

PRODUKT NYTT SAMPLE PREP:

AUTOMATISERT OPPARBEIDING AV OLJE I VANN PRØVER GC/FID – FTIR- ERAECHECK - INFRAKAL.

Installasjon 1 dag

Opplæring maks **2 timer**

Test / Optimalisering 1 dag



- Ingen emulsjoner
- Ingen pentan eksponering
- Bedret Repeterbarhet
- Bedret Reproduserbarhet
- Bedret Recovery
- Ikke bruker avhengig
- Brukes av Mongstad Raff – Esso Slagen
- Metode validert hos Horizon og senere gjenntatt på Mongstad.

Validert Metode



Determination of Dispersed Oil in Water Using Automated SPE in Compliance with OSPAR and ISO 9377-2 Methods in Norway

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Introduction

Accurate measurement of dispersed oil-in-water (OIW) has become increasingly more important as International regulations are implemented, including the 2000/2001 Oslo/Paris Convention (OSPAR) and ISO 9377-2, the UK Dispersed Oil in Produced Water Trading Scheme, and the Norwegian State Pollution Control Authority (SFT). Each of these regulations now requires off-shore oil platforms monitor their discharge into the sea. OSPAR also recommends that no individual off-shore installation should exceed a set performance standard for dispersed oil of 30 mg/L for produced water discharged into the sea. Oil refineries in the designated regions are also beginning to comply to both the OSPAR method and ISO 9377-2.

With the implementation of these regulations, it is imperative that off-shore platforms and refineries comply with these rules, and demonstrate to regulators and government bodies that effective and accurate oil-in-water monitoring is taking place, as non-conformance of these regulations can result in financial penalties. In addition to the benefits to the environment, with opportunities to participate in

Related documentation has discussed some of the difficulties faced in regards to the OIW monitoring process. This can potentially create confusion as to what is required to be measured when the new implementations take place. For example; many methods require chemicals such as biocides emulsion

Table 1: SPE-DEX® 4790 Extraction Method

STEP	SOLVENT	SOAK TIME	DRY TIME
Prewet #1	Pentane	1:00 Min	0:30 s
Prewet #2	Methanol	1:00 Min	0:30 s
Prewet #3	Reagent Water	1:00 Min	0:30 s
Prewet #4	Reagent Water	0:00 s	0:00 s
Sample Process			
Air Dry			0:30 s
Rinse Step #1	Methanol	3:00 Min	0:20 s
Rinse Step #2	Pentane	3:00 Min	0:20 s
Rinse Step #3	Pentane	2:00 Min	0:20 s
Rinse Step #4	Pentane	2:00 Min	0:20 s
Rinse Step #5	Pentane	2:00 Min	1:00 Min

Det of Recovery = 101.4%

mg/L Vann

Recovery test 5mL aceton/900mL vann på Horizon Spedex 4790



Fortynnet kontroll 5mL aceton / 45mL Pentan



Mengde iht sertifikat 20mg/L

Utdrag fra OSPAR:

9.2 Determination of the recovery

Determine the recovery at regular intervals, preferably in each series of tests, using 900 ml of water (6.1) to which 1,0 ml of the QC standard (6.8.3) has been added. Perform the test starting with 9.3 and calculate the recovery. Ensure that the recovery is between 80 % and 110 %

Glem flourisil

9.4 Clean-up procedure

Transfer the *n*-pentane phase (see 9.3) to a small column (see Figure A.1) filled with 2 g of Florisil (6.7) and covered with a layer of 2 g of sodium sulfate (6.3).

NOTE Pre-rinsing of the column with a few milliliters of *n*-pentane (6.2) can be useful to prevent the formation of channels.

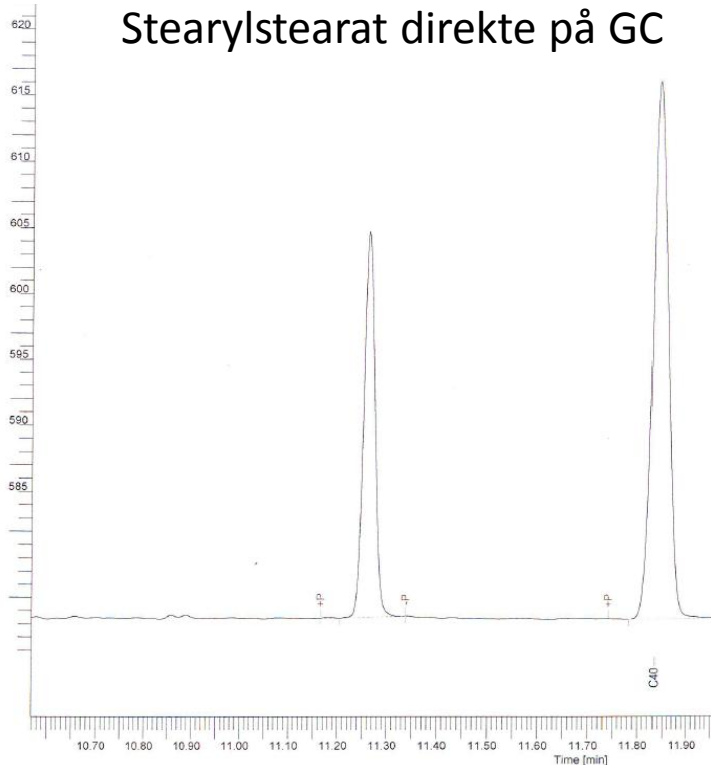
Let the *n*-pentane phase (see 9.3), followed by an additional 10 ml of *n*-pentane (6.2), run through the column into a 50 ml volumetric flask until the liquid reaches the 50 ml mark.

NOTE Other procedures using the same amount of Florisil for cleaning the extract, e.g. shaking the total extract with 2 g of Florisil during 30 min on a shaking apparatus, may be used as an alternative, provided the results are equivalent to the column testing of Florisil (see 9.6).

Gortex sprøytefilter til vial fjerner eventuell vann/metanol rest !!

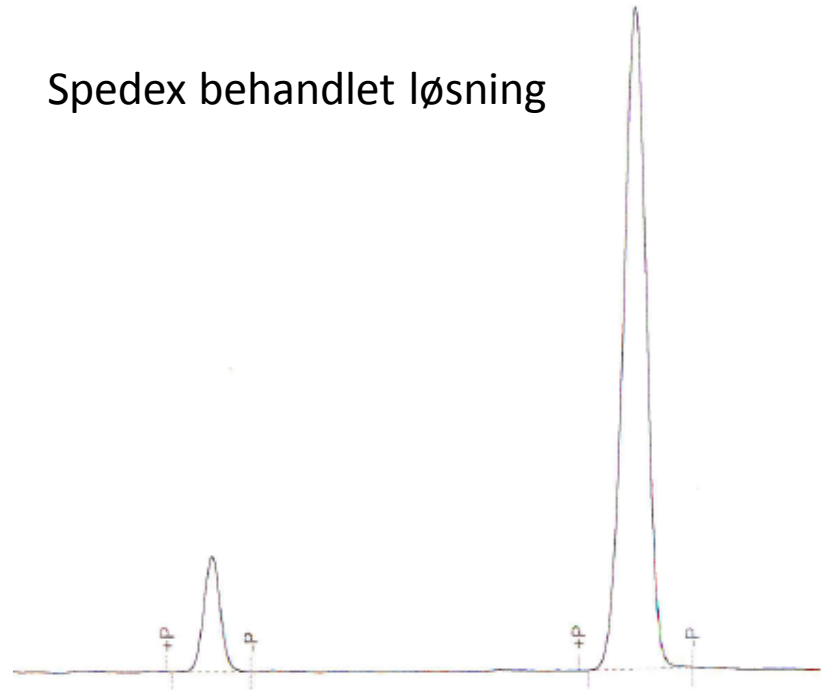
Automatisk OIW Prep / Polar Compounds

Stearylstearat direkte på GC



Topp nr.	Komponent Navn	Retensjonstid [min]	Areal [uV*sec]
3	Hydrokarboner	6.83	46065
3	C40	11.60	89729

Spedex behandlet løsning



Topp nr.	Komponent Navn	Retensjonstid [min]	Areal [uV*sec]
2	Hydrokarboner	6.83	12856
2	C40	11.60	102682

Polare forbindelser blir borte under metanol behandling av SPE disk.