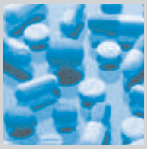
DENVER INSTRUMENT





Moisture Determination in Toothpaste

General

Toothpaste has a high water content, which must be exactly determined. This requires precise sampling, weighing and administration of the substance. The sample is therefore preferentially administered with a syringe, which is weighed.
From the chemical structure, no interference should be obtained, so a titration according to the standard procedure can be carried out.

Reagent

Titrant: HYDRANAL-Titrant 5
Working medium: 40 ml
HYDRANAL-Solvent
A one-component reagent can be used as well:
Titrant: HYDRANAL-Composite 5
Working medium: 40 ml methanol

Primary Settings

Method ID:	Toothpaste
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:	02:00 (min:s)
Max. titr. time:	00:05 (h:min)
Max. volume:	10 ml

Sample

Sample ID:	Yes
Sample unit:	g
Advised amount:	0.030 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: 0.03 g

Comments

Although toothpaste does not dissolve completely, the total water content is quickly extracted. More than 5 analyses should not be performed in a row as the indicator electrode and the tubing to the waste bottle might get clogged.

Results

Mean: 45.90 ±13.73% H2O
(K=2, 5 replicates)
K: coverage factor