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## Oil of caraway (*Carum carvi* Linnaeus)

*Huile essentielle de carvi* (*Carum carvi* Linnaeus)

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Reference number  
ISO 8896 : 1987 (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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8896 was prepared by Technical Committee ISO/TC 54, *Essential oils*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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# Oil of caraway (*Carum carvi* Linnaeus)

## 1 Scope and field of application

This International Standard specifies certain characteristics of oil of caraway fruits (*Carum carvi* Linnaeus), 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 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 the acid value.*

ISO 1271, *Essential oils — Determination of carbonyl value — Free hydroxylamine method.*

## 3 Definition

**oil of caraway:** The oil obtained by steam distillation of the ripe fruits (dried and crushed) of *Carum carvi* Linnaeus of the family Umbelliferae.

## 4 Requirements

### 4.1 Appearance

Mobile liquid.

### 4.2 Colour

Almost colourless to amber-yellow.

### 4.3 Odour

Characteristic, aromatic.

### 4.4 Taste

Reminiscent of anise, aromatic.

### 4.5 Relative density at 20/20 °C

Minimum: 0,901.

Maximum: 0,920.

### 4.6 Refractive index at 20 °C

Minimum: 1,484 0.

Maximum: 1,489 0.

### 4.7 Optical rotation at 20 °C

Between +67° and +80°.

### 4.8 Miscibility with 80 % (V/V) ethanol at 20 °C

Not more than 8 volumes of 80 % (V/V) ethanol at 20 °C shall be required to give a clear solution with 1 volume of essential oil.

### 4.9 Acid value

Maximum: 1,0.

### 4.10 Carbonyl value

Minimum: 179, corresponding to 48 % of carbonyl compounds expressed as carvone.

Maximum: 243, corresponding to 65 % of carbonyl compounds expressed as carvone.

### 4.11 Chromatographic profile

See annex.

### 4.12 Flash point

55 °C (as an indication only).

## 5 Sampling

See ISO 212.

Minimum volume of the final sample: 50 ml. This volume is enough to carry out all the tests specified in this International Standard at least once.

## 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 with 80 % (V/V) ethanol at 20 °C

See ISO 875.

### 6.5 Acid value

See ISO 1242.

### 6.6 Carbonyl value

See ISO 1271.

Test portion: 1 g.

Standing time: 24 h.

Determination time: 2 h.

### 6.7 Chromatographic profile

See annex.

### 6.8 Flash point

To be completed later.

## 7 Packing, labelling and marking

See ISO/R 210 and ISO/R 211.

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## Annex

## Typical chromatogram

(This annex does not form an integral part of the standard.)

**Sample: oil of caraway:**

Column: fused silica capillary, length 50 m, internal diameter 0,3 mm

Stationary phase: polyethylene glycol 20 000

Oven temperature: temperature programme: 2 °C/min from 70 °C up to 180 °C

Injection temperature: 200 °C

Detection temperature: 230 °C

Volume injected: 0,1 µl

Detector: flame ionization

Carrier gas: helium

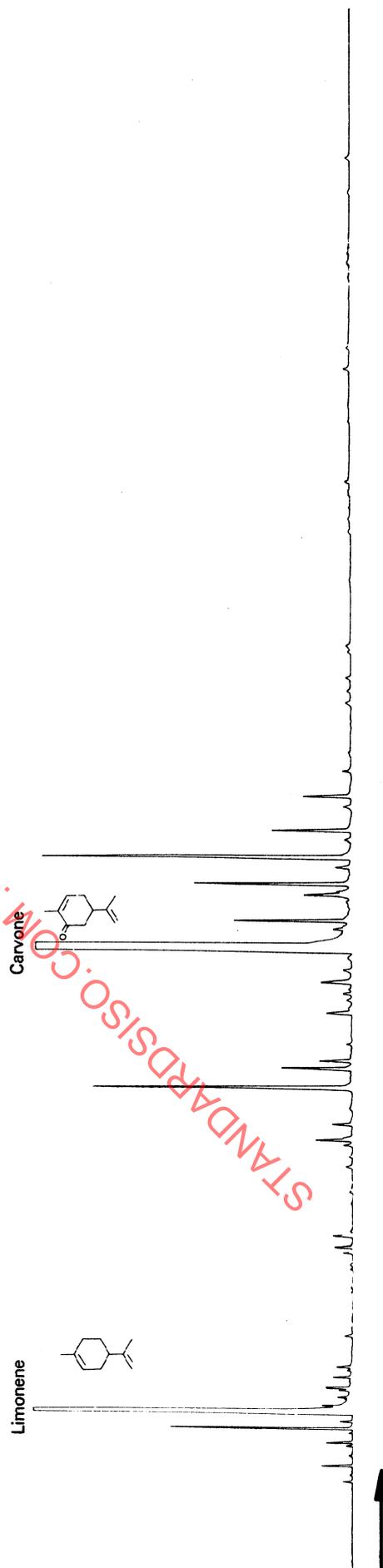
Carrier gas flow rate: 1,3 ml/min

Split ratio: 1/100

Limonene



Carvone



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