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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22035-2008

**Test of vegetable fat in milk and milk products -- Gas
chromatography**

乳及乳制品中植物油的检验 气相色谱法

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
4 Reagents and materials
5 Apparatus
6 Sample preparation
6.1 Liquid samples

Foreword

This revised standard adopts the International Standard ISO 3594. 1976 "cream of vegetable detected by Gas Chromatography sterol Law" (in English).

Taking into account the situation of our country, the present standard and ISO 3594. 1976 The main differences are as follows.

Preparation of samples --- increase;

--- Modify the analysis step, increase the preparation of test solution, saponification, extraction step;

--- Modify GC reference conditions;

--- International Standard replacing the test report reg;

--- Remove the chromatogram international standards, increase the informative annex A of cholesterol, beta- sitosterol typical gas chromatogram;

--- Write format, in accordance with the terms of the standard GB/T 1.1-2000

"Standardization Guide Part 1. The structure and coding standards Write the rules "and GB/T 20001.4-2001" Rules for drafting standards - Part 4. Methods for chemical analysis. " Appendix A of this standard is an informative annex.

The standard proposed by the People's Republic of China Ministry of Agriculture.

This standard by the National Standardization Technical Committee of animal husbandry.

1 Scope

This standard specifies the test by gas chromatography milk and dairy products in vegetable oil method.

This standard applies to milk and dairy products in vegetable oil qualitative test.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-1992, neq ISO 3696. 1987) Principle 3 After sample ethanolic potassium hydroxide saponified with ether, aliphatic petroleum ether, the solvent was removed by distillation or evaporation, and extracted with n-hexane Take the free sterols, analyzed by gas chromatography. If the measured sample containing beta- sitosterol, containing vegetable oil component is determined.

4 Reagents and materials

All reagents if not stated specifications, were of analytical grade; experimental water if not specified, shall comply with the provisions of GB/T 6682's.

4.1

hexane (C₆H₆). chromatography.

4.2

Ethanol (C₂H₅OH). 95%.

Ether 4.3 [(C₂H₅)₂O].

4.4

petroleum ether. boiling range 30 °C ~ 60 °C.

4.5

anhydrous sodium sulfate (Na₂SO₄).

4.6

Potassium hydroxide solution. 500g/L.

Weigh 500g of potassium hydroxide (KOH), after the transfer to dissolved 1000mL volumetric flask, constant volume, and mix.

4.7

cholesterol and beta- sitosterol mixed standard solution. Each ml of each single component sterol is 0.4mg.

Cholesterol were accurately weighed and beta- sitosterol standard 10mg, dissolved in hexane (4.1) and set the volume to the same 25mL volumetric flask in. Shake, stored in a refrigerator, valid for 60d.

5 Apparatus

Usual laboratory equipment and the following.

5.1

Gas chromatograph. equipped with a flame ionization detector (FID).

5.2

Analytical Balance (a sense of volume 0.01g).

5.3

Analytical balance (the amount being 0.1mg).

5.4

rotary evaporator.

5.5

grinding mouth Erlenmeyer flask. 250mL, can be connected to an air condenser.

6.1 Liquid samples

Weighing 20g sample, accurate to 0.01g, placed grinding mouth Erlenmeyer flask (5.5) in.