

MS-3 Polycyclic Aromatic Hydrocarbons in Sediment	
Year: 2024	Participants: 30 laboratories expected
Number of rounds: 2 per year	Start exercise: 1 April, 1 October
Number of materials: 2 per round	Sample size: 50 g

[Participation form](#)
[Timetable](#)
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This study covers the determination of Polycyclic Aromatic Hydrocarbons (PAHs) and total organic carbon (TOC) in marine sediment.

## Test Materials

The test materials cover a range of natural sediments from contaminated waters from the North Sea and/or Mediterranean. Each batch of material is prepared in bulk. The level of within and between sample homogeneity for the sediment is determined. All materials show to be homogeneous and stable for the purpose of the test.

## Determinands and Concentration Ranges

The PAHs to be determined are given in the table below. The table also shows:

- The expected concentration range for the determinands in the test materials.
- The constant and proportional error that will be used for assessment of the results.

Determinand*	Unit	Concentration Range	Error	
		Sediment	Const	Prop
<b>Acenaphthene</b>	µg/kg	0.5-2000	1	25.0%
Acenaphthylene	µg/kg	0.5-1000	0.2	25.0%
<b>Anthracene</b>	µg/kg	1-500	1.5	22.5%
<b>Benzo[a]anthracene</b>	µg/kg	2-1500	3	20.0%
Benzo[a]fluorene	µg/kg	2-1000		
<b>Benzo[a]pyrene</b>	µg/kg	2-1500	2	20.0%
<b>Benzo[b]fluoranthene</b>	µg/kg	5-1500	2.5	25.0%
<b>Benzo[k]fluoranthene</b>	µg/kg	2-1000	0.75	22.5%
<b>Benzo[e]pyrene</b>	µg/kg	2-1500	1	20.0%
<b>Benzo[g,h,i]perylene</b>	µg/kg	2-1500	0.75	22.5%
<b>Chrysene</b>	µg/kg	2-1500	2	22.5%
<b>Chrysene+Triphenylene</b>	µg/kg	2-3000	1	20.0%
<b>Triphenylene</b>	µg/kg	1-3000		
<b>Dibenz[a,h]anthracene</b>	µg/kg	0.5-500	0.25	25.0%
Dibenzo[a,i]pyrene	µg/kg			
<b>Dibenzothiophene</b>	µg/kg	0.5-200	1	25.0%
<b>Fluoranthene</b>	µg/kg	5-4000	1	20.0%
<b>Fluorene</b>	µg/kg	0.5-1000	1.5	25.0%

Determinand*	Unit	Concentration Range	Error	
		Sediment	Const	Prop
<b>Indeno[1,2,3-cd]pyrene</b>	µg/kg	2-1500	1	25.0%
Naphthalene	µg/kg	2-4000	3	25.0%
1-methylnaphthalene	µg/kg			
2-methylnaphthalene	µg/kg		5	25.0%
1-methylanthracene	µg/kg			
2-methylanthracene	µg/kg			
<b>Perylene</b>	µg/kg	2-500	1	25.0%
<b>Phenanthrene</b>	µg/kg	5-3000	3	20.0%
1-methylphenanthrene	µg/kg			
<b>2-Methylphenanthrene</b>	µg/kg	1-1000	2	20.0%
3,6-Dimethylphenanthrene	µg/kg	0.5-500	0.3	25.0%
<b>Pyrene</b>	µg/kg	2-4000	2	17.5%
1-Methylpyrene	µg/kg	0.5-500		
1,2-benzodiphenylene sulfide	µg/kg			
<b>TOC</b>	%	0.2-10	0.1	10.0%
<b>C1-phenanthrenes/anthracenes</b>	µg/kg		5	25.0%
<b>C2-phenanthrenes/anthracenes</b>	µg/kg		5	25.0%
<b>C3-phenanthrenes/anthracenes</b>	µg/kg			
C1-pyrenes/fluoranthenes	µg/kg			
C2-pyrenes/fluoranthenes	µg/kg			
C1-chrysenes	µg/kg			
C2-chrysenes	µg/kg			
C1-benzofluoranthenes	µg/kg			
C1-dibenzothiophenes	µg/kg			
<b>C2-dibenzothiophenes</b>	µg/kg			
C3-dibenzothiophenes	µg/kg			
C1-naphtalenes	µg/kg			
C2-naphtalenes	µg/kg		20	25.0%
C3-naphtalenes	µg/kg			
C1-phenanthrenes	µg/kg			
<b>Benzofluoranthenes (b+j)</b>	µg/kg			
Benzofluoranthenes (a+b+j+k)	µg/kg			
Total petroleum hydrocarbons	mg/kg			
<b>PN</b>	%			

\*Determinands which are not in bold are not in the scope of accreditation.