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Misc. methods



The collection of reference standards
- 2008 -



Miscellaneous methods

NORDTEST technical reports 497, 498, 499 Oil spill identification

www.nordtest.org

Proposed CEN method, Revision of the Nordtest Methodology for Oil Spill Identification.

The project is a collaboration between the National Forensic Oil Spill Identification laboratories in Finland, Denmark, Norway, Sweden and Battelle Laboratories in the USA. The technical reports summarise the results of an extensive literature study. A database of diagnostic ratios for presently 28 crude oils and oil products has been established. GC chromatograms and ion chromatograms of diagnostic biomarkers for these oils are given. This method is proposed for the CEN system.

This report lists biomarkers to be analysed and gives recommendations for internal standards:

Internal standards (ISTD)

0348.18-200-10HX	Surrogate ISTD, o-Terphenyl, 2 mg/L, 10 mL Dilute to 200µg/mL working standard in hexane		
0674.19-200-10HX	Recovery ISTD, 5-(H)-Androstane, 2 mg/mL, 10 mL Dilute to 200µg/mL working standard in hexane		
S-4163-500-XY	Surrogate ISTD - PAH 3 Analytes each 500µg/mL in xylene; unit: 1x1mL		
	0978.10	d8-Naphthalene	[0978.10]
	0389.14	d10-Phenanthrene	[0389.14]
	1024.18	d12-Chrysene	[1024.18]
S-4173-100-XY	Recovery ISTD - PAH 3 Analytes each 100µg/mL in xylene; unit: 1x1mL		
	1534.20	d12-Perylene	[1520-96-3]
	1524.12	d10-Acenaphthene	[15067-26-2]
	1530.13	d10-Fluorene	[81103-79-9]

Analytical standard mixes

S-4160-100-10HX	Analytical Standard for n-alkanes, 10 mL Use 100µg/mL in hexane as a working standard n-C10-C40 + Pristane
0629.20-K-IO	Other alternative mixes: Analytical standard for phytane
S-4066-100-HX	Mixture with the n-alkanes + pristane, phytane
S-4106-100-HX	n-Alkane C10-C40 (even+pristane, phytane)



S-4110-100-CY n-Alkane C10-C40 (even and uneven+pristane, phytane)

See page 186 in the Petroleum section

S-4200-ASS-HX

Calibration Standard THC

26 Analytes, each concentration as listed in hexane; unit : 6x1mL

The working standard concentrations are:

o-Terphenyl (ITSD)	200 µg/mL
5a-Androstane (ITSD)	200 µg/mL
n-Alkane C10-C40 (even + pristane, phytane)	1 µg/mL
n-Alkane C10-C40 (even + pristane, phytane)	5 µg/mL
n-Alkane C10-C40 (even + pristane, phytane)	10 µg/mL
n-Alkane C10-C40 (even + pristane, phytane)	20 µg/mL
n-Alkane C10-C40 (even + pristane, phytane)	50 µg/mL
n-Alkane C10-C40 (even + pristane, phytane)	100 µg/mL

S-4063-100-5DC

16 priority PAH, cocktail 1

See the Environmental section, page 138.

16 EPA PAHS each 100 µg/mL in dichloromethane; unit: 1x5 mL

S-4191-100-5DC

PAH - others

13 Analytes, each 100 µg/mL in dichloromethane; unit: 1x5 mL

0712.11	1-Methylnaphthalene	[90-12-0]
0728.12	2,3-Dimethylnaphthalene	[581-40-8]
0341.12	Biphenyl	[92-52-4]
0811.15	1-Methylphenanthrene	[832-69-9]
0768.16	3,6-Dimethylphenanthrene	[1576-67-6]
0350.14	1-Methylfluorene	[1730-37-6]
0352.15	9-Ethylfluorene	[2294-82-8]
0884.12	Dibenzothiophene	[132-65-0]
0449.14	2,8-Dimethyldibenzothiophene	[1207-15-4]
0220.20	Perylene	[198-55-0]
1100.12	Dibenzofuran	[132-64-91]
0938.8	Benzo[b]thiophene	[95-15-8]
1263.10	Decahydronaphthalene (decaline)	[91-17-8]

Please inquire for details

For a complete range of NPDs and PAHs standards and mixtures, see pages 143 and 129.

Single component standards

PAHs

58 compounds listed in the standard. All are available from Chiron, see the Compounds section page 295.

Biomarkers

38 compounds listed in the standard. More than 30 are available from Chiron, see the Compounds section page 225.



FOR 2001-09-03 No. 1157

Aromatics in produced water

S-4229-200-T

Aromatic Petroleum Pollutants

6 Analytes, each 200 µg/mL in toluene; units: 1x1 mL, 5x1 mL

0712.11	1-Methylnaphthalene	[90-12-0]
0725.12	1,6-Dimethylnaphthalene	[575-43-9]
0812.15	2-Methylphenanthrene	[2531-84-2]
0768.16	3,6-Dimethylphenanthrene	[1576-67-6]
0260.16	Fluoranthene	[206-44-0]
0239.20	Benzo[a]pyrene	[50-32-8]

Concentrations are designed according to customer requirements

S-4230-ASS-T

Aromatic Petroleum Pollutant IS-Mixtures

3 Analytes, each concentration as listed in toluene; units: 1x1 mL, 5x1 mL

1313.10	1-Fluoronaphthalene	[321-38-0]	400 µg/mL
1316.14	3-Fluorophenanthrene	[440-40-4]	200 µg/mL
1319.16	2-Fluorofluoranthene	[1691-66-3]	100 µg/mL

NS 9815

PAHs by GC

Water and Air Analysis

Gas Chromatographic Analysis for the Determination of Polycyclic Aromatic Hydrocarbons.

S-4008-100-T

Norwegian Standard (NS 9815)

16 Analytes, each 100 µg/mL in toluene; unit: 1x1 mL

0816.14	Phenanthrene	[85-01-8]
1049.14	Anthracene	[120-12-7]
0260.16	Fluoranthene	[206-44-0]
0235.16	Pyrene	[129-00-0]
0259.17	11H-Benzo[a]fluorene	[238-84-6]
0218.17	11H-Benzo[b]fluorene	[243-17-4]
0201.18	Benz[a]anthracene	[56-55-3]
0212.18	Chrysene	[218-01-9]
0263.20	Benzo[b]fluoranthene	[205-99-2]
0265.20	Benzo[k]fluoranthene	[207-08-9]
0239.20	Benzo[a]pyrene	[50-32-8]
0236.20	Benzo[e]pyrene	[192-97-2]
0277.22	Indeno[1,2,3-cd]pyrene	[193-39-5]
0203.22	Dibenz[a,h]anthracene	[215-58-7]
0222.22	Benzo[ghi]perylene	[191-24-2]
0244.24	Dibenzo[a,e]pyrene	[192-65-4]