

DRAFT INTERNATIONAL STANDARD

ISO/DIS 16385

ISO/TC 54

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Essential oil of molle (*Schinus areira* L.), Argentinean type

Huile essentielle de baie rose (Schinus areira L.), type Argentine

ICS: 71.100.60

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ISO 16385 was prepared by Technical Committee ISO/TC 54, *Essential oils*.

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Introduction

This standard considers the requirements that the essential oil obtained by water vapor distillation of the fruits of molle (*Schinus areira* L.) Argentinean type shall meet.

It is a natural product with an intraspecific variability characterized by the preponderance of phellandrenes and limonene as major components. The table of essential oil composition reflects this feature.

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Essential oil of molle (*Schinus areira* L.), Argentinean type

1 Scope

This International Standard specifies certain characteristics of the essential oil of molle (*Schinus areira* L.), Argentinean type, intended for facilitating the assessment of its quality.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/TR 210, *Essential oils — General rules for packaging, conditioning and storage*

ISO/TR 211, *Essential oils — General rules for labelling and marking of 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 — Evaluation of miscibility in ethanol*

ISO 11024 (all parts), *Essential oils — General guidance on chromatographic profiles*

3 Terms and definitions

For the purposes of this document, the following term and definition apply.

3.1

essential oil of molle (*Schinus areira* L.)

essential oil obtained by steam distillation of the fruits of *Schinus areira* L., of the Anacardiaceae family

NOTE For information on CAS number, see ISO/TR 21092^[2].

4 Requirements

4.1 Appearance

Clear mobile liquid.

4.2 Colour

Light yellow.

4.3 Odour

Fresh and characteristic of phellandrene.

4.4 Relative density at 20 °C, d_{20}^{20}

Minimum: 0,850

Maximum: 0,885

4.5 Refractive index at 20 °C

Minimum: 1,4750

Maximum: 1,4880

4.6 Optical rotation at 20 °C

Between +30° and +75°.

4.7 Miscibility in ethanol 90 % (volume fraction) at 20 °C

It shall not be necessary to use less than 4,5 volumes or more than 6,5 volumes of ethanol 90 % (volume fraction) to obtain a clear solution with 1 volume of essential oil.

4.8 Chromatographic profile

Carry out the analysis of the essential oil by gas chromatography. Identify in the chromatogram obtained, the representative and characteristic components shown in Table 1. The proportions of these components, indicated by the integrator, shall be as shown in Table 1. This constitutes the chromatographic profile of the essential oil.

Table 1 — Chromatographic profile

| Component | Minimum (%) | Maximum (%) |
|---|-------------------|-------------|
| Myrcene | 1,0 | 14,0 |
| Phellandrene ($\alpha+\beta$) | 35,0 | 60,0 |
| Limonene | 10,0 | 25,0 |
| Sabinene | n.d. ^a | 8,0 |
| Terpinen-4-ol | n.d. ^a | 1,5 |
| α -Cadinol | 0,5 | 3,0 |
| Germacrene D | 0,2 | 0,5 |
| α -Humulene | 0,0 | 0,5 |
| Elemol | 0,0 | 0,5 |
| NOTE The chromatographic profile is normative, contrary to the typical chromatogram given for information in annex A. | | |
| ^a Not detectable. | | |

4.9 Flashpoint

Information on the flashpoint is given in Annex B.

5 Sampling

Sampling shall be performed in accordance with ISO 212.

Minimum volume of test sample: 25 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, d_{20}^{20}

Determine the relative density in accordance with ISO 279.

6.2 Refractive index at 20 °C

Determine the refractive index in accordance with ISO 280.

6.3 Optical rotation at 20 °C

Determine the optical rotation in accordance with ISO 592.

6.4 Miscibility in ethanol 90 % (volume fraction) at 20 °C

Determine the optical rotation in accordance with ISO 592.

6.5 Chromatographic profile

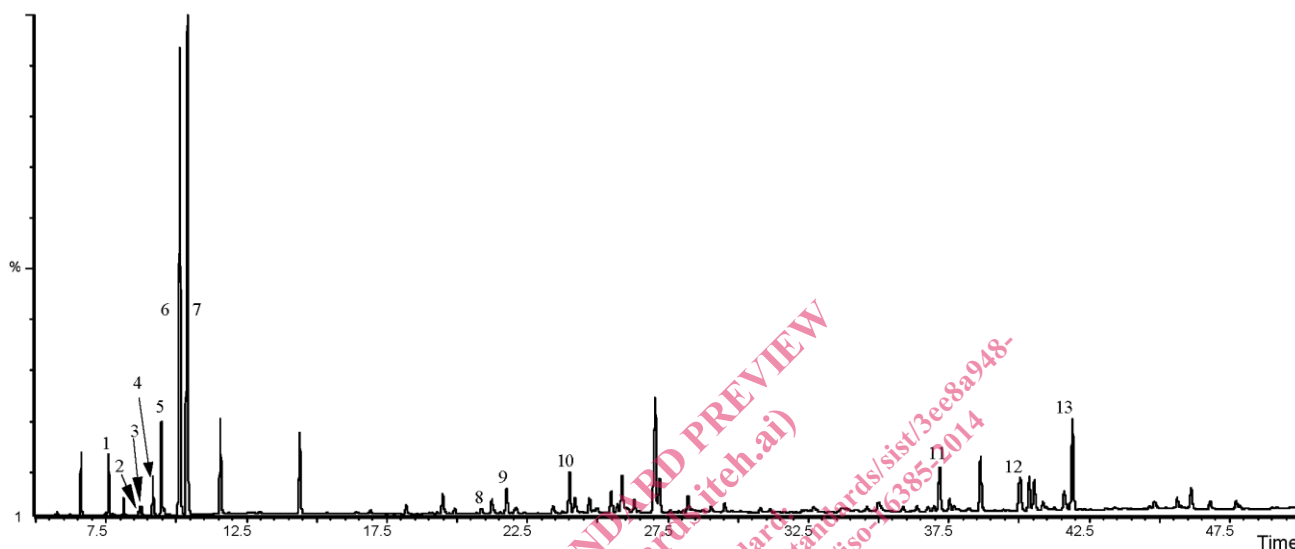
Determine the chromatographic profile in accordance with ISO 11024.

7 Packaging, labelling, marking and storage

These items shall be in accordance with ISO/TR 210 and ISO/TR 211.

Annex A (informative)

Typical chromatogram of the analysis by gas chromatography of the essential oil of molle (*Schinus areira* L.) Argentinean type



Peak identification

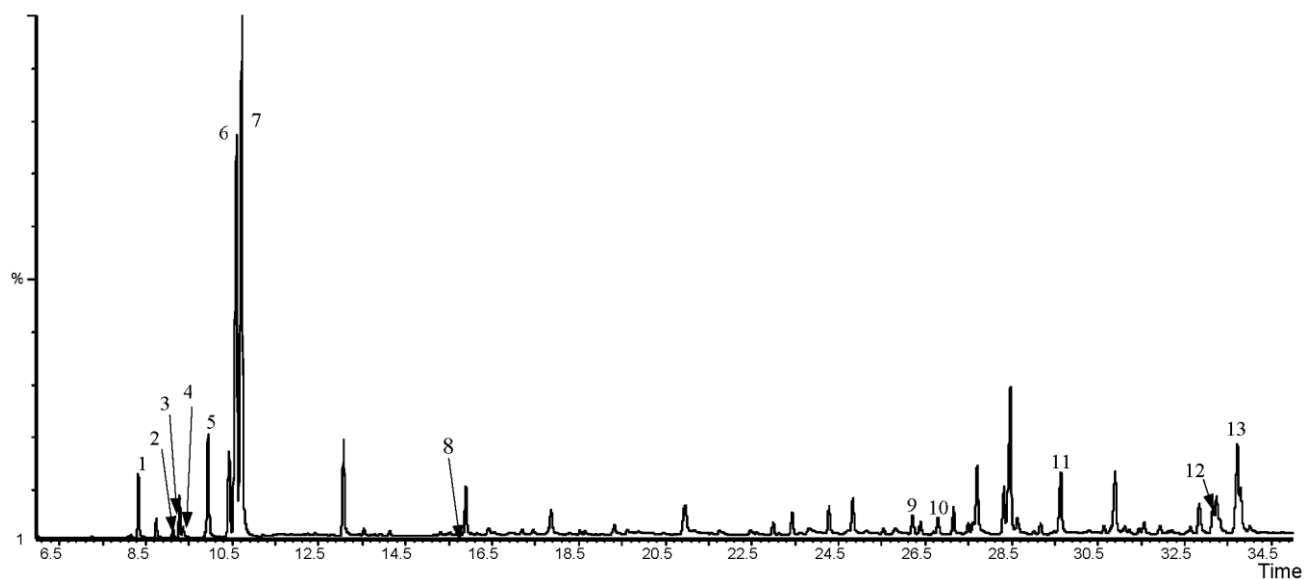
- | | |
|----|------------------------|
| 1 | α -Pinene |
| 2 | β -Pinene |
| 3 | Sabinene |
| 4 | Myrcene |
| 5 | α -Phellandrene |
| 6 | Limonene |
| 7 | β -Phellandrene |
| 8 | Terpinen-4-ol |
| 9 | α -Humulene |
| 10 | Germacrene D |
| 11 | Elemol |
| 12 | Epi- α -Cadinol |
| 13 | α -Cadinol |

Operating conditions

Column: capillary, fused silica, length 60 m, internal diameter 0,25 mm
 Stationary phase: polyethylene glycol [SP-20 000¹⁾]
 Film thickness: 0,25 μ m
 Oven temperature: temperature programming from 90 °C to 225 °C at a rate of 3 °C/min
 Injector temperature: 255 °C
 Detector temperature: 275 °C
 Detector: flame ionization type
 Carrier gas: Helium
 Volume injected: 0,2 μ l of a 10 % dilution in ethanol
 Carrier gas flow rate: 1,87 ml/min
 Split ration: 1/100

Figure A.1 — Typical chromatogram taken on a polar column

1) SP-20 000 is an example of a suitable product available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of this product.

**Peak identification**

- 1 α -Pinene
- 2 Sabinene
- 3 Myrcene
- 4 β -Pinene
- 5 α -Phellandrene
- 6 Limonene
- 7 β -Phellandrene
- 8 Terpinen-4-ol
- 9 α -Humulene
- 10 Germacrene D
- 11 Elemol
- 12 Epi- α -Cadinol
- 13 α -Cadinol

Operating conditions

Column: capillary, fused silica, length 60 m, internal diameter 0,25 mm
 Stationary phase: 5 % phenyl -95 % methyl silicone
 Film thickness: 0,25 μ m
 Oven temperature: temperature programming from 90 $^{\circ}$ C to 225 $^{\circ}$ C at a rate of 3 $^{\circ}$ C/min
 Injector temperature: 255 $^{\circ}$ C
 Detector temperature: 275 $^{\circ}$ C
 Detector: flame ionization type
 Carrier gas: Helium
 Volume injected: 0,2 μ l of a 10 % dilution in ethanol
 Carrier gas flow rate: 1,87 ml/min
 Split ration: 1/100

Figure A.2 — Typical chromatogram taken on an apolar column