Universität Stuttgart

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

Universität Stuttgart
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To the participants of AQS Baden-Württemberg

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Date
Stuttgart, 21. May 2015

Proficiency test 9/15 - WFD
Polycyclic aromatic hydrocarbons (PAH) with suspended solids in surface water

Dear Sirs,

in December 2015 the execution of the above mentioned proficiency test (PT) round „PAH with suspended solids" is planned.

Details about the PT round are enclosed. Please read them carefully.

If you are interested in participation, please register for this PT round online via our website http://www.aqsbw.de or complete, sign and return the enclosed application form, preferably by fax.

Application deadline: 30th September 2015

Please consider our general terms and conditions of business for the execution of the PT, which can be downloaded from http://www.aqsbw.de/pdf/agb_en.pdf.

If we receive your application after the deadline we cannot guarantee that participation will be possible.

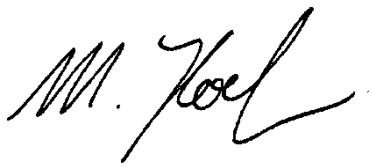
The production of PT samples in this dimension is accompanied with high effort. You support us if you register early.

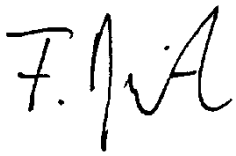
For formal reasons we confirm your application by sending a registration confirmation by fax. If you do not receive this registration confirmation, you are not registered.

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

AQS Baden-Württemberg, Bandtäle 2, 70569 Stuttgart, Germany
Phone: +49 711 685 65446
Telefax: +49 711 685 63769
E-Mail: info@aqsbw.de
Contact: Heidi Sanwald, Dr. Frank Baumeister, Dr. Michael Koch

Best regards





Dr.-Ing. Michael Koch
Scientific director AQS

Dr.-Ing. Frank Baumeister
PT manager

Annex:
Details of the proficiency test exercise
Application form

Institute for Sanitary Engineering,
Water Quality and Solid Waste Management
Bandtäle 2 • 70569 Stuttgart, Germany
www.aqsbw.de

Details of the proficiency test
- Polycyclic aromatic hydrocarbons (PAH) with suspended solids in surface water – (May 2015)

Parameter
- Anthracene
- Fluoranthene
- Naphthalene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Benzo(g,h,i)perylene
- Indeno(1,2,3-cd)pyrene

Matrix
Surface water with suspended solids

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, especially for compliance of surface waters with Environmental Quality Standards (EQS).
Considering that the new EQS values from the EU directive 2013/39/EU will be in place starting from 22nd December 2015, this PT is designed to meet these new requirements.

Dates and deadlines
- Application deadline: 30.09.2015

Please apply for this PT preferably via our website (http://www.aqsbw.de) or with the enclosed registration form.

- Dispatch of the samples: 23.11.2015
- **Deadline for submission of results: 18.12.2015, 24:00h in written form to the provider**

Sample dispatch
Samples will be sent by courier service.

Sample details
3 different surface water test samples at three concentration levels of the analytes will be distributed in 1000-ml-ground flask (brown) with ground-in stopper. Two bottles of each sample will be distributed for duplicate measurement. Sample preservation by cooling.

Permitted analytical methods
Participants are free to choose a suitable method.

Limit of quantification
The analytical method must achieve the following limits of quantification:

Parameter	Limit of quantification [ng/l]
Anthracene	30
Fluoranthene	2
Naphthalene	30
Benzo(a)pyrene	0,3
Benzo(b)fluoranthene	5
Benzo(k)fluoranthene	5
Benzo(g,h,i)perylene	2,5
Indeno(1,2,3-cd)pyrene	2,5

The limits are based on the requirements of article 4 of the commission directive 2009/90/EC (QA/QC 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 standards of the directive 2013/39/EU on environmental quality standards in the field of water policy. For benzo(a)pyrene the limit was increased to reach a range which is currently achievable by chemical analysis. The limit for naphthalene was lowered since the AA-EQS value is unrealistic high.

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.

Evaluation
The statistical evaluation will be executed according to DIN 38402 – A45 or ISO/TS 20612 “Interlaboratory comparison for proficiency testing of analytical chemistry laboratories” and in accordanve with ISO 13528 with the combined estimator Hampel/Q-method, a method of robust statistics. The assigned value x_{pt}, derived from the weighings of the spiked samples and, if necessary, the matrix content[1,2] will be used for the assessment of the single values preferably. Only if this is not possible, the Hampel estimator as robust mean value of the participants’ data will be used.

The standard deviation for proficiency assessment σ_{pt} is calculated in accordance with the European QA/QC Directive: $\sigma_{pt} = 0{,}25 * x_{pt}$.

Assessment
For each measured value x, a z-score is calculated from the assigned value x_{pt} and σ_{pt} according to following formula:

$$z = \frac{\left(x - x_{pt}\right)}{\sigma_{pt}}$$

[1] Rienitz, O., Schiel, D., Güttler, B., Koch, M., Borchers, U.: A convenient and economic approach to achieve SI-traceable reference values to be used in drinking-water interlaboratory comparisons. Accred Qual Assur (2007) 12: 615-622.
[2] Koch, M., Baumeister, F.: Traceable reference values for routine drinking water proficiency testing: first experiences. Accred Qual Assur (2008) 13: 77-82.

The assessment of the results is as follows:

$\|z\| \leq 2,0$	satisfactory
$2,0 < \|z\| < 3,0$	questionable
$\|z\| \geq 3,0$	unsatisfactory

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

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

Reporting
There will be a final report provided by AQS-BW in German and English language.

Participation fee
The participation fee will be 500 € plus transport costs.

Registration for the proficiency test 9/15 "PAH with suspended solids in surface water"

For remarks of the organizer

Our laboratory will take part in the proficiency test 9/15 "PAH with suspended solids in surface water" – provided by AQS Baden-Württemberg The participation fee of € 500,00 plus transportation costs and VAT (where applicable) will be paid after receipt of the invoice. I took note of the terms and conditions under http://www.aqsbw.de/pdf/agb_en.pdf

For remarks of the organizer

Obligation

Our laboratory will perform the analyses in our own laboratory, with own personnel and own equipment.

Details of our laboratory:

	Type or print legibly
Name of the laboratory	
Street	
Postal code, City	
Delivery address (if different from the above address)	
Billing address (if different from the above address)	
Country	
Phone / FAX	
E-Mail	
VAT-ID (for participants outside Germany absolutely necessary)	
Contact Person	

date:_____ signature:_____

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