

HC 300

Hydrocarbons

Test 0-57



| | | |
|--------------------------|---|--------------------------------------|
| Method: | Patented photometric determination of hydrocarbons as chemical oxygen demand (COD) after pentane extraction from water and soil samples | Method 0571 0572 |
| Ranges: | 0.5–5.6 mg/L HC 30–300 mg/kg HC | |
| NANOCOLOR® reagent sets: | HC 300 (REF 985 057) and HC extraction from water (REF 918 571) or HC extraction from soil (REF 918 572) | |
| Wavelength: | 436 nm | |
| Interferences: | A fat content exceeding 1000 mg/L results in high hydrocarbon values. Residual pentane also causes high hydrocarbon results. For this reason the evaporation time for the solvent has to be strictly observed and all glassware has to be free of fat. Hydrocarbons with boiling temperature < 120 °C (e. g. petrol) are not covered by the test. This method can also be used for analyzing sea water. | |

Procedure: Requisite accessories: 2 separation funnels 500 mL (REF 916 08), Soxhlet apparatus 30 mL (REF 916 05), extraction thimbles 23 Ø x 100 mm (REF 645 008), 2 columns CHROMABOND® ALOX N (REF 730 250), plastic syringe 50 mL with syringe adaptor (REF 916 09 and 916 03), volumetric flask 25 mL (REF 916 61), volumetric flask 50 mL (REF 916 06), measuring cylinder 50 mL (REF 916 84), piston pipette with tips and additional stop valve (REF 916 21), NANOCOLOR® heating block, reaction tubes (REF 916 80), threaded union (REF 916 04)

1a. Extraction of water samples

In the separation funnel add **25 g** magnesium sulphate to **400 mL** water sample (*the pH value of the sample must be between pH 1 and 10*). Shake for about 1 min, until the magnesium sulfate has dissolved. Add **25 mL** n-pentane and shake for about 5 min with frequent careful ventilation. Let phases separate. Discard lower aqueous layer.

Apply organic layer to the CHROMABOND® ALOX N column* and collect solvent in the volumetric flask 25 mL. Rinse the column with n-pentane, until the volumetric flask is filled slightly below the ring mark and then top up the volumetric flask to the ring mark. Close volumetric flask and mix by shaking slightly.

*not necessary for the determination of lipophile substances



1b. Extraction of soil samples

Sieve 50 g of the moist soil sample (2 mm mesh size). Grind **15 g** of the sieved sample with **15 g** sodium sulfate in a mortar and transfer mixture into the extraction thimble. Place the extraction thimble into the Soxhlet extractor and fill the flask with **50 mL** n-pentane. Set up apparatus, adjust the temperature of heating unit (hotplate or water bath) to 70 °C and reflux for 1 h.

Apply organic extract to the CHROMABOND® ALOX N column* and collect solvent in the volumetric flask 50 mL. Rinse the column with n-pentane, until the volumetric flask is filled slightly below the ring mark and then top up the volumetric flask to the ring mark. Close volumetric flask and mix by shaking slightly.

*not necessary for the determination of lipophile substances

