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Details of the joint PT exercise on Selected Pesticides relevant for the WFD in the frame of the joint PT-WFD programme 2009

(last update: 2009-05-18)

1 Mission of the PT-WFD network

PT-WFD is a self committed network of European PT providers who are active and experienced in the field of PTs with relevance to the Water Framework Directive. The PT-WFD network is somewhat a spin-off of the European EAQC-WISE project

EAQC – WISE

European Analytical Quality Control in support of the Water Framework Directive via the Water Information System for Europe

EAQC-WISE was an EC FP6 funded project under the contract N°022603 (STREP)

The objective of the "Network of PT providers to support implementation of the Water Framework Directive" (PT-WFD) is to provide harmonised PT schemes that meet the specific requirements of the WFD and are run and evaluated in a harmonised and comparable way.

2 Aim of the PT

To check the chemical analysis of priority and other substances in the context of chemical monitoring for the European Water Framework Directive (WFD), especially for compliance of surface waters with Environmental Quality Standards (EQS).

3 Matrix

Surface water (not containing suspended particulate matter, SPM)

4 Parameters to be analysed

Parameter [a)]	**AA-EQS value** (inland surface water)
Alachlor	0.3
Atrazine	0.6
Simazine	1
Chlorfenvinphos	0.1
Chlorpyrifos (Chlorpyrifos-ethyl)	0.03
Cyclodiene pesticides: - Aldrin - Dieldrin - Endrin - Isodrin	Σ=0.01
DDT total*	0.025
para-para-DDT	0.01
Hexachlorobenzene	0.01
Pentachlorobenzene	0.007
Trifluralin [a)]	0.03
Alfa-Endosulfan Beta-Endosulfan	Σ=0.005

* comprising op'-DDT, pp'-DDT, pp'-DDD, and pp'-DDE

a) It is checked that all parameters provided in the PT fit in general to one analytical method. Therefore, the sample volume (see **2.1** and **2.3**) should suffice for the analysis. But, it would not be possible due to logistical reasons to provide additional bottles of the sample in case a participant likes to apply different (extraction) techniques. In this case the participant has to decide which parameters can/should be analysed.

Parameters are taken from annex A (priority substances) and annex B (other pollutants) of the EQS- DIRECTIVE 2008/105/EC [1].

This directive sets Environmental Quality Standards (EQS) for different substances. The allowed annual average – EQS (AA-EQS) for the above mentioned parameters in the matrix inland surface water are given in the table above:

[1] DIRECTIVE 2008/105/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council.

5 Dates and deadlines

1. **Application deadline: 30th June 2009**
   Please apply for this PT with the enclosed registration form
2. Dispatch of the samples: 14th October 2009
3. Deadline for results: 13th November 2009, 24:00h

6 Samples

Spiked real surface water samples **without** suspended solids (filtered) and "ready to analyse" will be used as PT samples.

The samples will be prepared by **IWW Water Centre** in Muelheim an der Ruhr (Germany) based on natural surface.

6.1 Sample containers

1000 ml ground glass bottles – **two** per sample

6.2 Sample conservation

Cooling during storage and transport

6.3 Samples per participant

Each participant will get 3 samples consisting of 2 bottles each, i.e. in total 6 bottles.

6.4 Sample dispatch

Samples will be sent by courier service.

Participants may also choose to pick up the samples at the provider.

7 Permitted analytical methods

Participants are free to choose a suitable method.

7.1 Limit of quantification

The analytical method must achieve the following limits of quantification:

Parameter	LOQ [µg/l]
Alachlor	0.09
Atrazine	0.18
Simazine	0.3
Chlorfenvinphos	0.03
Chlorpyrifos (Chlorpyrifos-ethyl)	0.009
Cyclodiene pesticides:	
- Aldrin	0.003
- Dieldrin	0.003
- Endrin	0.003
- Isodrin	0.003
DDT total*	0.0075
para-para-DDT	0.003
Hexachlorobenzene	0.003
Pentachlorobenzene	0.0021
Trifluralin	0.009
Alfa-Endosulfan	0.0015
Beta-Endosulfan	0.0015

The LOQ requirements are based on the requirements of article 4 of the *"Draft commission directive of the European communities for the technical specifications for chemical analysis and monitoring of water status in the context of the water framework directive".* The limits correspond to **30 % of the environmental quality standards** (EQS) of the directive 2008/105/EG on environmental quality standards in the field of water policy.

7.2 Execution of the analysis

The samples must be analysed in the own laboratory with own personnel and own equipment. Subcontracting of the analysis is not allowed.

8 Evaluation

The statistical evaluation of the PT is carried out using the **Algorithm A mean** of all data as assigned value X according to ISO 13528 (Annex C), a robust statistical method.

The standard deviation for proficiency assessment (SDPA) is calculated in compliance with the requirements of the “PT-WFD”- network: SDPA = 0.25 · X.

If measurement uncertainties are reported by the participants ζ-scores will also be reported for information.

9 Assessment

For each measured value x, a z-score is calculated from the assigned value X and SDPA according to following formula:

$$z = \frac{(x - X)}{SDPA}$$

The assessment of the results is as follows:

		$\lvert z\rvert \leq 2{,}0$	satisfactory
2,0	<	$\lvert z\rvert < 3{,}0$	questionable
		$\lvert z\rvert \geq 3{,}0$	unsatisfactory

10 Certificate

For each parameter it will be stated, how many values are satisfactory, questionable or unsatisfactory.

The results reported as below (<) limit of quantification will be assessed as “unsatisfactory”.

10.1 Reporting

There will be a final report provided by the central organizer and eventually reports in other European languages prepared by the local organisers.

The report will include:

a) description of the statistical evaluation of results;

b) statistical evaluation of results with graphs and tables;

c) performance evaluation with the assigned Z-scores.

11 Participation fee

The participation fee will be **350 € plus transport costs** by courier.

- within Germany: 25.- €
- to neighbouring European countries: 75.- €
- in other European countries: 105,- €

Of course there are no transportation costs, if samples are picked up at the provider.

12 Organisers

This PT is accomplished in co-operation with the following organisations of the “PT-WFD”-network:

IWW Water Centre (Germany) will be in charge of the central preparation of all samples for the trial and will also perform the statistical evaluation and assessment.

12.1 Central organizer

IWW	**IWW Water Centre** Moritzstrasse 26 D-45476 Muelheim an der Ruhr, GERMANY	Tel.: +49 208 40303-210 Fax: +49 208 40303-82 E-mail: u.borchers@iww-online.de

12.2 Co-operation partners

LGC Standards Excellence through measurement	**LGC Standards** Proficiency Testing Europa Business Park Barcroft Street, Bury Lancashire, BL9 5BT UNITED KINGDOM	Tel.: +44 (0) 161 762 2500 Fax: +44 (0) 161 762 2501 E-mail: customerservices@lgcpt.com
	Kemijski Institut Ljubljana Slovenija (National Institute of Chemistry Slovenia) PO Box 660, Hajdrihova 19 - Ljubljana SI-1001, Slovenija	Tel.: 01/476 02 00 Fax: 01/476 03 00 E-mail: info@ki.si
	QUALITYCONSULT **"Associazione per lo sviluppo della qualità ambientale"** Via G. Bettolo 4 00195 Roma ITALY	Tel.: +39 320-6905464 Fax: +39 0697840718 E-mail: Qualityconsult@aqc.it
	VITUKI Nonprofit Ltd., Quality Assurance and Control Kvassay Jeno út 1. 1095 Budapest HUNGARY	Tel.: +36 1 215-6140/ext. 2199 Fax: +36 1 215-6046 E-mail: mecs@vituki.hu

Participants may apply at the central organizer and any of the mentioned cooperation partners.

If you apply at one of the cooperation partners, your identity will be kept confidential also to the central organizer.