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iis memo 2302: Reproducibility of Pesticides in Textile in iis PTs

Proficiency tests for the determination of Pesticides in Textile have been organized by the Institute for Interlaboratory Studies (iis) since 2004.
Unfortunately, a suitable reference test method, providing the precision data, is not available for determination of Pesticides in Textile. As alternative iis had used an estimated target reproducibility calculated with the Horwitz equation combined with the group uncertainty. Unfortunately, this could give a quite strict target value for the reproducibility.
Therefore, iis decided to use the iis PT data gathered from 2007 to 2021 to estimate a more realistic target reproducibility for the evaluation of the quality of the test results for the determination of Pesticides in Textile. Furthermore, it was decided to use the same target reproducibility for all Pesticides.

The **average relative standard deviation** over 2007-2021 iis PTs for Textile is **33%**. The relative standard deviations over the iis PTs for Pesticides are given in Appendix 1.

The estimated target reproducibilities can be calculated as follows: mean * iis target variation (RSD) * 2.8.

For future PTs on the determination of Pesticides in Textile, starting from 2022 PT iis22T11 iis will use the estimated target reproducibilities as mentioned in this memo (iis memo 2302).

Appendix 1

year	component	RSD (%)
2021	Dichlorprop	16
2020	Cholorophenoxy Acids, 2,4-D	16
2020	Pyrethroids, Deltamethrin	33
2018	alpha-Endosulfan I	23
2018	beta-Endosulfan II	18
2018	Quinalphos	38
2018	alpha-Endosulfan I	28
2018	beta-Endosulfan II	34
2018	Quinalphos	35
2016	alpha-Endosulfan	30
2016	beta-Endosulfan	27
2016	Quinalphos	32
2016	Carbaryl	39
2016	alpha-Endosulfan	41
2016	beta-Endosulfan	47
2016	Parathion	61
2016	Quinalphos	52
2014	4,4'-DDD	29
2014	Methoxychlor	35
2014	Dimethoate	54
2013	Cypermethrin	26
2013	Deltamethrin	16
2012	Cypermethrin	28
2012	Esfenvalerate	41
2012	Fenvalerate	28
2012	Monocrotophos	38
2012	Esfenvalerate	22
2012	Fenvalerate	13
2012	Lambda-cyhalothrin	45
2011	Deltamethrin	12
2011	alpha-Endosulfan	41
2011	beta-Endosulfan	50
2011	Methoxychlor	22
2011	Quinalfos	39
2011	alpha-Endosulfan	33
2011	beta-Endosulfan	27
2011	Quinalfos	24
2010	Cypermethrin (=Σ)	15
2010	alpha-Endosulfan	15

year	component	RSD (%)
2010	beta-Endosulfan	20
2010	Quinalfos	24
2010	Carbaryl	52
2010	Parathion	73
2010	4.4-DDD	38
2010	Methoxychlor	28
2010	Esfenvalerate	42
2010	Fenvalerate	11
2010	Lambda-cyhalothrin	41
2009	Endosulfan	21
2009	Fenvalerate	24
2009	Dimethoate	35
2009	Fenvalerate	37
2009	Methyl-parathion	73
2008	Cyhalothrin-lambda	35
2008	Fenvalerate	32
2008	Deltamethrin	37
2008	Methoxychlor	14
2007	Endosulfan	21
2007	Quinalfos	45
2007	Cypermetrin	27
2007	Monocrotophos	74
2007	Quinalfos	44
average		**33**

Table 1: Relative standard deviation (RSD) from 2021-2007 pesticides in textile iis PTs