



## *Moisture Determination in Petroleum*

### General

Water determination in hydrocarbons is relatively straightforward. Lower hydrocarbons dissolve in methanol, however, even if the dissolution is incomplete, water is rapidly extracted and completely titrated. In the case of long chain hydrocarbons, 1-propanol or chloroform are added to improve solubility.

### Reagent

Titant: HYDRANAL-Titrant 2

Working medium: 40 ml

HYDRANAL-Solvent CM or 15 ml

HYDRANAL-Solvent + 30 ml chloroform

A one-component reagent can be used as well:

Titant: HYDRANAL-Composite 2

Working medium: 20 ml methanol + 20 ml chloroform

### Primary Settings

Method ID:	Petroleum
Use oven:	No
Auto start:	Yes
Blank:	No
Uncert. calc.:	Yes
Reproducibility:	0.1%

### Parameters

Stirring speed:	600 rpm
Max. bur. speed:	150%/min
Min. titr. time:	00:30 (min:s)
Max. titr. time:	00:05 (h:min)
Max. volume:	10 ml

### Sample

Sample ID:	Yes
Sample unit:	g
Advised amount:	10.00 g
Uncertainty:	0.001 g
Sample factor:	1
Result unit:	mg/g
Number of digits:	6
Quality control:	No

### Procedure

The sample is administered with a plastic syringe with a needle.

Weigh by difference.

Sample amount: 10 g

### Comments

The solvent must be renewed after each analysis.

In order to obtain accurate measurements, we recommend adjusting the sample size and choosing the titre so that the delivered titrant amount is at least 1 ml.

However, the solubility of some samples limits the amount that can be injected into the KF cell. If the sample has a low moisture content, the small sample size will mean that the amount of titrant needed may consequently be lower than 1 ml.

The uncertainty on the delivered volume is quite constant so the only consequence is to increase the relative uncertainty on the result. This is taken into account for the results in the uncertainty calculations.

### Results

Mean: 0.067 ±0.019 mg H<sub>2</sub>O/g  
 (K=2, 4 replicates)  
 K: coverage factor