



Moisture Determination in Skin Cream

General

Cosmetic products are very often emulsions with a very high water content, which must be exactly determined. This requires precise sampling, weighing and administration of the substance. Samples are therefore preferentially administered with a syringe, which is weighed. Oil-water emulsions require the addition of chloroform, titrating at high temperatures can dissolve waxy substances more rapidly.

This compound dissolves only poorly in methanol and requires addition of chloroform to the solvent system. A titration as a suspension is also acceptable. Water will be extracted from the suspended compound quickly. Chloroform is a good solvent for fats and can be used together with methanol, whereby the methanol content is at least 25%.

Reagent

Titrant: HYDRANAL-Titrant 5

Working medium: 40 ml

HYDRANAL-Solvent CM or 20 ml

HYDRANAL-Solvent + 20 ml chloroform

A one-component reagent can be used as well:

Titrant: HYDRANAL-Composite 5

Working medium: 20 ml methanol + 20 ml chloroform

Primary Settings

Method ID: BIAFINE
Use oven: No
Auto start: Yes

Blank: No
Uncert. calc.: Yes
Reproducibility: 5.0%

Parameters

Stirring speed: 600 rpm
Max. bur. speed: 150%/min
Min. titr. time: 01:30 (min:s)
Max. titr. time: 00:05 (h:min)
Max. volume: 10 ml

Sample

Sample ID: Yes
Sample unit: g
Advised amount: 0.010 g
Uncertainty: 0.001 g

Sample factor: 1
Result unit: %
Number of digits: 6
Quality control: No

Procedure

The sample is administered with a plastic syringe without needle or with a large diameter needle. Weigh by difference.
Sample Amount: 0.01 g

Comments

After 5 measurements, white filaments appear on the detector electrode, but do not impede the end point detection.

Results

Mean: 72.02 ±9.911% H₂O

(K=2, 5 replicates)

K: coverage factor