INTERNATIONAL STANDARD

ISO 3761

Second edition
1997-05-01

Oil of rosewood, Brazilian type [*Aniba rosaeodora* Ducke var. *amazonica* Ducke or *Aniba parviflora* (Meissner) Mez]

Huile essentielle de bois de rose, type Brésil [Aniba rosaeodora *Ducke var.* amazonica *Ducke ou* Aniba parviflora *(Meissner) Mez*]

Reference number
ISO 3761:1997(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 3761 was prepared by Technical Committee ISO/TC 54, *Essential oils.*

This second edition cancels and replaces the first edition (ISO 3761:1976), which has been technically revised.

Annexes A and B of this International Standard are for information only.

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Oil of rosewood, Brazilian type [*Aniba rosaeodora* Ducke var. *amazonica* Ducke or *Aniba parviflora* (Meissner) Mez]

1 Scope

This International Standard specifies certain characteristics of the oil of rosewood, Brazillian type [*Aniba rosaeodora* Ducke var. *amazonica* Ducke or *Aniba parviflora* (Meissner) Mez], in order to facilitate assessment of its quality.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 210:—[1], *Essential oils — General rules for packaging, conditioning and storage.*

ISO 211:—[2], *Essential oils — General rules for labelling and marking of containers.*

ISO 212:1973, *Essential oils — Sampling.*

ISO 279:1981, *Essential oils — Determination of relative density at 20 °C (Reference method).*

ISO 280:1976, *Essential oils — Determination of refractive index.*

ISO 592:1981, *Essential oils — Determination of optical rotation.*

ISO 709:1980, *Essential oils — Determination of ester value.*

ISO 875:1981, *Essential oils — Evaluation of miscibility in ethanol.*

ISO 1242:1973, *Essential oils — Determination of the acid value.*

ISO 3794:1976, *Essential oils (containing tertiary alcohols) — Estimation of free alcohols content by determination of ester value after acetylation.*

ISO 7353:1985, *Oil of rosewood — Determination of alpha-terpineol content — Gas chromatographic method on packed columns.*

ISO 11024-1:—[3], *Essential oils — General guidance on chromatographic profiles — Part 1: Preparation of chromatographic profiles for presentation in standards.*

ISO 11024-2:—[3], *Essential oils — General guidance on chromatographic profiles — Part 2: Utilization of chromatographic profiles of a sample of essential oils.*

3 Definition

For the purposes of this International Standard, the following definition applies.

1) To be published. (Revision of ISO 210:1961)

2) To be published. (Revision of ISO 211:1961)

3) To be published.

3.1 oil of rosewood, Brazilian type: Essential oil obtained by steam distillation of the wood of *Aniba rosaeodora* Ducke var. *amazonica* Ducke or *Aniba parviflora* (Meissner) Mez, of the Lauraceae family, growing in Brazil.

4 Requirements

4.1 Appearance

Clear, mobile liquid.

4.2 Colour

Almost colourless to pale yellow.

4.3 Odour

Characteristic, sweet, recalling the odour of linalol.

4.4 Relative density at 20 °C/20 °C

Minimum: 0,872
Maximum: 0,887

4.5 Refractive index at 20 °C

Minimum: 1,462 0
Maximum: 1,469 0

4.6 Optical rotation at 20 °C

Between –2° and +4°.

4.7 Miscibility with 60 % (*V*/*V*) ethanol at 20 °C

No more than 9 volumes of 60 % (*V*/*V*) ethanol at 20 °C shall be required to give a clear solution with 1 volume of essential oil.

4.8 Acid value

Maximum: 1

4.9 Ester value

Maximum: 5

4.10 Ester value after acetylation

Minimum: 247 corresponding to 82 % alcohol content, expressed as linalol (M_r = 152).

Maximum: 280 corresponding to 96 % alcohol content, expressed as linalol (M_r = 152).

4.11 Determination of α-terpineol by gas chromatography

Minimum: 2
Maximum: 6

4.12 Determination of linalol by gas chromatography

Minimum: 75
Maximum: 95

4.13 Chromatographic profile

Analysis of the essential oil shall be carried out by gas chromatography. In the chromatogram obtained, the representative and characteristic components indicated below shall be identified. The proportions of these components, indicated by the integrator, will be fixed later.

α-Pinene
β-Pinene
Terpinolene
cis-Linalol oxide
trans-Linalol oxide
Linalol
α-Terpineol
Geraniol

4.14 Flashpoint

Information on the flashpoint is given in annex B.

5 Sampling

See ISO 212.

Minimum volume of test sample: 50 ml.

NOTE — This volume allows each of the tests specified in this International Standard to be carried out at least once.

6 Test methods

6.1 Relative density at 20 °C/20 °C

See ISO 279.

6.2 Refractive index at 20 °C

See ISO 280.

6.3 Optical rotation at 20 °C

See ISO 592.

6.4 Miscibility with 60 % (*V/V*) ethanol at 20 °C

See ISO 875.

6.5 Acid value

See ISO 1242.

6.6 Ester value

See ISO 709.

6.7 Ester value after acetylation

See ISO 3794.

6.8 Determination of α-terpineol by gas chromatography

See ISO 7353.

6.9 Determination of linalol by gas chromatography

See ISO 7353.

6.10 Chromatographic profile

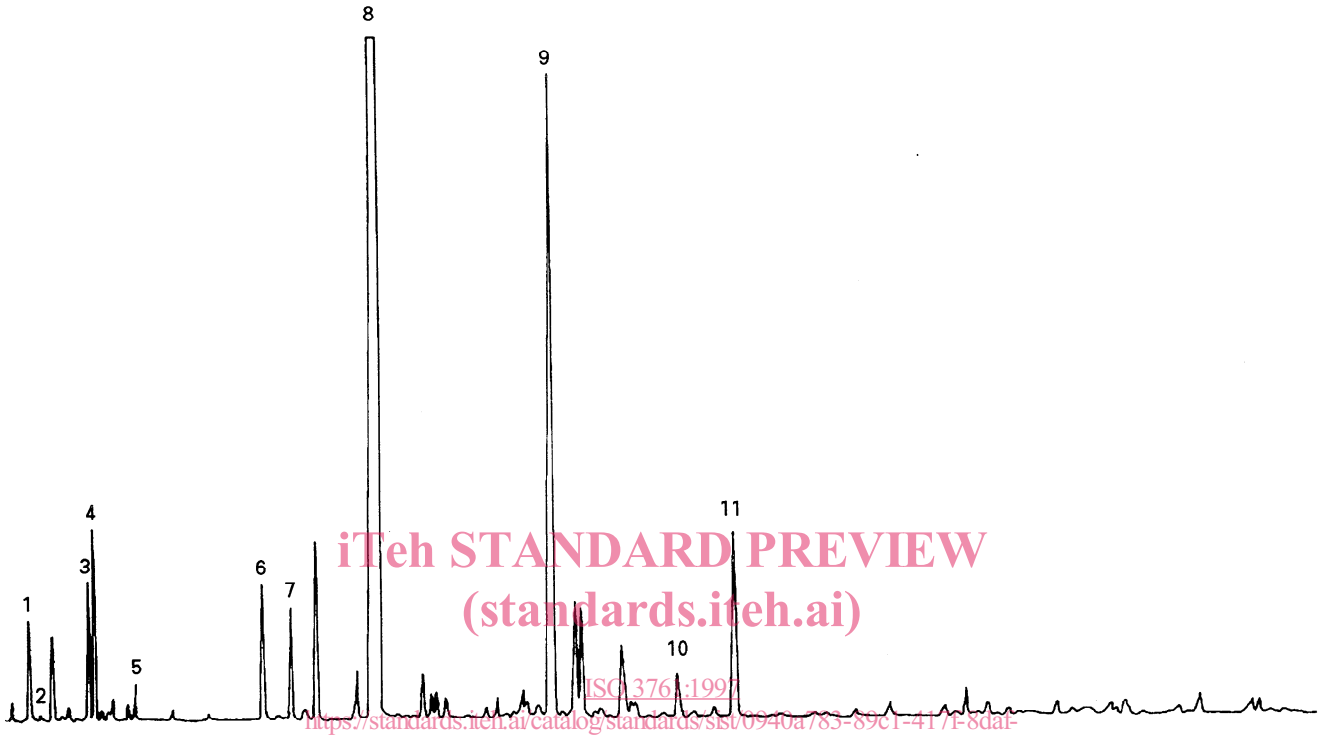
See ISO 11024-1 and ISO 11024-2.

7 Packaging, labelling, marking and storage

See ISO 210 and ISO 211.

Annex A
(informative)

Typical chromatogram of the essential oil of rosewood, Brazilian type



Peak identification

1 α-Pinene
2 β-Pinene
3 Limonene
4 1,8-Cineole
5 Terpinolene
6 *cis*-Linalol oxide
7 *trans*-Linalol oxide
8 Linalol
9 α-Terpineol
10 Nerol
11 Geraniol

Operating conditions

Column: fused silica capillary; length 30 m
Stationary phase: polyethylene glycol 20 000
Oven temperature: from 80 °C to 200 °C, at a rate of 2 °C/min
Injector temperature: 200 °C
Detector temperature: 250 °C
Chart speed: 0,5 cm/min
Detector: flame ionization
Carrier gas: helium
Carrier gas flow rate: 1 ml/min
Volume injected: about 0,1 µl
Split ratio: 1/100

Annex B
(informative)

Flashpoint

B.1 General information

For reasons of safety, transport companies, insurance companies, people in charge of safety services, etc. require information about the flashpoint of essential oils, which in most cases are inflammable products.

A comparative study on the relevant methods of analysis (see ISO/TR 11018 [4]) led to the understanding that it was hard to find a single method for standardization purposes, given that

— essential oils are varied and their chemical compositions differ to a large extent;
— the volume of the sample needed for certain test equipment is incompatible with the high price of essential oils;
— there are different types of equipment that satisfy the desired objective, but users cannot be obliged to use one type of equipment rather than another.

Consequently, it was decided to give a mean value for the flashpoint in an informative annex in each International Standard, to meet the request of the interested parties.

If possible, the method by which this value was obtained should be specified.

For further information, see ISO/TR 11018 [4].

B.2 Flashpoint of oil of rosewood, Brazilian type

The mean value is +93 °C.

4) ISO/TR 11018:1997, *Essential oils — General guidance on the determination of flashpoint.*

ICS 71.100.60

Descriptors: fruit and vegetable products, essential oils, rosewood, specifications, characteristics, chemical composition, chromatograms, tests, packaging, marking, labelling, storage.

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