

# **Proficiency Testing Scheme 2025**

# Drugs of Abuse

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#### **EXTENSION - EGH**

In the second proficiency test of the year, samples with cut material are offered.

#### **EXTENSION - BTMF**

To check for the use of street heroin, noscapine and/or papaverine is added to a sample (A or B).

#### NOTES ON THE PILOT PROFICIENCY TESTS

Pilot proficiency tests serve the preparation of new tests. In these tests, the suitability of the composition of the sample material and the sample quantity are tested and optimized. The quality and scope of the incoming results are reviewed and evaluated and included in the preparation of a suit-able results report. In the course of the year, these findings may result in any necessary short-term adjustments to the design of the tests. In addition to the GTFCh, the development of the concepts partly takes place with other scientific and technical partners who have the corresponding expertise. These tests are marked with a (P).

# PROFICIENCY TESTING SCHEME

Dates, Prices, Details

BTMF 1/25	BTMF 2/25	BTMF 3/25
21-Jan – 03-Mar	27-May – 07-Jul	23-Sep – 03-Nov

#### **PRICES**

		<u>TEST</u>		<u>AL</u>	D. SAMPLE	<u>S</u>
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation BTMF 1 to 3/25)	1.11.500	837,-	612,-	1.11.550	300,-	270,-
Single participation						
BTMF 1/25	1.11.100	335,-	245,-	1.11.150	100,-	90,-
BTMF 2/25	1.11.200	335,-	245,-	1.11.250	100,-	90,-
BTMF 3/25	1.11.300	335,-	245,-	1.11.350	100,-	90,-

#### **MATERIAL**

Sample A: Lyophilized serum, 5 mL (2 x 2,5 mL)

For the analytes amphetamine and methamphetamine, it is possible to perform a chiral analysis. In addition to the total concentration, the respective concentrations of the enantiomers are also evaluated and certified. In addition, papaverine and/or Noscapine are added to test for the use of street heroin.

Sample B: different tasks, such as the determination of DOA in whole blood or other current requirements. The sample volume is adapted to the respective requests.

In the proficiency test BTMF 2/25 whole blood is used as matrix for the B-sample. The results of this sample are also certified.

#### **ANALYTES**

<u>Cannabinoids</u>	Cocaine/Metabolites	<u>Opiates</u>	<u>Amphetamines</u>
$\Delta^9$ -THC	Cocaine	Morphine	Amphetamine
11-nor- $\Delta^9$ -Carboxy-THC	Benzoylecgonine	MAM	MDMA
11-Hydroxy-∆ <sup>9</sup> -THC	Ecgonine methylester	Codeine	MDE
	Cocaethylene	DHC	MDA
			Methamphetamine

The addition of further drugs from corresponding drug classes is possible. Their determination is optional.

#### **CONCENTRATION RANGES**

Cannabinoids 0–250 | Cocaine/metabolites 0–1500 | Opiates  $\,$  0–1000 | Amphetamines 0-1000 All concentrations given as  $\mu$ g/L

# **REQUESTS**

Identification and quantitative determination of the analytes

DOAB 1/25	DOAB 2/25	DOAB 3/25	DOAB 4/25
04-Feb – 03-Mar	06-May – 02-Jun	19-Aug – 15-Sep	04-Nov – 01-Dec

#### **PRICES**

<u>IESI</u>		ADD. SAI	MPLES
Order no.	Price	Order no.	Price
1.12.500	715,-	1.12.550	212,-
1.12.100	205,-	1.12.150	53,-
1.12.200	205,-	1.12.250	53,-
1.12.300	205,-	1.12.350	53,-
1.12.400	205,-	1.12.450	53,-
	Order no. 1.12.500  1.12.100 1.12.200 1.12.300	Order no. Price 1.12.500 715,-  1.12.100 205,- 1.12.200 205,- 1.12.300 205,-	1.12.500     715,-     1.12.550       1.12.100     205,-     1.12.150       1.12.200     205,-     1.12.250       1.12.300     205,-     1.12.350

#### **MATERIAL**

2 samples (A, B); lyophilized whole blood, each 2 x 2,5 mL

#### **ANALYTES**

$\Delta^9$ -THC	DHC	Amphetamine	Ketamine
11-nor-∆ <sup>9</sup> -Carboxy-THC	Cocaine	MDMA	Norketamine
11-Hydroxy-∆ <sup>9</sup> -THC	Benzoylecgonine	MDE	Buprenorphine
Morphine	Ecgonine methylester	MDA	Norbuprenorphine
MAM	Cocaethylene	Methamphetamine	Methadone
Codeine			EDDP

Aim of the proficinecy test is the determination of blood samples for the listed drugs and the quantitative determination of the detected drugs. Each sample contains 0 to 10 analytes.

### **REQUESTS**

Identification and quantitative determination of the detected drugs.

(P) Pilot proficiency test: The proficiency test is carried out under the organizational and scientific management of Arvecon GmbH.

UF 1/25	UF 2/25	UF 3/25	
14-Jan – 17-Feb	06-May – 10-Jun	02-Sep - 06-Oct	

# **PRICES**

	<u>TEST</u>		ADD. SAI	MPLES
PRODUCT	Order no. Price		Order no.	Price
Annual subscription 2025 (participation UF 1 to 3/25)	1.13.500	325,-	1.13.550	165,-
Single participation				
UF 1/25	1.13.100	130,-	1.13.150	55,-
UF 2/25	1.13.200	130,-	1.13.250	55,-
UF 3/25	1.13.300	130,-	1.13.350	55,-

# **MATERIAL**

Lyophilized urine, 2 x 10 mL

#### **ANALYTES**

5 to 8 DOA, drugs or their metabolites.

# **REQUESTS**

Step 1: immunological tests incl. confirmation of positive results

Step 2: general unknown analysis

SFD 1/25	SFD 2/25	SFD 3/25
14-Jan – 17-Feb	06-May – 10-Jun	02-Sep - 06-Oct

#### **PRICES**

	<u>TEST</u>		ADD. SA	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation SFD 1 to 3/25)	1.14.500	215,-	1.14.550	84,-
Single participation				
SFD 1/25	1.14.100	85,-	1.14.150	28,-
SFD 2/25	1.14.200	85,-	1.14.250	28,-
SFD 3/25	1.14.300	85,-	1.14.350	28,-

#### **MATERIAL**

Lyophilized urine, 10 mL

#### **ANALYTES**

The sample is prepared in accordance with the substance list of the assessment criteria for driver fitness determination including parent compounds, related substances (opiods, further active benzodiazepine substances, Z-drugs, amphetamines, and further amphetamine derivatives) including important products of metabolism.

TARGET ANALYTES	CONCENTRATION RANGES, µg/L
THC-COOH	
Morphine, Codeine, Dihydrocodeine	25 - 500
Benzoylecgonine	
Amphetamine, Methamphetamine, MDMA, MDE, MDA	50 - 500
Methadone, EDDP	20 - 500
Nordiazepam, Diazepam, Oxazepam, Hydroxy-Alprazolam, (Hydroxy-) Br	omazepam, 7-Amino-
flunitrazepam, Lorazepam, Zolpidem, Zopiclone	50 - 1000
Ethylglucuronide	100 - 1000
Buprenorphine, Norbuprenorphine, Nortilidine, Tilidine, Oxycodone, Tram	adol, O-Desmethyltra-
madol, Fentanyl, Norfentanyl	3 - 200
Creatinine (quantitative determination)	

# **REQUESTS**

Participation possible by:

- 1. Immunological analysis incl. quantitative confirmation analysis
- 2. Quantitative mass spectrometric analysis.

IDS 1/25	IDS 2/25	IDS 3/25	IDS 4/25
21-Jan – 17-Feb	29-Apr – 26-May	19-Aug – 15-Sep	04-Nov – 01-Dec

#### **PRICES**

	<u>TEST</u>		ADD. SA	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation IDS 1 to 4/25)	1.15.500	310,-	1.15.550	108,-
Single participation				
IDS 1/25	1.15.100	88,-	1.15.150	27,-
IDS 2/25	1.15.200	88,-	1.15.250	27,-
IDS 3/25	1.15.300	88,-	1.15.350	27,-
IDS 4/25	1.15.400	88,-	1.15.450	27,-

#### MATERIAL

Lyophilized urine, 3 mL

#### **ANALYTES**

Aim of the proficiency test is the determination of urine samples with immunological methods for the listed drug classes and analytes. Qualitative and if possible qualitative results should be reported as well as the applied cut-off values.

DRUG CLASSES		ANALYTES	
- Amphetamines - Methamphetamines - Benzodiazepines - Cannabinoids - Cocaine/metabolites - Opiates	- Barbiturates - Synthetic cannabinoids - Tricyclic antidepressants - Buprenorphine/metabolites - Nicotine/metabolites - LSD/metabolites - Methylphenidate/metabolites	- Methadons - EDDP - MDMA (Ecstasy) - 6-Monoacetylmorphine - Carisoprodol (Meprobamate) - Ethylglucuronide - Fentanyl	- Gabapentine - Ketamine - Oxycodone - Phencyclidine - Pregabaline - Tramadol - Zolpidem
- Methadone/metabolites	- Metriytphenidate/metabotites	- Feritallyt	- Zotpidei ii

<sup>-</sup> Creatinine (quantitative determination)

# **REQUESTS**

Level 1: Immunological tests including confirmatory analyses for the positive results

Level 2: Qualitative general unknown

(P) Pilot proficiency test: The proficiency test is performed under the organizational and scientific management of Arvecon GmbH and with expert advice from Alere Toxicology Plc, UK.

DHF 1/25	DHF 2/25	DHF 3/25
18-Feb – 24-Mar	03-Jun – 07-Jul	30-Sep – 03-Nov

# **PRICES**

	TES	<u>ST</u>	<u>ADD. SA</u>	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation DHF 1 to 3/25)	1.16.500	435,-	1.16.550	270,-
Single participation				
DHF 1/25	1.16.100	175,-	1.16.150	90,-
DHF 2/25	1.16.200	175,-	1.16.250	90,-
DHF 3/25	1.16.300	175,-	1.16.350	90,-

#### **MATERIAL**

2 samples (A, B), each 250 mg powdered, human hair spiked with drugs

#### **ANALYTES**

SAMPLE A		SAMPLE B	
THC	Amphetamine	Oxycodone	Oxazepam
CBN	MDMA	Tramadol	Lorazepam
CBD	MDA	Tilidine	Ketamine
THC-COOH	MDE	Fentanyl	Norketamine
Morphine	Cocaine	Diazepam	Methadone
MAM	Benzoylecgonine	Nordiazepam	EDDP
Codeine	Cocaethylene	Alprazolam	Buprenorphine
		Bromazepam	Norbuprenorphine
		Flunitrazepam	

The addition of further analytes is possible, the determination is optional.

# **REQUESTS**

Quantitative determination of the analytes. The results of both samples are certified.

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DMS 1/25	DMS 2/25
08-Apr – 05-May	26-Aug – 22-Sep

# **PRICES**

7711020	<u>TEST</u>		ADD. SA	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation DMS 1 and 2/25) Single participation	1.17.500	335,-	1.17.550	94,-
DMS 1/25	1.17.100	190,-	1.17.150	47,-
DMS 2/25	1.17.200	190,-	1.17.250	47,-

# **MATERIAL**

1 or 2 samples, each 200 mg cut or powdered, made of drug user hair.

#### **ANALYTES**

Due to the origin of the material, the samples have different compositions. The screening should include the following analytes:

- THC - Amphetamine - Cocaine

- Morphine - MDMA - Benzoylecgonine

- MAM - MDA

# **REQUESTS**

QSA 1/25	QSA 2/25	QSA 3/25
28-Jan – 24-Feb	20-May – 16-Jun	02-Sep – 29-Sep

# **PRICES**

	<u>TEST</u>			ADD. SAMPLES		
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation QSA 1 to 3/25) Single participation	1.18.500	360,-	308,-	1.18.550	186,-	171,-
QSA 1/25	1.18.100	144,-	123,-	1.18.150	62,-	57,-
QSA 2/25	1.18.200	144,-	123,-	1.18.250	62,-	57,-
QSA 3/25	1.18.300	144,-	123,-	1.18.350	62,-	57,-

# **MATERIAL**

sample A: serum, liquid, 5 mL sample B: urine, liquid, 10 mL

#### **ANALYTES**

One or more drugs, with toxicological case history

# **REQUESTS**

- 1. Identification of the drugs
- 2. interpretation of the results

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GHB 1/25	GHB 2/25	GHB 3/25
04-Feb – 24-Feb	03-Jun – 23-Jun	30-Sep – 20-Oct

# **PRICES**

SERUM AND URINE	<u>TEST</u>		ADD. SAI	MPLES .
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation GHB 1 to 3/25)	1.19.500	287,-	1.19.550	186,-
Single participation				
GHB 1/25	1.19.100	115,-	1.19.150	62,-
GHB 2/25	1.19.200	115,-	1.19.250	62,-
GHB 3/25	1.19.300	115,-	1.19.350	62,-

ONLY SERUM	TES	<u>ST</u>	ADD. SA	ADD. SAMPLES		
PRODUCT	Order no.	Price	Order no.	Price		
Annual subscription 2025 (participation GHB 1 to 3/25)	1.20.500	187,-	1.20.550	105,-		
Single participation						
GHB 1/25	1.20.100	75,-	1.20.150	35,-		
GHB 2/25	1.20.200	75,-	1.20.250	35,-		
GHB 3/25	1.20.300	75,-	1.20.350	35,-		

# **MATERIAL**

2 samples (A, B), each 2 mL lyophilized serum; 2 samples (C, D), each 2 mL lyophilized urine

# **ANALYTE**

Gamma hydroxybutyric acid (GHB)

# **REQUESTS**

Quantification of the analyt

SAL 1/25	SAL 2/25
08-Apr – 05-May	09-Sep – 06-Oct

#### **PRICES**

	TES	<u>ST</u>	ADD. SA	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation SAL 1 and 2/25) Single participation	1.21.500	260,-	1.21.550	96,-
SAL 1/25	1.21.100	140,-	1.21.150	48,-
SAL 2/25	1.21.200	140,-	1.21.250	48,-

#### **MATERIAL**

2 samples (A + B), lyophilized saliva, each 1,0 mL

#### **ANALYTES**

Cannabinoids: THC

Amphetamines: Amphetamine, MDMA, Methamphetamine

Cocaine and metabolites: Cocaine, Benzoylecgonine

Opiates/Opioids: 6-Acetylmorphine, Codeine, Morphine, Buprenorphine, Norbuprenorphine,

Methadone, EDDP

Benzodiazepines: Diazepam, Nordiazepam, Flunitrazepam, Oxazepam

# **REQUESTS**

Identification and quantitative determination of the analytes

BZF 1/25	BZF 2/25	BZF 3/25
07-Jan – 03-Feb	15-Apr – 12-May	19-Aug – 15-Sep

# **PRICES**

		<u>TEST</u>		<u>A</u> E	D. SAMPLE	<u>:S</u>
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation BZF 1 and 3/25)	2.30.500	378,-	313,-	2.30.550	220,-	174,-
Single participation						
BZF 1/25	2.30.100	151,-	125,-	2.30.150	73,-	58,-
BZF 2/25	2.30.200	151,-	125,-	2.30.250	73,-	58,-
BZF 3/25	2.30.300	151,-	125,-	2.30.350	73,-	58,-

# **MATERIAL**

2 samples (A+B), lyophilized serum, each 3 mL

# **ANALYTES**

Sample A		Sample B	
Diazepam	200 - 2000	Flunitrazepam	10 - 25
Nordiazepam	200 - 1500	Norflunitrazepam	10 - 50
Bromazepam	50 - 250	7-Aminoflunitrazepam	10 - 70
Clonazepam	5 - 100	Oxazepam	250 - 100
Temazepam	20 - 1000	Midazolam	50 - 250
Alprazolam	5 - 100	α-OH-Midazolam	50 - 250
Zolpidem	50 - 250	Lorazepam	20 - 300
Nitrazepam	20 - 200	Lormetazepam	1 - 25
		Zopiclone	10 - 100

All concentrations given as µg/L

# **REQUESTS**

### **SAMPLE C**

Sample C can be ordered additionally and completes the list of analytes of the A and B sample.

#### **PRICES**

		TEST		ΑĽ	DD. SAMPLE	S
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (Participation BZF 1 to 3/25)	2.31.500	178,-	163,-	2.31.550	96,-	81,-
Single participation						
BZF 1/25	2.31.100	71,-	65,-	2.31.150	32,-	27,-
BZF 2/25	2.31.200	71,-	65,-	2.31.250	32,-	27,-
BZF 3/25	2.31.300	71,-	65,-	2.31.350	32,-	27,-

#### **MATERIAL**

Sample C, lyophilized serum, 1 x 3 mL

# **ANALYTES**

Sample C		
Clobazam	30-300	
Norclobazam	300 - 2500	
Flurazepam	10 - 150	
Desalkylflurazepam	25 - 100	
Triazolam	2-30	
a-OH-Triazolam	5-50	
Chlordiazepoxide	300-3500	
Demoxepam	400 - 1000	

3-OH-Bromazepam	25 - 200
7-Aminoclonazepam	10 - 75
7-Aminonitrazepam	50 - 200
a-OH-Alprazolam	10 - 75
Estazolam	50 - 250
Medazepam	150 - 1000
Prazepam	200 - 800

All concentrations given as µg/L

# **REQUESTS**

Quantitative determination of the analytes

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STM 1/25	STM 2/25	STM 3/25
07-Jan – 03-Feb	15-Apr – 12-May	19-Aug – 15-Sep

# **PRICES**

		<u>TEST</u>		<u>A</u> E	DD. SAMPLE	<u>:S</u>
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation STM 1 to 3/25)	2.32.500	275,-	238,-	2.32.550	192,-	147,-
Single participation						
STM 1/25	2.32.100	110,-	95,-	2.32.150	64,-	49,-
STM 2/25	2.32.200	110,-	95,-	2.32.250	64,-	49,-
STM 3/25	2.32.300	110,-	95,-	2.32.350	64,-	49,-

# **MATERIAL**

Sample A: lyophilized serum, 2,5 mL Sample B: lyophilized urine, 2,5 mL

# **ANALYTES**

	<u>SERUM</u>	<u>URINE</u>
Buprenorphine	1 - 20	0,5 - 100
Norbuprenorphine	2-40	0,5 - 150
Methadone	10-800	10 - 1000
EDDP	10-800	10 - 1000

All concentrations given as µg/L

# **REQUESTS**

TCA 1/25	TCA 2/25	TCA 3/25	TCA 4/25
14-Jan – 10-Feb	15-Apr – 12-May	01-Jul – 28-Jul	07-Oct – 03-Nov

# **PRICES**

		<u>TEST</u>		<u>AD</u>	D. SAMPLE	<u>S</u>
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation TCA 1 to 4/25)	2.33.500	480,-	420,-	2.33.550	312,-	268,-
Single participation						
TCA 1/25	2.33.100	137,-	120,-	2.33.150	78,-	67,-
TCA 2/25	2.33.200	137,-	120,-	2.33.250	78,-	67,-
TCA 3/25	2.33.300	137,-	120,-	2.33.350	78,-	67,-
TCA 4/25	2.33.400	137,-	120,-	2.33.450	78,-	67,-

#### **MATERIAL**

4 samples (A, B, C, D), lyophilized serum, each 2,5 mL

# **ANALYTES**

Sample A   B	Sample C   D
Doxepine	Imipramine
Nordoxepine	Desipramine
Amitripytine	Clomipramine
Nortriptyline	Norclomipramine
Trimipramine	Maprotiline
Opipramol	Desmethylmaprotiline
	Protriptyline

All analytes 10 - 1500 µg/L

# **REQUESTS**

Quantitative determination of the analytes

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TAB 1/25	TAB 2/25
04-Feb – 24-Feb	26-Aug – 15-Sep

# **PRICES**

	<u>TEST</u>		<u>ADD. SA</u>	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation TAB 1 and 2/25) Single participation	2.34.500	219,-	2.34.550	80,-
TAB 1/25	2.34.100	125,-	2.34.150	40,-
TAB 2/25	2.34.200	125,-	2.34.250	40,-

# **MATERIAL**

2 samples, lyophilized serum, each 2,5 mL

# **ANALYTES**

Thiopental	0,5 - 3,0
Pentobarbital	0,5 - 5,0
Phenobarbital	2,0 - 50,0
Methohexital	0,25 - 3,0
Etomidate	0,1 - 0,5
Propofol	2,0 - 8,0

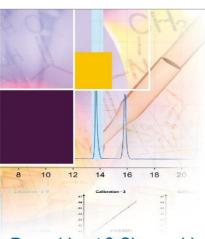
All concentrations given as mg/L

Midazolam	20,0	- 500,0
Diazepam	100,0	- 500,0
Nordiazepam	100,0	- 500,0
Fentanyl	1,0	- 10,0
Sufentanil	0,5	- 5,0
Piritramide	3,5	- 14,0

All concentrations given as µg/L

# **REQUESTS**





# Recombinant β-Glucuronidases and Arylsulfatases

B-One<sup>™</sup>, BGTurbo Glycerol Free & BGS<sup>™</sup> for improved analytical efficiency and higher sample throughput

- Consistent lot-to-lot quality due to recombinant design
- High purity enzymes extend column lifetime
- No interference through secondary enzymes and contaminants
- Short incubation time at ambient temperature facilitates routine workflow
- Also suitable for laboratories with high sample throughput
- Long shelf life 12 months at 2-8°C or up to 3 months at ambient temperature

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TDMA 1/25	TDMA 2/25	TDMA 3/25
28-Jan – 24-Feb	13-May – 10-Jun	09-Sep – 06-Oct

# **PRICES**

		TEST		<u>A</u> E	D. SAMPLE	<u>-S</u>
PRODUCT	Order no.	Price	GTFCh*	Order no.	Price	GTFCh*
Annual subscription 2025 (participation TDMA 1 to 3/25)	2.35.500	388,-	350,-	2.35.550	234,-	201,-
Single participation						
TDMA 1/25	2.35.100	155,-	140,-	2.35.150	78,-	67,-
TDMA 2/25	2.35.200	155,-	140,-	2.35.250	78,-	67,-
TDMA 3/25	2.35.300	155,-	140,-	2.35.350	78,-	67,-

# **MATERIAL**

4 samples (A, B, C, D), lyophilized serum, each 4,0 mL

# **ANALYTES**

SAMPLE A/B	
Clozapine	100 - 1500
N-Desmethylclozapine	100 - 1500
Olanzapine	10 - 100
Norolanzapine	10 - 100
Quetiapine	25 - 600
Norquetiapine	50 - 300
Amisulprid	50 - 500
Thioridazin	50 - 300

All concentrations given as µg/L

#### SAMPLE C/D

Risperidone	1 - 15
Paliperidone	5 - 150
Perazine	25 - 600
Ziprasidone	10 - 150
Levomepromazine	15 - 250
Promethazine	50 - 500
Chlorprothixene	10 - 400

# **REQUESTS**

TDMB1/25	TDMB 2/25	TDMB 3/25
11-Feb – 10-Mar	27-May – 24-Jun	23-Sep – 20-Oct

# **PRICES**

	TEST ADD. SAMPLES			<u>:S</u>		
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation TDMB 1 to 3/25)	2.36.500	370,-	330,-	2.36.550	219,-	186,-
Single participation						
TDMB 1/25	2.36.100	148,-	132,-	2.36.150	73,-	62,-
TDMB 2/25	2.36.200	148,-	132,-	2.36.250	73,-	62,-
TDMB 3/25	2.36.300	148,-	132,-	2.36.350	73,-	62,-

# **MATERIAL**

2 samples (A, B), lyophilized serum, 4,0 mL

# **ANALYTES**

Carbamazepine	1 - 15
10-OH-Carbazepine	5 - 50
Oxcarbazepine	5 - 50
Felbamate	15 - 100
Pregabaline	0,5 - 10
Gabapentine	1 - 30
Tiagabine	0,01 - 0,25
Levetiracetam	5 - 50
Topiramate	1 - 15
Vigabatrine	1 - 20
Lamotrigine	2 - 20
Lacosamide	1 - 20
Rufinamide	2 - 40
Zonisamide	5 - 60
Sultiam	2 - 8

All concentrations given as mg/L

# **REQUESTS**

TDMC 1/25	TDMC 2/25	TDMC 3/25
25-Feb – 24-Mar	10-Jun – 07-Jul	07-Oct - 03-Nov

# **PRICES**

	<u>TEST</u> <u>ADD. SAMPLES</u>			<u>:S</u>		
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation TDMC 1 to 3/25)	2.37.500	380,-	340,-	2.37.550	219,-	186,-
Single participation						
TDMC 1/25	2.37.100	152,-	136,-	2.37.150	73,-	62,-
TDMC 2/25	2.37.200	152,-	136,-	2.37.250	73,-	62,-
TDMC 3/25	2.37.300	152,-	136,-	2.37.350	73,-	62,-

# **MATERIAL**

2 samples (A, B), lyophilized serum, each 4,0 mL

# **ANALYTES**

#### SAMPLE A/B

Aripiprazol	50	- 500
Dehydroaripiprazol	50	- 500
Flupenthixol	1,0	- 25
Fluphenazine	0,5	- 15
Haloperidol	1,0	- 25
Sertindol	25	- 150
Sulpiride	100	- 1000
Zotepine	10	- 250
Melperone	20	- 150
Pipamperone	50	- 500
Chlorpromazine	30	- 400
Prothipentyl	5	- 20
Zuclopenthixol	50	- 500

All concentrations given as µg/L

# **REQUESTS**

TDMD1/25	TDMD 2/25	TDMD 3/25
11-Mar – 07-Apr	24-Jun – 21-Jul	21-Oct – 17-Nov

# **PRICES**

	TEST ADD. SAMPLES			<u>:S</u>		
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation TDMD 1 to 3/25)	2.38.500	370,-	330,-	2.38.550	219,-	186,-
Single participation						
TDMD 1/25	2.38.100	148,-	132,-	2.38.150	73,-	62,-
TDMD 2/25	2.38.200	148,-	132,-	2.38.250	73,-	62,-
TDMD 3/25	2.38.300	148,-	132,-	2.38.350	73,-	62,-

# **MATERIAL**

2 samples (A, B), lyophilized serum, each 4,0 mL

# **ANALYTES**

Duloxetine	10 - 150
Fluoxetine	25 - 500
Norfluoxetine	25 - 500
Fluvoxamine	25 - 250
Mianserine	10 - 150
Mirtazapine	25 - 150
Paroxetine	10 - 150
Reboxetine	25 - 300
Sertraline	10 - 250
Venlafaxine	25 - 400
Desmethylvenlafaxine	25 - 400
Citalopram	25 - 150
Trazodone	600 - 1200

All concentrations given as  $\mu g/L$ 

# **REQUESTS**

TDME 1/25	TDME 2/25	TDME 3/25
25-Mar – 22-Apr	08-Jul – 04-Aug	04-Nov – 01-Dec

# **PRICES**

	TEST ADD. SAMPLES			<u>:S</u>		
PRODUCT	Order no.	Price	GTFCh	Order no.	Price	GTFCh
Annual subscription 2025 (participation TDME 1 to 3/25)	2.39.500	370,-	330,-	2.39.550	219,-	186,-
Single participation						
TDME 1/25	2.39.100	148,-	132,-	2.39.150	73,-	62,-
TDME 2/25	2.39.200	148,-	132,-	2.39.250	73,-	62,-
TDME 3/25	2.39.300	148,-	132,-	2.39.350	73,-	62,-

# **MATERIAL**

2 samples (A, B), lyophilized serum, each 4,0 mL

# **ANALYTES**

#### SAMPLE A/B

Bupropione	10	- 100
Hydroxybupropione	850	- 1500
Milnacipran	50	- 125
Moclobemide	300	- 1000
Clomethiazol	100	- 5000
Dosulepine	45	- 100
Methylphenidate	10	- 25
Ritalinic acid	100	- 250
Atomoxetine	200	- 1000
Tianeptine	30	- 100
Tranylcypromine	10	- 50
Vilazodone	30	- 70
Vortioxetine	10	- 50

All concentrations given as µg/L

# **REQUESTS**

# OMS 1/25 OMS 2/25

25-Mar – 22-Apr 07-Oct – 03-Nov

#### **PRICES**

	<u>TEST</u>		<u>ADD. SAI</u>	<u>MPLES</u>	
PRODUCT	Order no.	Price	Order no.	Price	
Annual subscription 2025 (participation OMS 1 and 2/25) Single participation	2.40.500	175,-	2.40.550	100,-	
OMS 1/25	2.40.100	100,-	2.40.150	50,-	
OMS 2/25	2.40.200	100,-	2.40.250	50,-	

#### **MATERIAL**

2 samples (A, B), lyophilized serum, each 2,5 mL

#### **ANALYTES**

#### SAMPLE A/B

Oxycodone	5 - 100
Hydrocodone	5 - 50
Hydromorphone	1 - 10
Tilidine	25 - 150
Nortilidine	50 - 250
Tramadol	50 - 1000
O-Desmethyltramadol	200 - 500
Fentanyl	0,2 - 10
Norfentanyl	0,2 - 10

All concentrations given as µg/L

# **REQUESTS**

Quanitative determination of the analytes

(P) Pilot proficiency test: The proficiency test is carried out under the organizational and scientific management of Arvecon GmbH.

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ETOH 1/25	ETOH 2/25	ETOH 3/25	ETOH 4/25
14-Jan – 03-Feb	08-Apr – 28-Apr	01-Jul – 21-Jul	30-Sep – 20-Oct

#### **PRICES**

		<u>TEST</u>		ADD. SAMPLES		
PRODUCT	Order no.	Price	GTFCh*	Order no.	Price	GTFCh*
Annual subscription 2025 (participation ETOH 1 to 4/25)	3.50.500	305,-	270,-	3.50.550	180,-	160,-
Single participation						
ETOH 1/25	3.50.100	87,-	77,-	3.50.150	45,-	40,-
ETOH 2/25	3.50.200	87,-	77,-	3.50.250	45,-	40,-
ETOH 3/25	3.50.300	87,-	77,-	3.50.350	45,-	40,-
ETOH 4/25	3.50.400	87,-	77,-	3.50.450	45,-	40,-

#### MATERIAL

2 samples (A, B), liquid serum, each 2,5 mL

#### **ANALYTE**

Ethanol

# **REQUESTS**

Quantitative determination with the GC and the ADH method according to the guidelines of the Federal Health Authority BGA or its current adaptation made by the German Forensic Society (DGRM), the German Society for Traffic Medicine (DGVM) and the Society for Toxicological and Forensic Chemistry (GTFCh).

As a permissible variation from a target concentration <1,000 g/kg of whole blood or 1,236 g/l of serum a maximum of  $\pm$  0,05 g/kg (0,062 g/l) is valid, of a target concentration >1,000 g/kg of whole blood or 1,236 g/l of serum a maximum of  $\pm$  5%.

# ETB 1/25 ETB 2/25 ETB 3/25 ETB 4/25 21-Jan – 10-Feb 22-Apr – 12-May 08-Jul – 28-Jul 07-Oct – 27-Oct

#### **PRICES**

	<u>TEST</u>		ADD. SA	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation ETB 1 to 4/25)	3.51.500	305,-	3.51.550	208,-
Single participation				
ETB 1/25	3.51.100	87,-	3.51.150	52,-
ETB 2/25	3.51.200	87,-	3.51.250	52,-
ETB 3/25	3.51.300	87,-	3.51.350	52,-
ETB 4/25	3.51.400	87,-	3.51.450	52,-

#### MATERIAL

2 samples (A+B), liquid whole blood, each 2,5 mL

#### **ANALYTE**

Ethanol

# **REQUESTS**

Quantitative determination with GC- and/or ADH method

Accepted deviation from the target value:

- 1.)  $\leq 1.0 \text{ g/kg} \pm 0.05 \text{ g/kg}$
- 2.)  $>1,0 \text{ g/kg} \pm 5\%$
- (P) Pilot proficiency test: The proficiency test is carried out under the organizational and scientific management of Arvecon GmbH.

AMF 1/25	AMF 2/25	AMF 3/25	AMF 4/25
21-Jan – 17-Feb	29-Apr – 26-May	19-Aug – 15-Sep	04-Nov – 01-Dec

# **PRICES**

	<u>TEST</u>		ADD. SA	MPLES
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation AMF 1 to 4/25)	3.52.500	294,-	3.52.550	180,-
Single participation				
AMF 1/25	3.52.100	84,-	3.52.150	45,-
AMF 2/25	3.52.200	84,-	3.52.250	45,-
AMF 3/25	3.52.300	84,-	3.52.350	45,-
AMF 4/25	3.52.400	84,-	3.52.450	45,-

#### **MATERIAL**

2 samples (A, B), lyophilized serum, each 1,0 mL

#### **ANALYTE**

CDT

# **REQUESTS**

PETH 1/25	PETH 2/25	PETH 3/25
11-Feb – 10-Mar	10-Jun – 07-Jul	07-Oct – 03-Nov

#### **PRICES**

	<u>TEST</u>		<u>ADD. SAN</u>	<u>1PLES</u>
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation PETH 1 to 3/25)	3.53.500	275,-	3.53.550	180,-
Single participation				
PETH 1/25	3.53.100	110,-	3.53.150	60,-
PETH 2/25	3.53.200	110,-	3.53.250	60,-
PETH 3/25	3.53.300	110,-	3.53.350	60,-

#### **MATERIAL**

2 samples (A, B), lyophilized blood, each 500 µL (authentic or spiked samples)

# **ANALYTE**

Phosphatidylethanol (PEth - 16:0/18:1)

# **REQUESTS**

Quantitative determination of the analyte

(P) Pilot proficiency test: The proficiency test is carried out under the organizational and scientific management of Arvecon GmbH.

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# Simplifying Phosphatidylethanol (PEth) Analysis

ACQ Science is the 1<sup>st</sup> company to provide quality controls for the determination of the direct alcohol marker PEth:

- QC material for a broad range of analytical methods to meet the increasing demand for PEth analysis
- Whole blood controls spiked with PEth 16:0/18:1 isoform (target values at 40 and 300 ng/mL) currently on stock
- Controls and standards tailored to customer-specific concentration requirements
- Stable, lyophilized material, shelf life up to 5 years
- Together with HemaXis<sup>™</sup>, ACQ Science offers integrated solutions for quality control and sample collection to streamline PEth analysis

For more information please contact us at info@acq-science.de

HemaXis<sup>TM</sup> is a trademark of DBS System SA - for more information, visit www.hemaxis.com

Certified according to EN ISO 9001 EN ISO 13485 ACQ Science GmbH Etzwiesenstraße 37 72108 Rottenburg Germany Phone: +49 (0)7457 94693-0 Fax: +49 (0)7457 94693-69

Email: info@acq-science.de Web: www.acq-science.de



BGS 1/25	BGS 2/25
11-Mar – 07-Apr	02-Sep -29-Sep

# **PRICES**

	<u>TEST</u>		ADD. SAMPLES	
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation BGS 1 and 2/25) Single participation	3.54.500	272,-	3.54.550	134,-
BGS 1/25	3.54.100	155,-	3.54.150	67,-
BGS 2/25	3.54.200	155,-	3.54.250	67,-

- Butan-2-ol

# **MATERIAL**

Liquid serum, 1 x 2,5 mL

#### **ANALYTES**

- Propan-2-ol

- Methanol - Propan-1-ol

- Butan-2-one - Butan-1-ol - 2- u. 3-Methylbutan-1-ol

AcetoneIsopropanol

- 2-Methylpropan-1-ol

All concentrations given as mg/L

# **REQUESTS**

ETG 1/25	ETG 2/25	ETG 3/25
25-Feb – 24-Mar	17-Jun – 14-Jul	14-Oct – 10-Nov

# **PRICES**

	<u>TEST</u>		<u>ADD. SA</u>	<u>MPLES</u>
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation ETG 1 to 3/25)	3.55.500	310,-	3.55.550	156,-
Single participation				
ETG 1/25	3.55.100	124,-	3.55.150	52,-
ETG 2/25	3.55.200	124,-	3.55.250	52,-
ETG 3/25	3.55.300	124,-	3.55.350	52,-

#### **MATERIAL**

Sample A: lyophilized serum, 2,5 mL Sample B: lyophilized urine, 2,5 mL

#### **ANALYTES**

Ethyl glucuronide, Ethyl sulfate

Concentration ranges:

Serum ..... 0,1 - 5 Urine ...... 0,1 - 10

All concentrations given as mg/L

# **REQUESTS**

EGH 1/25	EGH 2/25	EGH 3/25
18-Feb – 17-Mar	03-Jun - 30-Jun	30-Sep – 27-Oct

# **PRICES**

	<u>TEST</u>		ADD. SAMPLES	
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation EGH 1 to 3/25)	3.56.500	300,-	3.56.550	165,-
Single participation				
EGH 1/25	3.56.100	120,-	3.56.150	55,-
EGH 2/25	3.56.200	120,-	3.56.250	55,-
EGH 3/25	3.56.300	120,-	3.56.350	55,-

# **MATERIAL**

2 samples (A, B): each 100 mg powdered or cut, authentic human hair

# **ANALYTE**

Ethyl glucuronide

# **REQUESTS**

Quantitative determination of the analyte

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ATU 1/25	ATU 2/25
19-Aug – 08-Sep	14-Oct -03-Nov

# **PRICES**

	<u>TEST</u>		ADD. SAMPLES	
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (Participation ATU 1 and 2/25) Single participation	4.70.500	184,-	4.70.550	80,-
ATU 1/25	4.70.100	105,-	4.70.150	40,-
ATU 2/25	4.70.200	105,-	4.70.250	40,-

# **MATERIAL**

2 samples (A, B), lyophilized urine, 1,2 mL

#### **ANALYTE**

Amanitin

# **REQUESTS**

- 1. Quantitative determination of the analytes
- 2. Interpretation of the results

MEP 1/25	MEP 2/25	MEP 3/25
11-Feb – 10-Mar	03-Jun – 30-Jun	23-Sep – 20-Oct

# **PRICES**

	<u>TEST</u>		ADD. SAMPLES	
PRODUCT	Order no.	Price	Order no.	Price
Annual subscription 2025 (participation MEP 1 to 3/25)	4.71.500	195,-	4.71.550	126,-
Single participation				
MEP 1/25	4.71.100	78,-	4.71.150	42,-
MEP 2/25	4.71.200	78,-	4.71.250	42,-
MEP 3/25	4.71.300	78,-	4.71.350	42,-

#### **MATERIAL**

2 samples (A+B), lyophilized plasma, each 2,5 mL

# **ANALYTES**

# **REQUESTS**

NIC 1/25	NIC 2/25
08-Apr – 05-May	09-Sep - 06-Oct

#### **PRICES**

	<u>TEST</u>		<u>ADD. SAI</u>	ADD. SAMPLES	
PRODUCT	Order no.	Price	Order no.	Price	
Annual subscription 2025 (participation NIC 1 and 2/25) Single participation	4.72.500	126,-	4.72.550	84,-	
NIC 1/25	4.72.100	72,-	4.72.150	42,-	
NIC 2/25	4.72.200	72,-	4.72.250	42,-	

# **MATERIAL**

Sample A, lyophilized serum, each 2.5 mL Sample B, lyophilized urine, each 2.5 mL

#### **ANALYTES**

 Nicotine
 5 - 5000

 Cotinine
 5 - 8000

 3-OH-Cotinine
 25 - 25.000

 Anabasine
 2 - 500

All concentrations given as µg/L

# **REQUESTS**

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#### 1. PARTICIPATION

All laboratories working in the field of forensic or clinical toxicology or related fields may participate.

#### 2. ANALYTICAL METHODS

If not stated otherwise in the requests regarding the proficiency test no special methods for analysis are prescribed.

#### 3. REGISTRATION

Registration for participation is possible up to the start of the EQA scheme, but for organizational reasons this should be done at least one week before the start. Later registrations within the period of the respective EQA scheme are only possible on request.

#### 4. SUBSCRIPTION AND SINGLE TEST

Enrolment may be by subscription or for an single test.

#### 5. SUBMISSION OF RESULTS

The results of the proficiency tests may be submitted by post, fax, e-mail or via our website.

#### 6. DEADLINE FOR RESULTS AND LATE ENTRIES

The results must have been reported by the scheduled deadline. Extensions are possible in justified cases after agreement with the test organizer. If the results are received late, the participant will receive a results report without including their own results.

#### 7. EVALUATION

The evaluation corresponds to acknowledged scientific criteria which are supervised by accompanying working groups and/or expert groups.

#### 8. SUBSEQUENT CORRECTIONS OF RESULTS REPORTS

Incorrect entries in the result forms can only be corrected until the reporting deadline of the respective EQA scheme. Subsequent corrections are only possible in justified cases with the approval of the GTFCh coordinators.

#### 9. CORRECTION OF REPORTS

The participants receive their reports of results by post. In case of an incorrect analysis the participants in question are entitled to receive a corrected report. Further claims do not exist.

#### 10. FAILURE OF TESTS

If a proficiency test cannot take place, already paid participation fees will be refunded.

#### 1. PERIODS FOR REGISTRATION

To guarantee a puntual process of the proficiency tests, it is necessary that the results are submitted to ARVECON up to the indicated deadline. This also applies to results sent by post. Therefore, we kindly ask you to submit your post in time or to report us your results in advance by fax or internet about your results. We recommend to transmit the results by entering them in the formula on our homepage, because only then you will receive an additional confirmation of receipt by automatic reply.

#### 2 RESULT FORMS

All result forms and reports are available in German and English. The participants coming from a non-German speaking country automatically receive the English version of all forms. Change requests have to be indicated on the registration form or communicated separately to ARVECON

#### 3. REPORTING OF THE RESULTS

All handwritten entries have to be made carefully and legible. Errors which are caused by a bad legibility of the entries cannot be corrected subsequently. All handwritten entries have to be made carefully and legible. Errors which are caused by a bad legibility of the entries cannot be corrected subsequently.

#### 4. RECLAMATIONS

If you should detect errors in the analysis or the certificate after having received the results of the proficiency tests, we kindly ask you to immediately inform ARVECON. If the error has been caused by yourself by a wrong transmission of the data, according to the decision of the board of the GTFCh, no subsequent error correction is possible, even when submitting the analysis documents.

#### 5. CORRESPONDENCE

All written requests (e-mail, post) to ARVECON can be made in German, English or French. Unfortunately, requests made in other languages can not be dealt with.

#### 6 EVALUATION TIME

At the moment, the period of analysis of the proficiency tests comes to approx. 4 weeks.

#### 7. SAMPLES MATERIAL

The management and the organizers of the proficiency tests may change the ingredients and the volume of the samples used for proficiency tests if this proves to be favourable and/or necessary.

#### 8. SHIPPING OF THE SAMPLES

The shipment of the proficiency test samples usually takes place 2 - 5 working days before the official start of the proficiency test. Especially when shipping abroad, delays in delivery may occur. We have therefore included an additional week in the testing periods. If you have not received the samples one week after the official start, please notify us by phone or e-mail to the test organizer to arrange further measures.

Shipping outside Europe will be done by express service. The costs for this will be charged separately. Costs per shipment: North America EUR 35, - | South America, Asia, Africa EUR 45, - | Oceania EUR 60, -

#### 9. PRICES

All prices stated for the proficiency tests are net prices plus the legally prescribed value added tax. Packaging and standard shipping are included in the prices. All prices stated for the proficiency tests are net prices plus the legally prescribed value added tax. Packaging and standard shipping are included in the prices.

#### 10. PAYMENT

After invoicing, payment can be made by bank transfer or credit card (Mastercard, Visa). The transmission of the credit card data can be done in writing, by E-Mail or via our homepage. Checks cannot be accepted.

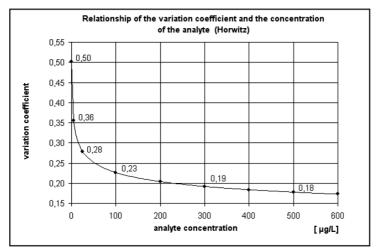
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By means of the GTFCh proficiency tests for the quantitative determination of single analytes it is possible to analyse and represent the accuracy of measurement actually to be reached according to the respective state of analysis technology in an interlaboratory comparison. Besides, the proficiency tests offer the laboratories both support and clues regarding the improvement and control as well as a forum to represent the own analytical performance.

In 1982, Horwitz [1] found out by means of 150 proficiency tests carried out independently of each other that the coefficient of variation is to be represented on average as a function of concentration:

$$VC = 2^{(1-0.5 \log C)}$$

VC = variation coefficient (%), C = concentration of the analytes as kg/L!



The standard deviation between the preferred concentration range.

Analogous to the formula, the coefficient of variation is doubling if the concentration of the analyte drops by the factor 100 (see also figure above). These now more than 30 years old data have been determinated in different ranges of concentration with various analytes and five different analysis techniques, namely chromatography, AAS, spectrometry, polarography, and bioassays. As regards the 'Horwitz function' it is indicated that it is independent of samples, analytes, and methods. However, because of improvements made in the analysis technique and considering the current results of proficiency tests, there are justifiable doubts regarding its general validity. Both the detection limit and the limit of determination of a measuring method are not considered in the Horwitz function. Today, in the course of the indispensable validation of analysis techniques and with the help of user-friendly EDP programmes, these limits may also be determined at every new calibration during the laboratory routines. It is not rare that measured values being between the limit of determination and the detection limit are communicated, though in this range the quantitative determination should not be indiacted any more because of the increasing measurement uncertainty to be determinated statistically. Nevertheless, the coefficients of variation deduced from the equation proved to be a suitable standard to assess the efficiency at single analysis techniques or in the interlaboratory comparison. Another possibility to evaluate the results of proficiency tests is to analyse the submitted data according to DIN ISO 5725 [2]. The standard deviation of reproducibility to be calculated according to DIN ISO 5725 is only

reproducibility to be calculated according to DIN ISO 5725 is only depending on the efficiency of the participants in the proficiency test. In case of stronger diverging data pools this leads to an extension of the evaluation limits compared with the Horwitz method [3]. To calculate the evaluation limits, the method according to DIN ISO 5725 requires, however, a multiple determination (at least two independent measured values) of the analyte.

#### Literature:

- HORWITZ W (1982)
   Evaluation of analytical methods used for regulation of foods and drugs. Anal Chem 54 (1): 67A -76A
- [2] DIN ISO 5725 (1994) International Organization for Standardization. Genauigkeit (Richtigkeit und Präzision) von Messverfahren und Messergebnissen. ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Genf, Schweiz
- [3] Herbold M, Schmitt G, Aderjan R (2003)
  Auswertung forensischer Ringversuche nach DIN ISO 5725, Beispiel: Haare Ringversuche 2002. In: Symposium der GTFCh, Mosbach/Baden, Hrsg.: F. Pragst, R. Aderjan, Dr. Dieter Helm Verlag, Heppenheim

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ARVECON is certified according ISO 9001:2015.

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Please send your application for membership of GTFCh to this address.

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