
**Oil of juniper berry (*Juniperus
communis* L.)**

Huile essentielle de baies de genévrier (Juniperus communis L.)

**iTeh STANDARD PREVIEW
(standards.iteh.ai)**

[ISO 8897:2010](https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010)

<https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010>



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 8897:2010

<https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 8897 was prepared by Technical Committee ISO/TC 54, *Essential oils*.

This second edition cancels and replaces the first edition (ISO 8897:1991), which has been technically revised.

ITEH STANDARD PREVIEW
(standards.iteh.ai)

[ISO 8897:2010](https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010)

<https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 8897:2010

<https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010>

Oil of juniper berry (*Juniperus communis* L.)

1 Scope

This International Standard specifies certain characteristics of oil of juniper berry (*Juniperus communis* L.), with a view to 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 1242, *Essential oils — Determination of acid value*

ISO 11024-1, *Essential oils — General guidance on chromatographic profiles — Part 1: Preparation of chromatographic profiles for presentation in standards*

ISO 11024-2, *Essential oils — General guidance on chromatographic profiles — Part 2: Utilization of chromatographic profiles of samples of essential oils*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

essential oil of juniper berry

essential oil obtained by steam distillation of the fresh, dried or fermented berries of *Juniperus communis* L., of the Cupressaceae family

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

4 Requirements

4.1 Appearance

Liquid.

4.2 Colour

Colourless, pale green, pale yellow.

4.3 Odour

Fresh, warm, balsamic, and sweet-woody.

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

Minimum: 0,850.

Maximum: 0,880.

4.5 Refractive index at 20 °C

Minimum: 1,470.

Maximum: 1,483.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

4.6 Optical rotation at 20 °C

Between 0° and –16°.

<https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010>

4.7 Miscibility in 95 % (volume fraction) ethanol at 20 °C

It shall not be necessary to use more than 10 volumes of 95 % (volume fraction) ethanol to obtain a clear solution with 1 volume of essential oil.

4.8 Acid value

Maximum: 2.

4.9 Chromatographic profile

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

4.10 Flashpoint

Information on the flashpoint is given in Annex B.

Table 1 — Chromatographic profile

Component	Minimum %	Maximum %
α -Pinene	25,0	45,0
Sabinene	4,0	20
β -Pinene	1,0	12
Myrcene	3,0	22,0
Limonene	2,0	8,0
1-Terpinen-4-ol	1,0	6,0
<i>n</i> -Bornyl acetate	n.d. ^a	0,6
β -Caryophyllene	1,5	5,0
α -Humulene	1,0	4,0
Germacrene D	1,0	5,0
δ -Cadinene	1,0	3,5
NOTE The chromatographic profile is normative, contrary to typical chromatograms given for information in Annex A.		
^a Not detectable.		

iTech STANDARD PREVIEW
(standards.iteh.ai)

5 Sampling

[ISO 8897:2010](https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010)

See ISO 212.

<https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010>

Minimum volume of the final 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}

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 95 % (volume fraction) ethanol at 20 °C

See ISO 875.

ISO 8897:2010(E)

6.5 Acid value

See ISO 1242.

6.6 Chromatographic profile

See ISO 11024-1 and ISO 11024-2.

7 Packaging, labelling and marking

See ISO/TR 210 and ISO/TR 211.

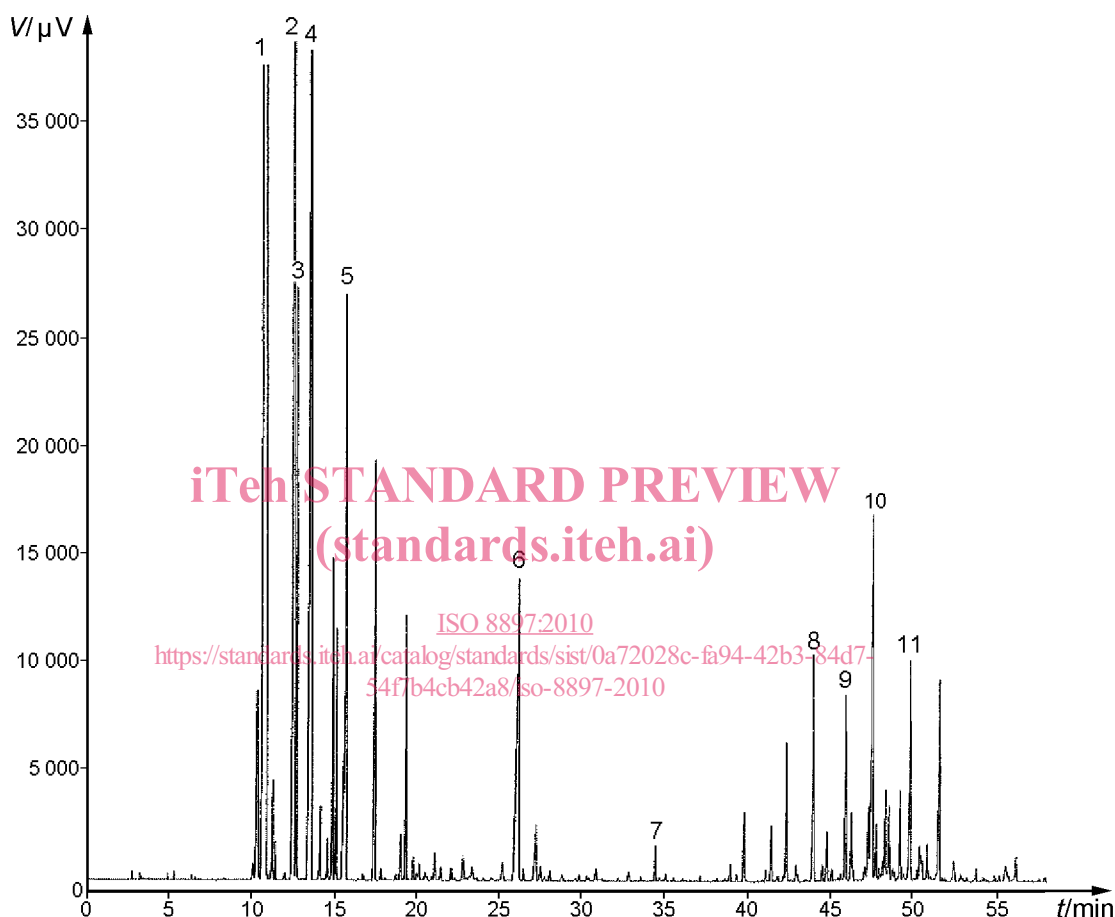
iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 8897:2010](https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010)

<https://standards.iteh.ai/catalog/standards/sist/0a72028c-fa94-42b3-84d7-54f7b4cb42a8/iso-8897-2010>

Annex A (informative)

Typical chromatograms of the analysis by gas chromatography of the essential oil of juniper berry (*Juniperus communis* L.)



Peak identification

- 1 α -Pinene
 - 2 β -Pinene
 - 3 Sabinene
 - 4 Myrcene
 - 5 Limonene
 - 6 1-Terpinen-4-ol
 - 7 *n*-Bornyl acetate
 - 8 β -Caryophyllene
 - 9 α -Humulene
 - 10 Germacrene D
 - 11 δ -Cadinene
- t* time

Operating conditions

Column: silica capillary; length 50 m; internal diameter 0,20 mm
 Stationary phase: polydimethylsiloxane
 Film thickness: 0,25 μ m
 Oven temperature: 65 °C to 230 °C, at a rate of 2 °C/min
 Injector temperature: 230 °C
 Detector temperature: 250 °C
 Detector: flame ionization type
 Carrier gas: hydrogen
 Volume injected: 0,2 μ l
 Split ratio: 1:100

V response

Figure A.1 — Typical chromatogram taken on an apolar column