INTERNATIONAL STANDARD

ISO 10115

First edition
1997-05-01

Oil of tarragon (*Artemisia dracunculus* L.), French type

Huile essentielle d'estragon (Artemisia dracunculus *L.*), *type français*

Reference number
ISO 10115:1997(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 10115 was prepared by Technical Committee ISO/TC 54, *Essential oils*.

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

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland
Internet central@iso.ch
X.400 c=ch; a=400net; p=iso; o=isocs; s=central

Printed in Switzerland

Oil of tarragon (*Artemisia dracunculus* L.), French type

1 Scope

This International Standard specifies certain characteristics of the oil of tarragon (*Artemisia dracunculus* L.), French type, 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 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.

3.1 oil of tarragon: Essential oil obtained by steam distillation of the leaves of tarragon (*Artemisia dracunculus* L.), of the Asteraceae family.

4 Requirements

4.1 Appearance

Mobile clear liquid.

4.2 Colour

Colourless to pale yellow.

1) To be published. (Revision of ISO 210:1961)
2) To be published. (Revision of ISO 211:1961)
3) To be published.

4.3 Odour and flavour

Characteristic of estragole with a hint of aniseed.

4.4 Relative density at 20 °C/20 °C

Minimum: 0,918
Maximum: 0,943

4.5 Refractive index at 20 °C

Minimum: 1,508 0
Maximum: 1,518 0

4.6 Optical rotation at 20 °C

Between +2° and +6°

4.7 Miscibility with 90 % (*V/V*) ethanol at 20 °C

The miscibility with ethanol shall be such that 1 volume of the oil shall not require more than 4 volumes of 90 % (*V/V*) ethanol, at 20 °C, to give a clear solution.

4.8 Acid value

Maximum: 1.

4.9 Ester value

Maximum: 18.

4.10 Chromatographic profile

Analysis of the essential oil shall be carried out by gas chromatography. In the chromatogram obtained, the representative and characteristic components shown in table 1 shall be identified. 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 %
Limonene	2	6
cis-β-Ocimene	6	12
trans-β-Ocimene	6	12
Estragole	68	80
Sabinene	—	0,1
Elemecin	n.d.	n.d.

n.d = non- detectable

NOTE — The chromatographic profile is normative, contrary to the typical chromatogram given for information in annex A.

4.11 Flashpoint

Information on the flashpoint is given in annex B.

5 Sampling

See 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/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 90 % (*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 Chromatographic profile

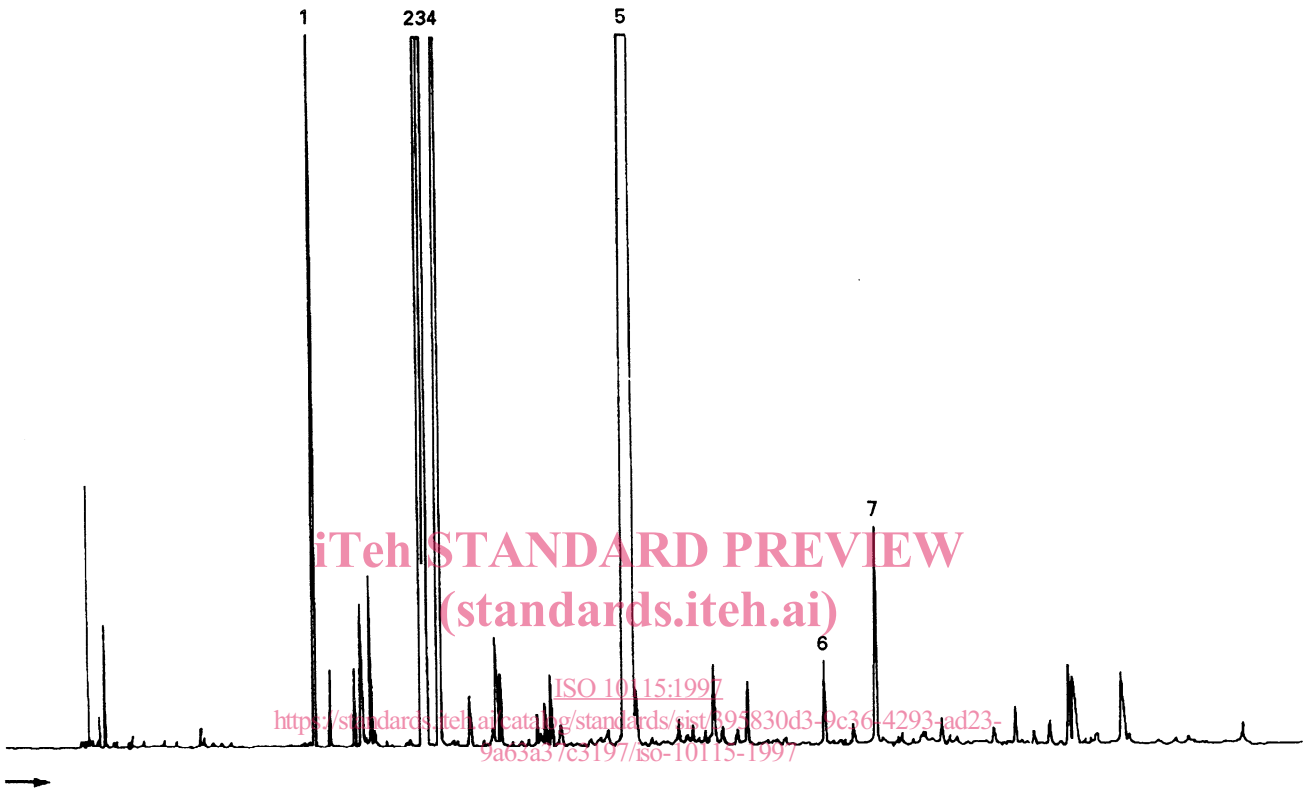
See ISO 11024-1.

7 Packaging, labelling, marking and storage

See ISO 210 and ISO 211.

Annex A
(informative)

Typical chromatogram of the essential oil of tarragon



Peak identification

1 α-Pinene
2 Limonene
3 *cis*-β-Ocimene
4 *trans*-β-Ocimene
5 Estragole
6 Eugenol
7 Methyleugenol

Operating conditions

Column: fused silica capillary; length 50 m; diameter 0,30 mm
Stationary phase: SE 30
Detector: flame ionization
Oven temperature: initial temperature 65 °C, then at a rate of 2 °C/min to the final temperature 215 °C
Injector temperature: 250 °C
Detector temperature: 250 °C
Carrier gas: nitrogen
Volume injected: 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 tarragon, French type

The mean value is +70 °C.

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

This page intentionally left blank

ICS 71.100.60

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

Price based on 4 pages