



**Eurofins Proficiency Tests
2006-2007**

Contact names

Programme management

Ulla Lund

Technical management of

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DRINK-8	Kirsten Stuckert (kis@eurofins.dk)
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Technical questions

Specific questions for any proficiency test: please contact the technical manager of the proficiency test in question. E-mail addresses are given above.

Other questions

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Denmark

Web-site

www.eurofins.dk/proficiencytest



Proficiency tests for wastewater treatment plant analyses 2006

	SPIL-1	SPIL-2	SPIL-3	SPIL-4
Date for proficiency test	23 March 2006	15 June 2006	28 September 2006	16 November 2006
Sample type	Wastewater, effluent	Synthetic wastewater, effluent	Untreated sewage	Wastewater, effluent
Concentration range	COD _{Cr} 5 - 75 mg/L O ₂ BOD (w. ATU) 2 - 15 mg/L O ₂ NVOC/TOC 2 - 30 mg/L C Total phosphorus 0.2 - 2 mg/L P Orthophosphate 0.1 - 2 mg/L P Chloride 50 - 700 mg/L Sulphate 50 - 400 mg/L Susp. solids 20 - 100 mg/L	Total nitrogen 2 - 20 mg/L N Ammonium 0.1 - 4 mg/L N Nitrite+nitrate 1 - 10 mg/L N Conductivity 50 - 500 mS/m pH 5 - 9	COD _{Cr} 100 - 800 mg/L O ₂ BOD (m. ATU) 50 - 500 mg/L O ₂ BOD (u. ATU) 50 - 500 mg/L O ₂ NVOC/TOC 50 - 800 mg/L C Total phosphorus 5 - 10 mg/L P Orthophosphate 1 - 7 mg/L P Chloride 50 - 700 mg/L Sulphate 50 - 400 mg/L Susp. solids 100 - 500 mg/L	Total nitrogen 2 - 20 mg/L N Ammonium 0.1 - 4 mg/L N Nitrite+nitrate 1 - 10 mg/L N Conductivity 50 - 500 mS/m pH 5 - 9
Objective	<ul style="list-style-type: none"> Assessment of interference that may appear by analysis of natural samples. Quality of analysis for the above parameters at low concentration level. 	<ul style="list-style-type: none"> Recovery of a theoretical value in an unknown sample. Quality of analysis for the above parameters at low concentration level in samples with no interfering substances. 	<ul style="list-style-type: none"> Assessment of interference that may appear by analysis of highly contaminated natural samples. Quality of analysis for the above parameters at high concentration level. 	<ul style="list-style-type: none"> Assessment of interference that may appear by analysis of natural samples. Quality of analysis for the above parameters at low concentration level.
Number of samples	2 samples, 2.5 L each, for organic matter 2 samples, 250 mL each, for phosphorus, chloride and sulphate 2 samples, 1000 mL each, for total suspended solids	2 samples, 250 mL each, for ammonium, total N, nitrite+nitrate, conductivity 2 samples, 50 mL each, for pH	2 samples, 0.5 L each, for organic matter 2 samples, 250 mL each, for phosphorus, chloride and sulphate 2 samples, 250 mL each, for total suspended solids	2 samples, 250 mL each, for ammonium, total N, nitrite+nitrate, conductivity 2 samples, 50 mL each, for pH
Price (Euro excl. VAT)	COD, TP, ortho-P: 450.- All parameters: 600.-	320.-	COD, TP, ortho-P: 450.- All parameters: 600.-	320.-

Proficiency tests for analyses of drinking water and freshwater 2006-2007

	DRINK-4	DRINK-3	FRESH-4
Date for proficiency test	2 February 2006	27 April 2006	1 February 2007
Sample type	Synthetic drinking water	Treated drinking water	Water from river or lake
Concentration range	Ammonium 0.01 - 0.5 mg/L NH ₄ Nitrite 0.01 - 0.1 mg/L NO ₂ Nitrate 0.01 - 50 mg/L NO ₃ Orthophosphate 0.005 - 0.2 mg/L P Total phosphorus 0.005 - 0.2 mg/L P COD _{Mn} 4 - 20 mg/L KMnO ₄ NVOC/TOC 1 - 5 mg/L C Colour 2 - 15 mg/L Pt Turbidity 0.05 - 1 FTU	Conductivity 30 - 200 mS/m Total dissolved solids 50 - 1500 mg/L Hydrogen carbonate 100 - 400 mg/L Sulphate 1 - 250 mg/L Chloride 10 - 250 mg/L Fluoride 0.1 - 2 mg/L Sodium 10 - 200 mg/L Potassium 1 - 10 mg/L Calcium 5 - 200 mg/L Magnesium 2 - 50 mg/L pH 6 - 9	Ammonium 50 - 500 µg/L N Nitrite-nitrate 10 - 4000 µg/L N Total nitrogen 250 - 5000 µg/L N Orthophosphate (dissolved and total) 3 - 300 µg/L P Total phosphorus 5 - 500 µg/L P Silicate 1 - 10 mg/L Si COD _{Cr} < 70 mg/L O ₂ NVOC/TOC < 20 mg/L C BOD 0.5 - 6 mg/L O ₂ Total susp. solids < 80 mg/L
Objective	<ul style="list-style-type: none"> • Recovery of a theoretical value in an unknown sample. • Quality of analysis for the above parameters in samples with no interfering substances. 	<ul style="list-style-type: none"> • Assessment of interference that may appear by analysis of natural samples. • Quality of analysis for the above parameters in soft - medium-hard drinking water. 	<ul style="list-style-type: none"> • Assessment of interference that may appear by analysis of natural samples containing suspended solids. • Quality of analysis for the above parameters at low concentration level.
Number of samples	2 samples, 250 mL each, for N-parameters 2 samples, 250 mL each, for P-parameters 2 samples, 100 mL each, for organic matter 2 samples, 250 mL each, for colour 2 samples, 50 mL each, for turbidity	2 samples, 1 L each	2 samples, 500 mL each, for inorganic nutrients, COD and NVOC 2 samples, 250 mL each, for total phosphorus and silicate 2 samples, 1000 mL each, for BOD 2 samples, 500 mL each, for total suspended solids
Price (Euro excl. VAT)	710.-	680.-	580.-

Proficiency test for analyses of landfill leachate 2006

	LEACH-8
Date for proficiency test	18 May 2006
Sample type	Leachate
Concentration range	Conductivity 100 - 5000 mS/m Alkalinity 0.2 - 4 g/L HCO ₃ Chloride 500 - 10000 mg/L Sulphate 100 - 5000 mg/L Sodium 50 - 5000 mg/L Potassium 20 - 2000 mg/L Calcium 50 - 500 mg/L Magnesium 10 - 500 mg/L Iron 3 - 100 mg/L Manganese 0.3 - 30 mg/L COD _{Cr} 100 - 20000 mg/L O ₂ BOD (m. ATU) 5 - 1000 mg/L O ₂ NVOC/TOC 30 - 2000 mg/L C Ammonium 50 - 500 mg/L N Kjeldahl-N 50 - 1000 mg/L N Total nitrogen 50 - 1000 mg/L N Total phosphorus 0.2 - 20 mg/L P
Objective	<ul style="list-style-type: none"> Assessment of interference that may appear by analysis of natural samples. Quality of analysis for the above parameters in samples with leachate.
Number of samples	2 samples, 500 mL each, for anions and cations 2 samples, 250 mL each, for iron and manganese 2 samples, 1000 mL each, for organic matter 2 samples, 250 mL each, for nutrients
Price (Euro excl. VAT)	670.-

Proficiency test for analyses of oil in soil 2006

SOLID-9	
Date for proficiency test	9 March 2006
Sample type	Soil (2 samples)
Concentration range	<p>Benzene 0.1 – 1 mg/kg</p> <p>Toluene 0.1 – 1 mg/kg</p> <p>Ethylbenzene 0.1 – 1 mg/kg</p> <p>Xylenes (concentration per parameter) 0.1 – 1 mg/kg</p> <p>Naphthalene 0.1 – 1 mg/kg</p> <p>Fluouranthne 0.005 – 1 mg/kg</p> <p>Benzo(b+j+k)flouranthener 0.005 – 1 mg/kg</p> <p>Benz(a)pyren 0.005 – 1 mg/kg</p> <p>Indeno(1,2,3-cd)pyren 0.005 – 1 mg/kg</p> <p>Dibenz(a,h)anthracen 0.005 – 1 mg/kg</p> <p>Hydrocarbon fractions 0.005 – 1 mg/kg</p> <p>Total hydrocarbons 100 - 1000 mg/kg</p> <p>(C₆H₆ – C₃₅ and C₆H₆ – C₄₀)</p>
Objective	<ul style="list-style-type: none"> • Recovery of an assigned value based on ISO 16703:2004 or Reflab method 1:1998 (Danish method). • Quality of analysis for the above parameters in natural samples.
Number of samples	2 samples, 2 * 60 g each
Price (Euro excl. VAT)	<p>1 900.- (hydrocarbons plus BTEXN or PAH)</p> <p>2 080.- (all parameters)</p>

To be sent to:

- or sent by fax +45 70 22 42 55

Eurofins A/S
Sven Aaskilde
Strandesplanaden 110
2665 Vallensbæk Strand
Denmark

Latest registration
31 January 2006

Registration

Proficiency tests for wastewater treatment plant analyses 2006

- We register for participation in **Proficiency Test SPIL-1** on 23 March 2006:
COD_{Cr}, Total phosphorus, Orthophosphate Price Euro 600.-
Extra parameters:
 BOD_{mod}, Total suspended solids
 NVOC/TOC Chloride Sulphate Price Euro 450.-
- We register for participation in **Proficiency Test SPIL-2** on 15 June 2006:
Ammonium, Nitrite+nitrate, Total nitrogen Price Euro 320.-
 Conductivity pH
- We register for participation in **Proficiency Test SPIL-3** on 29 September 2006:
COD_{Cr}, Total phosphorus, Orthophosphate Price Euro 600.-
Extra parameters:
 BOD_{mod}, Total suspended solids
 NVOC/TOC Chloride Sulphate Price Euro 450.-
- We register for participation in **Proficiency Test SPIL-4** on 16 November 2006:
Ammonium, Nitrite+nitrate, Total nitrogen Price Euro 320.-
 Conductivity pH

Prices are exclusive of Danish VAT

Please send more sample than specified in the data sheet:

Volume (SPIL-1):	ml
Volume (SPIL-2):	ml
Volume (SPIL-3):	ml
Volume (SPIL-4):	ml

Samples should be delivered to:

Laboratory _____
*VAT no. _____
Contact person _____
Address _____
City (incl. postal code) _____ Country _____
Telephone _____ Telefax _____
e-mail _____
Date _____ Signature _____

* Laboratories outside Denmark who are not able to provide their VAT number will be liable for invoice inclusive of Danish VAT (25%).

To be sent to:

- or sent by fax +45 70 22 42 55

Eurofins A/S
Sven Aaskilde
Strandesplanen 110
2665 Vallensbæk Strand
Denmark

**Latest registration
20 December 2005
(DRINK-4)**

Registration

Proficiency tests for analyses of drinking water and freshwater 2005-2006

- We register for participation in **Proficiency Test DRINK-4** on 2 February 2006:
Nutrients, Organic matter, Colour, Turbidity
Price Euro 710.-
- We register for participation in **Proficiency Test DRINK-8** on 27 April 2006:
Major components
(anions, cations, total dissolved solids, pH, conductivity)
Price Euro 680.-
- We register for participation in **Proficiency Test FRESH-4** on **1 February 2007**:
Nutrients, Organic matter, Total suspended solids
Price Euro 580.-

Prices are exclusive of Danish VAT

Please send more sample than specified in the data sheet:

Volume (DRINK-4): _____ ml

Volume (DRINK-8): _____ ml

Volume (FRESH-4): _____ ml

Samples should be delivered to:

Laboratory _____

*VAT no. _____

Contact person _____

Address _____

City (incl. postal code) _____ Country _____

Telephone _____ Telefax _____

e-mail _____

Date _____ Signature _____

* Laboratories outside Denmark who are not able to provide their VAT number will be liable for invoice inclusive of Danish VAT (25%).

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- or sent by fax +45 70 22 42 55

Eurofins A/S
Sven Askilde
Strandesplanen 110
2665 Vallensbæk Strand
Denmark

Latest registration
23 January 2006
(SPIL-5)

Registration

Proficiency tests for analyses of trace elements 2006-2007

We register for participation in **Proficiency SPIL-5** on 23 February 2006:

- Ag, As, B, Ba, Cd, Co, Cr, Cu, Hg, Mo,
Ni, Pb, Sb, Se, Sn, Tl, U, V, Zn Price Euro 1 300.-
- Hg only Price Euro 670.-

We register for participation in **Proficiency Test SOLID-5** on 7 September 2006:

- Trace elements, Dry residue, Loss on ignition,
pH, alkalinity, N and P Price Euro 1 300.-

We register for participation in **Proficiency Test DRINK-5** on **1 March 2007**:

- Ag, Al, As, B, Ba, Cd, Co, Cr, Cu, Fe, Hg, Mn,
Ni, Pb, Sb, Se, Sn, Zn Price Euro 1 200.-
- Hg only Price Euro 470.-

Prices are exclusive of Danish VAT

Please send more sample than specified in the data sheet:

Volume (SPIL-5):	ml
Weight (SOLID-5):	g
Volume (DRINK-5):	ml

Samples should be delivered to:

Laboratory _____

*VAT no. _____

Contact person _____

Address _____

City (incl. postal code) _____ Country _____

Telephone _____ Telefax _____

e-mail _____

Date _____ Signature _____

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Eurofins A/S
Sven Aaskilde
Strandesplanaden 110
2665 Vallensbæk Strand
Denmark

Registration

Proficiency test for analyses of landfill leachate 2006

We register for participation in **Proficiency Test LEACH-8** on 18 May 2006:
Major components (anions, cations, conductivity),
Fe and Mn, Organic matter, Nutrients

Price Euro 670.-

The price is exclusive of Danish VAT

Please send more sample than specified in the data sheet:

Volume: _____ ml

Samples should be delivered to:

Laboratory _____
*VAT no. _____
Contact person _____
Address _____
City (incl. postal code) _____ Country _____
Telephone _____ Telefax _____
e-mail _____
Date _____ Signature _____

* Laboratories outside Denmark who are not able to provide their VAT number will be liable for invoice inclusive of Danish VAT (25%).

To be sent to:

- or sent by fax +45 70 22 42 55

Eurofins A/S
Sven Aaskilde
Strandesplanaden 110
2665 Vallensbæk Strand
Denmark

Registration

Proficiency test for analyses of oil in soil 2006

We register for participation in **Proficiency Test SOLID-9** on 9 March 2006:

- | | |
|---|--------------------|
| <input type="checkbox"/> BTEXN, PAH, hydrocarbons | Price Euro 2 080.- |
| <input type="checkbox"/> BTEXN, hydrocarbons | Price Euro 1 900.- |
| <input type="checkbox"/> PAH, hydrocarbons | Price Euro 1 900.- |

The price is exclusive of Danish VAT

Please send more sample than specified in the data sheet:

Weight: _____ g

Samples should be delivered to:

Laboratory _____
*VAT no. _____
Contact person _____
Address _____
City (incl. postal code) _____ Country _____
Telephone _____ Telefax _____
e-mail _____
Date _____ Signature _____

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Eurofins proficiency tests 2006 - 2007 Overview

Drinking water	Fresh surface water	Wastewater	Landfill leachate	Soil, sludge, sediment, solid waste
<p>DRINK-4 2 February 2006 (synthetic) NH₄, NO₂, NO₃, PO₄, TP, COD_{Mn}, NVOC/ TOC, Colour, Turbidity</p> <p>Price: 710 Euro</p>	<p>FRESH-4 1 February 2007 NH₄, NO₂₊₃, TN, PO₄, TP, SiO₂, COD_{Cr}, NVOC/TOC, BOD, SS</p> <p>Price: 580 Euro</p>	<p>SPIL-1 3 March 2006 (treated sewage) TP, COD_{Cr}, PO₄, BOD, SS, NVOC/ TOC, Cl, SO₄</p> <p>Price: 450 Euro (COD, TP, PO₄, only)</p> <p>600 Euro (all parameters)</p>	<p>LEACH-8 18 May 2006 Alkalinity, Cl, SO₄, Na, K, Ca, Mg, Con- ductivity, Fe, Mn, COD_{Cr}, BOD, NVOC/ TOC, NH₄, Kjeldahl- N, TN, TP</p> <p>Price: 670 Euro</p>	<p>SOLID-9 9 March 2006 (soil) BTEXN, PAH (5 parameters), Hydrocarbon fractions, Total hydrocarbons</p> <p>Price: 1 900 Euro (hydrocarbons plus BTEXN or PAH)</p> <p>2 080 Euro (all parameters)</p>
<p>DRINK-8 27 April 2006 HCO₃, SO₄, Cl, F, Na, K, Ca, Mg, Con- ductivity, Total dissolved solids, pH</p> <p>Price: 680 Euro</p>		<p>SPIL-2 SPIL-2 15 June 2006 (synthetic treated sewage) TN, NH₄, NO₂₊₃, Conductivity, pH</p> <p>Price: 320 Euro</p>	<p>SPIL-5 23 February 2006 Ag, Al, As, B, Ba, Cd, Co, Cr, Cu, Hg, Mo, Ni, Pb, Sb, Se, Sn, Ti, U, V, Zn</p> <p>Price: 670 Euro (Hg only)</p> <p>1 300 Euro (all para- meters)</p>	<p>SOLID-5 7 September 2006 (sludge) Ag, As, B, Ba, Cd, Co, Cr, Cu, Hg, Mo, Ni, Pb, Se, Sn, Sb, Ti, U, V, Zn, pH, Al- kalinity, Dry residue, Loss on ignition, TN, TP, Ca, Fe</p> <p>Price: 1 300 Euro</p>
<p>DRINK-5 1 March 2007 Ag, Al, As, B, Ba, Cd, Co, Cr, Cu, Fe, Hg, Mn, Ni, Pb, Sb, Se, Sn, Zn</p> <p>Price: 470 Euro (Hg only)</p> <p>1 200 Euro (all parameters)</p>		<p>SPIL-3 28 September 2006 (raw wastewater) TP, COD_{Cr}, PO₄, BOD, SS, NVOC/ TOC, Cl, SO₄</p> <p>Price: 450 Euro (COD, TP, PO₄, only)</p> <p>600 Euro (all parameters)</p>		
		<p>SPIL-4 16 November 2006 (treated sewage) TN, NH₄, NO₂₊₃, Con- ductivity, pH</p> <p>Price: 320 Euro</p>		



Eurofins A/S has developed and supplies manuals and software for quality management in laboratories, including

*Software: QUALITY – software for database and statistical analysis of data from internal quality control (English version)
 QUALITÉ (French version)*

*Manuals: Internal Quality Control in Environmental Laboratories, 2001
 Analytical Quality Assurance and Control, 1997 (prepared for the global fresh-water monitoring programme, GEMS/WATER)
 Internal QUALITY CONTROL (L)-Handbook for Chemical Laboratories, 2005*

Sven Aaskilde (saa@eurofins.dk) can supply information and will take orders for these products.