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

GB/T 11538-2006

**Essential oil -- Analysis by gas chromatography on capillary
columns -- General method**
(English Translation)

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Foreword

This Standard is identical to the International Standard ISO 7609:1985

"Essential oil - Analysis by gas chromatography on capillary columns - General method".

For ease of use, the following editorial changes have been made to this Standard:

- a) The word "this International Standard" is changed to "this Standard";
- b) "ISO 356" is changed to "GB/T 14454.-1993", "ISO 7359" is changed to "GB/T 11539-1989";
- c) DELETE the foreword of ISO 7609:1985.

This Standard replaces GB/T 11538-1989 "Essential oils - Analysis by gas chromatography on capillary columns - General method".

This Standard was proposed by China Light Industry Council.

This Standard shall be under the jurisdiction of the National Technical Committee on Fragrance, Flavor and Cosmetic of Standardization Administration of China.

This Standard was drafted by Shanghai Research Institute of Fragrance & Flavor Industry.

Main drafters of this Standard: Zhang Xinjun, Xu Yi, Jin Qizhang, Kang Wei.

The previous released version replaced by this Standard is as follows: GB/T 11538-1989.

Introduction

Since the description of methods of analysis by gas chromatography is very long, it is considered useful to establish general methods on the one hand, giving detailed information on all the recurrent parameters, apparatus, products, methods, formulae, etc., and on the other hand standards with short details on the determination of specific constituents in the essential oils, giving only those operating conditions specific to the pertinent determination.

These short-version standards will either refer to the present standard for gas chromatographic analyses on capillary columns or to GB/T 11539-1989 for "Isolate and synthetic aromatics - Analysis by gas chromatography on packed columns - General method".

Essential oils - Analysis by gas chromatography on
capillary columns - General method

1 Scope

This Standard specifies a general method for the analysis of essential oils by gas chromatography on capillary columns for the purpose of determining the content of a specific constituent and/or searching for a characteristic profile.

2 Normative references

The following documents contain the provisions which, through reference in this Standard, become the provisions of this Standard. For dated references, their subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard. However, the parties who enter into agreement based on this Standard are encouraged to investigate whether the latest versions of these documents are applicable. For undated reference documents, the latest versions apply to this Standard.

GB 11539-1989 Isolate and synthetic aromatics - Analysis by gas chromatography on packed columns - General method (neq ISO 7359:1985)
GB/T 14454.1-1993 Aromatics. Preparation of test sample (neq ISO 356:1977)

3 Principle

Analysis by gas chromatography under specified conditions of a small quantity¹⁾ of essential oil on a column of small diameter but great length, the inside wall of the column having been previously coated either directly with a specified stationary phase or with an impregnated support (column coated internally with impregnated support).

If required, identification of the different constituents from their retention indexes.

Quantitative determination of specific constituents by measurement of peak

1) Take care to ensure that the injected test portion does not saturate the column.

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