC-C1001	----		<0.010		
2226		----		----		
2227		----		----		
2229	in house	<0.010		<0.010		
2234	EN14372	----		<0.006		
2236		----		----		
2237	in house	----		0.0003		
2238	CPSC-CH-C1001-09.3	<0.010		<0.010		
2240	CPSC-CH-C1001-09.3	----		0.000		
2242		----		----		
2246	D3421	<0.010		<0.010		
2247	EN14372	----		<0.005		
2253		----		----		
2255		----		----		
2256	EN14372	n.d.		n.d.		
2258		----		----		
2260	CPSC-CH-C1001-09.3	<0.005		<0.005		
2266	EN15777	0.073		0.000		
2268		----		----		
2269		----		----		
2272	ISO-TS16181	----		n.d.		
2275	CPSC-CH-C1001.09	----		<0.010		
2277		----		----		
2279	INH-22048	----		n.d.		
2284		----		----		
2289		----		----		
2290	CPSC CH C1001-09.3	0.252		n.d.		
2293		----		----		
2295	in house	----		0.0008		
2304		n.d.		----		
2306		<0.010		----		
2307		----		----		
2401		----		----		
2408	CPSC-CH-C1001-09.3	----		0.015	DG(0.01)	
2409		----		----		
2410	CPSC-CH-C1001-09.3	----		<0.01		
2412	INH-24613	0.248		n.d.		
2413		----		----		
2414	CPSC-CH-C1001-09.3	----		<0.005		
2415	in house	----		n.d.		
2416	INH-22048	----		<0.002		
2417		----		0.001		
2422		----		----		
2423		----		----		
2424		----		----		
2425	D3421	----		n.d.		

2427	CPSC-CH-C1001-09	----	<0.03	
2430		----	----	
2431		----	----	
2432		----	----	
2434	in house	0.000	0.000	
2435	EPA3540C+8270D	----	<0.005	
2436		----	----	
2441	in house	----	n.d.	
3100	CPSC-CH-C1001-09.3	----	<0.010	
3107	EN14372	n.d.	0.002	
3116	CPSC-CH-C1001	----	n.d.	
3117		----	----	
3122	CPSC-CH-C1001-09.3	n.d.	n.d.	
3134		----	----	
3150		----	----	
3151	in house	----	<0.005	
3153		----	----	
3154		----	----	
3159		----	----	
3161	in house	<0.38	n.d.	
3163		----	----	
3166		----	----	
3167		----	----	
3169	in house	----	<0.005	
3172	CPSC-CH-C1001.09.3	----	<0.01	
3174		----	----	
3176		----	----	
3180		----	----	
3182	CPSC-CH-C1001-09.2	<0.0100	<0.0100	
3185	CPSC-CH-C1001-09.3	----	<0.010	
3190	CPSC-CH-C1001-09.3	<0.010	<0.010	
3192	in house	----	<0.028	
3197		----	----	
3199		----	----	
3208	in house	<0.01	----	
3210		----	----	
3213	CPSC-CH-C1001-09.1	----	0.00091	
3218		----	----	
3220	CPSC CH C1001-09.3	n.d.	n.d.	
3225		----	----	
3226	ISO TC216	----	0.0007	
3233	in house	----	n.d.	
3237		----	----	
3238		----	----	
3239	in house	----	0.025	G(0.05)
3242		----	----	
3243	in house	<0.05	<0.05	
3248	in house	n.d.	0.006	
8005	EN14372	----	n.d.	
8006	F963	----	n.d.	
8007	JTSS2002	----	n.d.	
	normality	unknown	not OK	
	n	4	12	
	outliers	0	3	
	mean (n)	n.a.	0.0012	
	st.dev. (n)	n.a.	0.00166	
	R(calc.)	n.a.	0.0046	
	R(EN14372)	n.a.	(0.0003)	

APPENDIX 2

Method information

lab	Type(s) of plastic identified	Identification Technique	Extraction Technique	Solvent used
310	no	not performed	overnight	THF
330			Soxhlet	chloroform/methanol
339				
357	no		Soxhlet	DEE
2102	PVC	FTIR	ultrasonic	THF
2104			shaking at RT	dichloromethane
2115				
2127			shaking at RT	Ethyl Acetate
2129			ultrasonic	THF
2132	PVC	FTIR		THF
2135			Soxhlet	hexane
2146			Soxhlet	DEE
2152	PVC	FTIR		THF
2156	PVC	FTIR	Soxhlet	dichloromethane
2165	no		heating block	organic solvent
2172	PVC	FTIR	ultrasonic	THF
2173	PVC	FTIR		THF
2179	PVC	FTIR	Soxhlet	toluene
2182			ultrasonic	THF
2184	no		ultrasonic	MTBE/acetone
2190	PVC	FTIR	ASE	none
2196			ultrasonic	hexane
2197	PVC	Beilstein		THF
2201	PVC	FTIR		THF
2212				THF
2215	PVC	FTIR	ultrasonic	THF
2216	PVC	FTIR		THF
2225	no		ultrasonic	THF
2226			Microwave	THF
2227				
2229			ultrasonic	chloroform
2234			Soxhlet	DEE
2236			ultrasonic	THF
2237			ultrasonic	DMF/toluene
2238	PVC	FTIR	shaking at RT	THF
2240			ultrasonic	THF
2242				THF
2246			Soxhlet	chloroform/methanol
2247	PVC	FTIR	Soxhlet	DEE
2253	PVC	FTIR		THF
2255			ultrasonic	THF
2256	PVC	FTIR	Soxhlet	DEE
2258	no		ultrasonic	Acetonitril/THF
2260				
2266	PVC/PVA	FTIR	Randall extractor	hexane
2268			ultrasonic	THF
2269			Soxhlet	dichloromethane
2272			ultrasonic	acetone
2275	PVC	fire	shaking at RT	THF
2277	PET	GC/MS-EI+	ultrasonic	dichloromethane
2279			Soxhlet	dichloromethane
2284			ultrasonic	THF
2289				THF
2290				THF
2293	PVC	Beilstein	ultrasonic	THF
2295			ultrasonic	chloroform
2304	PVC	FTIR		THF
2306			ultrasonic	THF
2307			ultrasonic	THF
2401				
2408	PVC	FTIR		THF
2409	PP/PE	GC/MS	Soxhlet	DEE
2410	PVC	FTIR		THF
2412	PVC		Soxhlet	dichloromethane

2413			ultrasonic	THF
2414				
2415			ultrasonic	chloroform
2416	PVC	FTIR	Soxhlet	toluene
2417	PVC	FTIR	Soxhlet	Ethyl Acetate
2422	PVC	FTIR	ultrasonic	dichloromethane
2423				THF
2424			ultrasonic	MTBE/acetone
2425	PVC	FTIR	ultrasonic	dichloromethane
2427				THF
2430				
2431	PVC	FTIR	ultrasonic	THF
2432			ultrasonic	THF
2434			Soxhlet	DEE
2435	PVC	FTIR	Soxhlet	methanol/chloroform
2436	PVC	FTIR	Soxhlet	DEE
2441			ultrasonic	methanol/dichloromethane
3100				THF
3107			Soxhlet	DEE
3116	PVC	FTIR	ultrasonic	THF
3117			Soxhlet	dichloromethane
3122	PVC	FTIR	Microwave	methanol
3134	PVC	FTIR		THF
3150			ultrasonic	toluene
3151	PVC	FTIR	ultrasonic	methanol/THF
3153	PVC	FTIR		THF
3154			ultrasonic	hexane
3159	PVC	FTIR	Soxhlet	DEE
3161	PVC	FTIR	Soxhlet	acetone
3163				THF
3166			ultrasonic	dichloromethane
3167			Soxhlet	DEE
3169				THF
3172				
3174	PVC	Beilstein		THF
3176	PVC	FTIR	ultrasonic	acetonitril
3180			ultrasonic	THF
3182				THF
3185				THF
3190	PVC	FTIR	shaking at RT	THF
3192	PVC	FTIR	ultrasonic	DEE
3197	PVC	FTIR	ultrasonic	DEE
3199			ultrasonic	acetonitril/THF
3208			80°C	methanol
3210			ultrasonic	acetone/hexane
3213			ultrasonic	acetonitril/THF
3218	PVC	FTIR	ultrasonic	THF
3220		FTIR	ultrasonic	THF
3225			ultrasonic	chloroform
3226	PVC	FTIR	ultrasonic	acetone/hexane
3233			ultrasonic	acetonitril/THF
3237			ultrasonic	acetonitril/THF
3238	PVC	with copper		THF
3239	PVC/PVA	FTIR	Soxhlet	dichloromethane
3242	PVC	FTIR	Soxhlet	dichloromethane
3243	PVC	ATR	ultrasonic	dichloromethane
3248	PVC	FTIR	ultrasonic	THF
8005	PVC	FTIR	Soxhlet	DEE
8006	PVC	FTIR	Soxhlet	dichloromethane
8007	PVC	FTIR	shaking at RT	acetone/hexane

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

1 lab in AUSTRIA
2 labs in BANGLADESH
1 lab in CANADA
1 lab in CROATIA
1 lab in DENMARK
2 labs in FINLAND
7 labs in FRANCE
11 labs in GERMANY
1 lab in GREECE
2 labs in GUATEMALA
17 labs in HONG KONG
3 labs in INDIA
1 lab in INDONESIA
3 labs in ITALY
1 lab in JAPAN
3 labs in KOREA
1 lab in MALAYSIA
2 labs in MEXICO
36 labs in P.R. of CHINA
1 lab in SERBIA
1 lab in SINGAPORE
2 labs in SPAIN
1 lab in SWITZERLAND
4 labs in THAILAND
3 labs in THE NETHERLANDS
4 labs in TURKEY
9 labs in U.S.A.
1 lab in UNITED KINGDOM
2 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 (1998).
- 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 (see <http://www.rsc.org/suppdata/an/b2/b205600n/>)
- 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)