



University of Stuttgart
Germany

**Institute for Sanitary Engineering,
Water Quality and Solid Waste
Management**

AQS Baden-Württemberg

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Contact person

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To the participants of AQS Baden-Württemberg

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Proficiency test 4/24 – Pyrethroides in surface water

Dear Madam or Sir,

in June 2024 the execution of the above mentioned proficiency test (PT) round „Pyrethroides in surface water“ is planned. The concentration range will be very low (see details below).

The proficiency test is carried out on request and in cooperation with the 'Competence Network of Cantonal Water Protection and Environmental Protection Laboratories' in Switzerland, Lab'Eaux.

Details about the PT round can be found below. Please read them with care.

If you are interested in participation, please register online via our PT portal. You will reach this portal via our website <http://www.aqsbw.de/en>. For the first usage of the web portal, you must create a new user. If the e-mail address is not known to the system, this user must be verified. Please plan time for this registration process.

Application deadline: 03 May 2024

If you have any questions, please do not hesitate to contact us:
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Bank

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DE147794196

Best regards

Dr.-Ing. Michael Koch
Scientific director AQS

Dr.-Ing. Frank Baumeister
PT coordinator

Annex:

Details of the proficiency test exercise





Details of the proficiency test round 4/24
Pyrethroides in surface water – June 2024

Parameters

- Bifenthrin
- Chlorpyrifos
- Chlorpyrifos-methyl
- Cypermethrin
- Deltamethrin
- Fipronil
- Lambda-Cyhalotrin
- Permethrin
- Etofenprox
- Tefluthrin

Matrix

surface water

Dates and deadlines

Registration deadline: 03 May 2024

Please register for this PT only via our PT portal (accessible via our website).

You will receive a confirmation of receipt by e-mail and your registration is documented in our PTportal.

Dispatch of the samples: 03 June 2024.

Deadline for submission of results: 24 June 2024; 24:00h

Results submitted after the deadline will not be accepted.

Sample dispatch

Samples will be sent by courier service.

Sample details

- 3 samples in 1000-ml-glass bottles with screw cap. Preservation by cooling.

Limit of quantification

The analytical methods must be suitable to achieve a limit of quantification of **0,05 ng/l** for all parameters with exception of Etofenprox. For Etofenprox a limit of quantification of **0,5 ng/l** is required.

Execution of the analysis

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

Due to the limited stability of the pyrethroides it must be started with the sample preparation one day of receipt at the latest.

Reporting of the results

AQS Baden-Württemberg

The samples must be analysed in duplicate over the complete method (sample preparation and measurement). Please submit the results as average values in ng/l with three significant digits.

Evaluation and assessment of the single values

The statistical evaluation will be executed according to DIN 38402 – A45 or ISO/TS 20612 “Interlaboratory comparison for proficiency testing of analytical chemistry laboratories” with the combined estimator Hampel/Q-method, a method of robust statistics. The assigned value x_{pt} is calculated by the Hampel estimator. If possible, the standard deviation for proficiency assessment σ_{pt} will be taken from the variance function for the calculation of the z_U -scores according to DIN 38402 - A45 (chapter 10.4) or ISO/TS 20612 respectively. σ_{pt} will be limited for the parameters as follows:

- lower limit: 5%
- upper limit: 25%

A z-score is calculated for each measurement result derived from the assigned value x_{PT} and the standard deviation for proficiency assessment:

$$z = \frac{x - x_{pt}}{\sigma_{pt}}$$

The z-score will be modified to a z_U -score with a correction factor for proficiency assessment (as described in the above mentioned standards).

The tolerance limits are defined as $|z_U|=2$.

The single results will be assessed as follows:

$ z_U \leq 2.0$	satisfactory
$2.0 < z_U < 3.0$	questionable
$ z_U \geq 3.0$	unsatisfactory

Overall assessment

There is no overall assessment of the proficiency test round, but the single parameters are assessed. A parameter is assessed as successful, if more than half of the values are assessed as “satisfactory”.

In addition those values are assessed as “unsatisfactory”:

- 1) that are not determined (if the other samples of this parameters are analysed),
- 2) that are indicated with “lower than limit of quantification”,
- 3) that have been subcontracted,
- 4) that have been submitted after the deadline of submission of results.

Participation fee

The participation fee will be 700 € plus transport costs.