

# INTERNATIONAL STANDARD



# 3062

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

## Oil of sandalwood (*Eucarya spicata*), Australia

*Huile essentielle de bois de santal (Eucarya spicata) d'Australie*

First edition — 1974-08-15

**iTeh STANDARD PREVIEW**  
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ISO 3062:1974

<https://standards.iteh.ai/catalog/standards/sist/e634bd09-1880-49d2-98c3-389be4f1412e/iso-3062-1974>

UDC 668.525.3.004.1

Ref. No. ISO 3062-1974 (E)

**Descriptors** : essential oils, sandalwood, specifications, materials specifications.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 3062 was drawn up by Technical Committee ISO/TC 54, *Essential oils*, and circulated to the Member Bodies in January 1973.

It has been approved by the Member Bodies of the following countries:

Australia	Italy	Spain
Belgium	Japan	Turkey
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	Yugoslavia
France	Portugal	
India	South Africa, Rep. of	

No Member Body expressed disapproval of the document.

## Oil of sandalwood (*Eucarya spicata*), Australia

### 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies certain characteristics of oil of sandalwood (*Eucarya spicata*), Australia, 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/R 279, *Determination of the density and relative density of essential oils*.

ISO/R 280, *Determination of the refractive index of essential oils*.

ISO/R 592, *Determination of the optical rotation of essential oils*.

ISO/R 709, *Determination of ester value and calculation of ester content of essential oils*.

ISO/R 875, *Determination of solubility of essential oils in ethanol*.

ISO/R 1241, *Essential oils – Estimation of free alcohols content by determination of ester value after acetylation*.

ISO 1242, *Essential oils – Determination of acid value*.

### 3 DEFINITION

**oil of sandalwood, Australia:** The oil obtained by extraction with petroleum ether (boiling point 60 to 80 °C) from the wood of *Eucarya spicata* (R. Brown), Sprague and Summerhayes, syn : *Santalum spicatum* (R. Brown) A.P. de Candolle, of Western Australian origin and subsequent vacuum distillation.

### 4 REQUIREMENTS

#### 4.1 Appearance

Clear, somewhat viscous liquid.

#### 4.2 Colour

Colourless to yellow.

#### 4.3 Odour

Woody.

#### 4.4 Relative density at 20/20 °C

Minimum : 0,968

Maximum : 0,978

#### 4.5 Refractive index at 20 °C

Minimum : 1,504 0

Maximum : 1,510 0

#### 4.6 Optical rotation at 20 °C

Range from – 8° to – 3°

#### 4.7 Solubility in 70 % (V/V) ethanol at 20 °C

The solubility in 70 % (V/V) ethanol at 20 °C shall be 1 volume in 5 volumes to give a clear solution.

#### 4.8 Acid value

Maximum : 5

#### 4.9 Ester value

Minimum : 4,5

Maximum : 18

#### 4.10 Ester value after acetylation

Minimum : 199

### 5 SAMPLING

See ISO 212.

Minimum volume of final sample : 50 ml.

6 METHODS OF TEST

6.1 Relative density at 20/20 °C

See ISO/R 279.

6.2 Refractive index at 20 °C

See ISO/R 280.

6.3 Optical rotation at 20 °C

See ISO/R 592.

6.4 Solubility in 70 % (V/V) ethanol at 20 °C

See ISO/R 875.

6.5 Acid value

See ISO 1242.

6.6 Ester value

6.6.1 See ISO/R 709.

Saponification time : 1 h.

6.6.2 The ester content is expressed as santalyl acetate (relative molar mass  $M = 262,4$ ).

6.6.3 The esterified alcohol content, expressed as santalol (relative molar mass  $M = 220,4$ ), is given by the following formula :

$$\text{percentage of santalol} = \frac{220,4 \times EV}{561}$$

where  $EV$  is the ester value found (see 6.6.1).

6.7 Ester value after acetylation

6.7.1 See ISO/R 1241.

Use 20 ml of acetic anhydride.

Saponification time : 1 h

6.7.2 The free alcohol content, expressed as santalol, is given by the formula indicated in 8.1 of ISO/R 1241, where  $M = 220,4$ .

6.7.3 The total alcohol content, expressed as santalol, is calculated by adding the percentages obtained under 6.6.3 and 6.7.2.

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7 PACKING, LABELLING AND MARKING

See ISO/R 210 and ISO/R 211.

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