International Standard 4718

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Oil of lemongrass (*Cymbopogon flexuosus*)

Huile essentielle de lemongrass (Cymbopogon flexuosus)

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Foreword

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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 4718 was developed by Technical Committee ISO/TC 54, *Essential oils*, and was circulated to the member bodies in January 1980.

It has been approved by the member bodies of the following countries :

Australia	France	Portugal
Austria	India	South Africa, Rep. of
Bulgaria	Italy	Sri Lanka
Canada	Korea, Rep. of	USSR
Chile	Netherlands	
Egypt, Arab Rep. of	Philippines	

No member body expressed disapproval of the document.

Printed in Switzerland

Oil of lemongrass (*Cymbopogon flexuosus*)

1 Scope and field of application

This International Standard specifies certain characteristics of oil of lemongrass [(*Cymbopogon flexuosus*) (Nees ex Steudel) W. Watson][1], 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 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 875, *Essential oils — Determination of miscibility with ethanol.*[2]

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

ISO 5991, *Essential oils — Determination of residue from distillation under reduced pressure.*

3 Definition

oil of lemongrass (*Cymbopogon flexuosus*) : The essential oil obtained by steam distillation from the herbaceous parts of *Cymbopogon flexuosus* (Nees ex Steudel) W. Watson.

4 Specifications

4.1 Appearance

Clear, mobile liquid.

4.2 Colour

Pale yellow to yellowish brown.

4.3 Odour

Characteristic, resembling that of citral.

4.4 Relative density at 20/20 °C

Minimum : 0,885

Maximum : 0,905

4.5 Refractive index at 20 °C

Minimum : 1,483 0

Maximum : 1,489 0

4.6 Optical rotation at 20 °C

Range -3° to $+1^{\circ}$

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

1 volume of the oil shall not require more than 3 volumes of 70 % (*V*/*V*) ethanol to give a clear solution, which sometimes becomes opalescent on further dilution.

1) Sometimes incorrectly called in the trade "East Indian lemongrass".

2) At present at the stage of draft. (Revision of ISO/R 875.)

4.8 Carbonyl value

Minimum : 268 — corresponding to 73 % of carbonyl compounds, expressed as citral.

4.9 Residue from vacuum distillation

Maximum : 10 % (*m*/*m*)

4.10 Neral and geranial content by chromatography

To be completed later.

5 Sampling

See ISO 212.

Minimum volume of the final sample : 125 ml

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 Carbonyl value

See ISO 1279.

Test sample : 1 g

Reaction time : 15 min

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

$$\frac{C}{100} \times \frac{56,1}{M_r} \times 1\,000 = \frac{561\,C}{M_r}$$

where

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

M_r is the relative molecular mass of citral (152,2).

Express the carbonyl value to the nearest whole number.

6.6 Residue from distillation under reduced pressure

See ISO 5991.

6.7 Neral and geranial content by chromatography

The determination of the neral and geranial content by chromatography will form the object of a future International Standard.

7 Packing, labelling and marking

See ISO/R 210 and ISO/R 211.