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AQS Baden-Württemberg

To the participants of AQS Baden-Württemberg

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

AQS Baden-Württemberg

Contact person

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**Proficiency test 6/17
TW S4 – PFC in drinking water**

2017-06-23

Dear Madam or Sir,

in Oktober 2017 the execution of the above mentioned proficiency test (PT) round „PFC in drinking water“ is planned.

The PT is carried out under the umbrella of the NORMAN Network of Reference Laboratories for Monitoring of Emerging Environmental Pollutants (<http://www.norman-network.net>) in cooperation with IWW Water Centre.

Details about the PT round are enclosed. Please read them with care. If you are interested in participation, please register online via our website

http://www.iswa.uni-stuttgart.de/ch/aqs/rv/anm_rv.en.php?id=166.

You will receive a confirmation of receipt by e-mail. With a second e-mail we will bindingly confirm your application to the PT. You are not registered if you do not receive any e-mail.

Application deadline: 14 July 2017

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. Early registration is highly appreciated.

Bank

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Bank Stuttgart – BW-Bank

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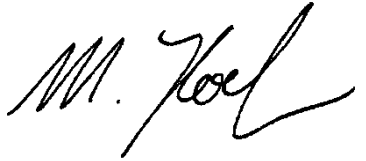
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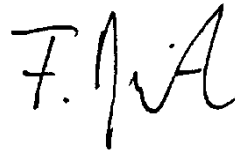


If you have any questions, please do not hesitate to contact us:
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Contact: Mandy Wünsche, Dr. Frank Baumeister, Dr. Michael Koch

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 6/17
TW S4 – PFC in drinking water – October 2017**

Parameters

parameter	CAS-number of the parameter
Perfluorobutanoic acid (PFBA)	375-22-4
Perfluoropentanoic acid (PFPeA)	2706-90-3
Perfluorohexanoic acid (PFHxA)	307-24-4
Perfluoroheptanoic acid (PFHpA)	375-85-9
Perfluorooctanoic acid (PFOA)	335-67-1
Perfluorononanoic acid (PFNA)	375-95-1
Perfluorodecanoic acid (PFDA)	335-76-2
1-Perfluorobutanesulfonic acid (PFBS)	375-73-5
Perfluorohexane-1-sulphonic acid (PFHxS)	355-46-4
Perfluorooctane sulfonic acid (PFOS)	1763-23-1

Matrix

Drinking water

Dates and deadlines

Registration deadline: 14 July 2017

Please register for this PT only via our website www.aqsbw.de.

You will receive a confirmation of receipt by e-mail. With a second e-mail we will bindingly confirm your application to the PT. You are not registered if you do not receive any e-mail.

Dispatch of the samples: 24 October 2017

**Deadline for submission of results: 20 November 2017; 24:00h online via internet.
Results submitted after the deadline will not be accepted.**

Sample dispatch

Samples will be sent by courier service.

Sample details

- 3 samples for the determination of the PFC in 1000-ml-ground bottles with ground-in stopper. Stabilisation with sodium azide.

Permitted analytical methods

Participants are free to choose a suitable method.

Limit of quantification

The analytical methods must be able to achieve the following limits of quantification:

parameter	CAS-number of the parameter
Perfluorobutanoic acid (PFBA)	0,01
Perfluoropentanoic acid (PFPeA)	0,01
Perfluorohexanoic acid (PFHxA)	0,01
Perfluoroheptanoic acid (PFHpA)	0,01
Perfluorooctanoic acid (PFOA)	0,01
Perfluorononanoic acid (PFNA)	0,01
Perfluorodecanoic acid (PFDA)	0,01
1-Perfluorobutanesulfonic acid (PFBS)	0,01
Perfluorohexane-1-sulphonic acid (PFHxS)	0,01
Perfluorooctane sulfonic acid (PFOS)	0,01

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 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} derived from the weighings of the spiked samples and the matrix content^{1,2} will be preferably used for the assessment of the single values. Only if this is not possible, the Hampel estimator as robust mean value of the participants’ data will be used.

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 both parameters as follows:

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

A z-score is calculated for each measurement result derived from the assigned value x_a 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

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.

Overall assessment**AQS Baden-Württemberg**

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 500 € plus transport costs.