



Moisture Determination in Chocolate

General

Confectionery varies in composition, this necessitates different kinds of treatment. High fat contents require addition of chloroform. If the substance contains vegetable residues, formamide promotes the extraction of the water and the titration should be carried out preferably at a high temperature. A finely divided sample is important. According to its consistency the sample can be ground or grated.

Chocolates have a very high fat content and are inadequately soluble or suspendible in a methanolic working medium. Addition of chloroform improves dissolution.

Chloroform is a good solvent for fats and can be used together with methanol, whereby the methanol content is at least 25%. The titration can be carried out at room temperature and at 50°C using a thermostated cell.

Reagent

Titrant: HYDRANAL-Titrant 5

Working medium: 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:	Chocolate
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:	02:30 (min:s)
Max. titr. time:	00:05 (h:min)
Max. volume:	10 ml

Sample

Sample ID:	Yes
Sample unit:	g
Advised amount:	0.500 g
Uncertainty:	0.001 g
Sample factor:	1

Result unit:	%
Number of digits:	6
Quality control:	No

Procedure

The sample is cut as finely as possible with a sharp blade and weighed out by difference by using a powder funnel.

The thermostated cell should be maintained at 50°C with a thermostatic bath.

Sample amount: 0.5 g

Comments

The solvent should be renewed after 5 determinations.

Results

Mean: 1.008 ±0.060%

(K=2, 7 replicates)

K: coverage factor