
INTERNATIONAL STANDARD



3848

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Oil of Java citronella

Huile essentielle de citronnelle type Java

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ISO 3848:1976

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

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.

International Standard ISO 3848 was drawn up by Technical Committee ISO/TC 54, *Essential oils*, and was circulated to the Member Bodies in June 1975.

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It has been approved by the Member Bodies of the following countries :

Belgium	Italy	Spain
Canada	Netherlands	Thailand
France	Portugal	Turkey
India	South Africa, Rep. of	U.S.S.R.

No Member Body expressed disapproval of the document.

Oil of Java citronella

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies certain characteristics of oil of Java citronella, with a view to facilitating the assessment 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/R 279, *Determination of the density and relative density of essential oils.*

ISO 280, *Essential oils – Determination of refractive index.*¹⁾

ISO 592, *Essential oils – Determination of optical rotation.*²⁾

ISO/R 875, *Determination of solubility of essential oils in ethanol.*

ISO/R 1241, *Essential oils – Estimation of free alcohols content by determination of ester value after acetylation.*

ISO 1279, *Essential oils – Determination of carbonyl compounds content – Hydroxylammonium chloride method.*

3 DEFINITION

oil of Java citronella: The product obtained by steam distillation of the aerial parts, fresh or partially dried, of *Cymbopogon nardus* (Linnaeus) W. Watson var. *mahapengiri* Winter syn. *Cymbopogon winterianus* Jowitt cultivated in South-East Asia, in India, in Indonesia, in Central and South America.

4 SPECIFICATIONS

4.1 Appearance

Clear, mobile liquid.

4.2 Colour

Pale yellow to pale brownish yellow.

1) At present at the stage of draft. (Revision of ISO/R 280.)

2) At present at the stage of draft. (Revision of ISO/R 592.)

4.3 Odour

Characteristic, recalling that of citronellal.

4.4 Relative density at 20/20 °C

Minimum : 0,880

Maximum : 0,895

4.5 Refractive index at 20 °C

Minimum : 1,466 0

Maximum : 1,473 0

4.6 Optical rotation at 20 °C

Range – 5° to – 0°

4.7 Solubility in 80 % (V/V) ethanol at 20 °C

The solubility in 80 % (V/V) ethanol at 20 °C shall be 1 volume in 2 volumes to give a clear solution. Sometimes opalescence can be observed on continuing the addition of ethanol.

4.8 Ester value after acetylation

Minimum : 250 – corresponding to 85 % of constituents liable to acetylation, expressed as geraniol.

4.9 Carbonyl value

Minimum : 127 – corresponding to 35 % of carbonyl compounds, expressed as citronellal.

5 SAMPLING

See ISO 212.

Minimum volume of final sample : 50 ml

6 METHODS OF TEST

6.1 Relative density at 20/20 °C

See ISO/R 279.

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6.2 Refractive index at 20 °C

See ISO 280.

6.3 Optical rotation at 20 °C

See ISO 592.

6.4 Solubility in 80 % (V/V) ethanol at 20 °C

See ISO/R 875.

6.5 Ester value after acetylation

See ISO/R 1241.

Saponification time : 1 h 30 min

Volume of acetic anhydride : 15 ml

Molar mass (M) = 154,2

6.6 Carbonyl value

See ISO 1279.

Test portion : 1 g

Standing time : 15 min

Molar mass (M) = 154,2

Calculate the carbonyl value, expressed in milligrams of KOH per gram of oil, by the formula

$$\frac{C}{100} \times \frac{56}{M}$$

where

C is the percentage of carbonyl compounds, expressed as citronellal;

M is the molar mass of citronellal (154,2).

7 PACKING, LABELLING AND MARKING

See ISO/R 210 and ISO/R 211.

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