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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Oil of palmarosa [*Cymbopogon martinii* (Roxburgh) W. Watson var. *motia*]

Huile essentielle de palmarosa [Cymbopogon martinii *(Roxburgh) W. Watson var.* motia]

Reference number
ISO 4727 : 1988 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 4727 was prepared by Technical Committee ISO/TC 54, *Essential oils*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

Oil of palmarosa [*Cymbopogon martinii* (Roxburgh) W. Watson var. *motia*]

1 Scope and field of application

This International Standard lays down certain characteristics of oil of palmarosa [*Cymbopogon martinii* (Roxburgh) W. Watson var. *motia*], with a view to facilitating the appreciation of its quality.

2 References

ISO/R 210, *Essential oils — Packing.*

ISO/R 211, *Essential oils — Labelling and marking containers.*

ISO 212, *Essential oils — Sampling.*

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

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

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

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

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

ISO 1241, *Essential oils — Determination of ester value after acetylation and evaluation of free alcohols and total alcohols content.*

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

ISO 3793, *Essential oils — Estimation of primary and secondary free alcohols content by acetylation in pyridine.*

3 Definition

oil of palmarosa : Essential oil obtained by steam distillation of the grass *Cymbopogon martinii* (Roxburgh) W. Watson var. *motia*, collected when in bloom.

4 Requirements

4.1 Appearance

Clear, mobile liquid.

4.2 Colour

Pale yellow.

4.3 Odour

Characteristic rose-like, with grassy note.

4.4 Relative density at 20/20 °C

Minimum : 0,880

Maximum : 0,894

4.5 Refractive index at 20 °C

Minimum : 1,471 0

Maximum : 1,478 0

4.6 Optical rotation at 20 °C

Range from − 1,4° to + 3°

4.7 Miscibility in 70 % (*V*/*V*) ethanol at 20 °C

It should not be necessary to use more than 2 parts by volume of 70 % (*V*/*V*) ethanol at 20 °C to obtain a clear solution with 1 part by volume of essential oil.

4.8 Acid value

Maximum : 1,0

4.9 Ester value

	India	Other origins
Minimum ...	7	18
Maximum ...	36	50

4.10 Free alcohols content, expressed as geraniol

	India	Other origins
Minimum ...	74 % (m/m)	72 % (m/m)
Maximum ...	94 % (m/m)	86 % (m/m)

4.11 Ester value after acetylation

	India	Other origins
Minimum ...	260 — corresponding to a total alcohol content of 88 % (m/m).	255 — corresponding to a total alcohol content of 80 % (m/m).
Maximum ...	280 — corresponding to a total alcohol content of 95 % (m/m).	280 — corresponding to a total alcohol content of 95 % (m/m).

4.12 Chromatographic profile

See the annex, as an indication only.

5 Sampling

See ISO 212.

Minimum value of the final sample : 50 ml. This volume allows each of the tests specified in this International Standard to be carried out at least once.

6 Methods of test

6.1 Relative density at 20/20 °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 in 70 % (V/V) ethanol at 20 °C

See ISO 875.

6.5 Acid value

See ISO 1242.

6.6 Ester value

See ISO 709.

Saponification time : 1 h

Relative molecular mass, M_r = 196,3

6.7 Free alcohols content, expressed as geraniol

See ISO 3793.

Relative molecular mass, M_r = 154,2

6.8 Ester value after acetylation

See ISO 1241.

6.9 Chromatographic profile

See the examples of typical chromatograms in annex.

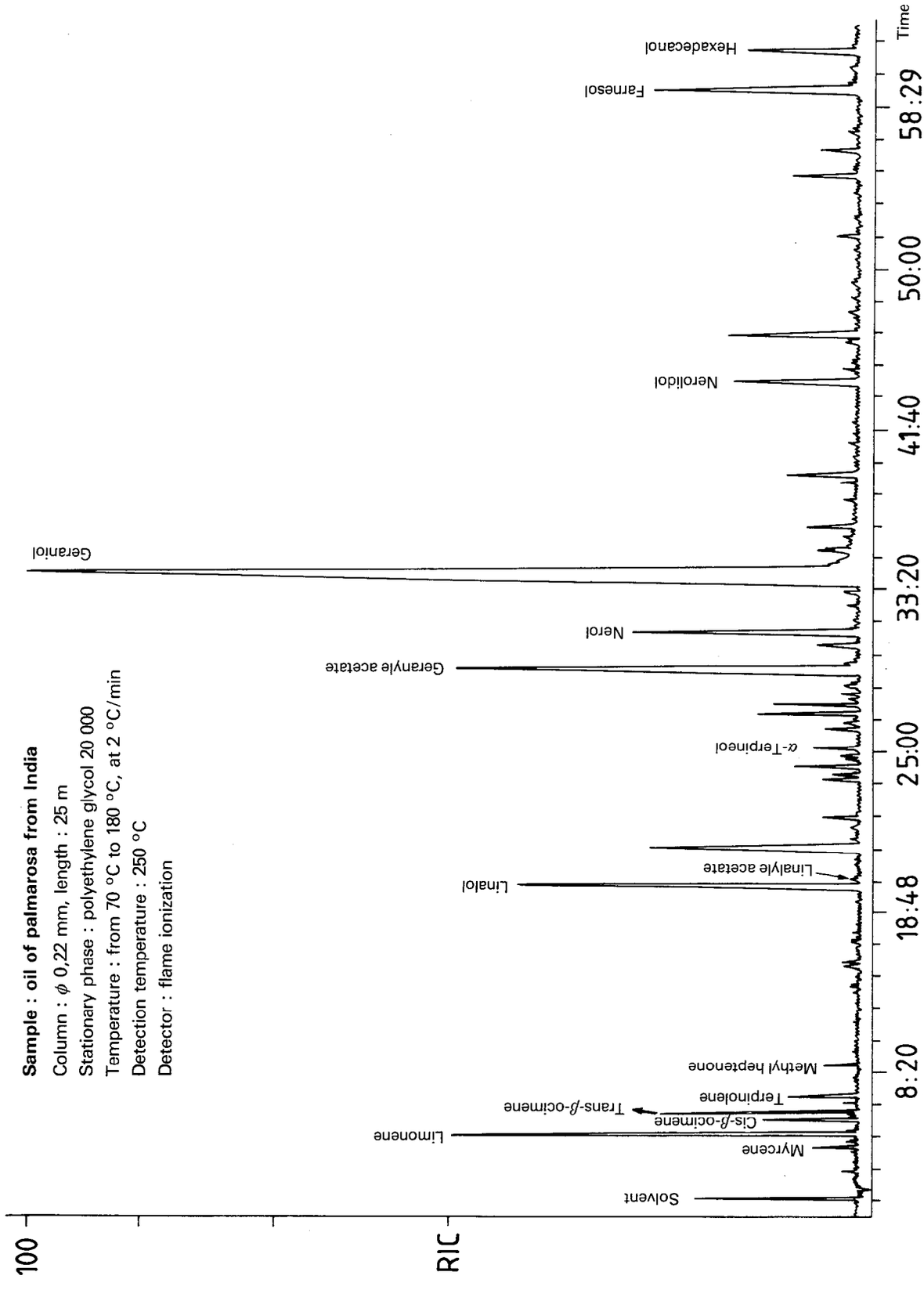
7 Packing, labelling and marking

See ISO/R 210 and ISO/R 211.

Annex

Typical chromatograms

(This annex does not form part of the standard.)



Sample : oil of palmarosa from Madagascar

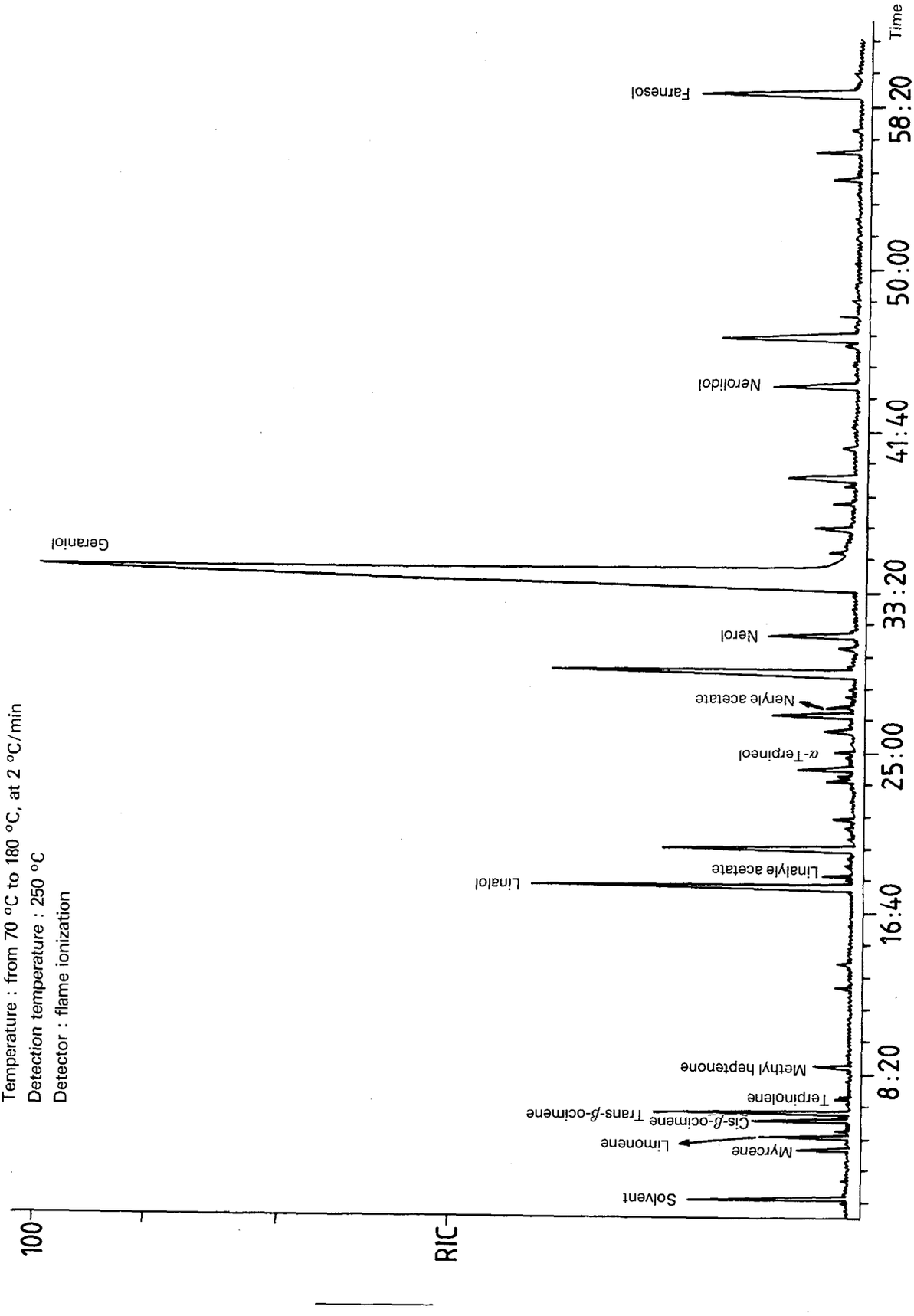
Column : ϕ 0,22 mm, length : 25 m

Stationary phase : polyethylene glycol 20 000

Temperature : from 70 °C to 180 °C, at 2 °C/min

Detection temperature : 250 °C

Detector : flame ionization



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Price based on 4 pages