INTERNATIONAL STANDARD 356

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Essential oils — Preparation of test sample

Huiles essentielles — Préparation de l'échantillon pour essai

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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 356 was drawn up by Technical Committee ISO/TC 54, *Essential oils.* It was submitted directly to the ISO Council, in accordance with clause 6.12.1 of the Directives for the technical work of ISO.

This International Standard cancels and replaces ISO Recommendation R 356-1963, which had been approved by the Member Bodies of the following countries :

Australia	Germany	Romania
Belgium	India	Spain
Brazil	Israel	Switzerland
Bulgaria	Italy	United Kingdom
Canada	Netherlands	U.S.S.R.
Chile	New Zealand	Yugoslavia
Czechoslovakia	Poland	
France	Portugal	

No Member Body had expressed disapproval of the document.

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Essential oils — Preparation of test sample

1 SCOPE AND FIELD OF APPLICATION

This International Standard gives general guidance for the preparation, for analysis, of samples of essential oils submitted to the laboratory.

2 REFERENCE

ISO 280, *Essential oils — Determination of refractive index.*

3 APPARATUS AND PRODUCT

Ordinary laboratory apparatus and

3.1 Oven, capable of being controlled at the lowest temperature at which, in the case of an essential oil solid or partly solid at ambient temperature, liquefaction may be obtained in less than 10 min. This temperature is usually about 10 °C above the anticipated freezing point.

3.2 Refractometer, meeting the requirements of sub-clause 5.1 of ISO 280.

3.3 Dehydrating agent: magnesium sulphate or sodium sulphate, recently desiccated and neutral.

Desiccate the neutral magnesium sulphate or sodium sulphate by heating at 180 to 200 °C (temperature taken in the material continuously stirred) to constant mass. Grind to a fine powder and keep in a dried flask fitted with an airtight closure.

4 PROCEDURE

4.1 Two cases may occur.

4.1.1 If the essential oil is solid or partly solid at ambient temperature, liquefy it by placing it in the oven, controlled at the appropriate temperature (see 3.1). During this operation, mainly in the case of essential oils containing aldehydes, it is necessary to avoid the entry of air into the container holding the essential oil. To achieve this, loosen, but do not remove, the stopper.

Pour the liquefied essential oil into a dry conical flask, previously warmed in the oven, so that the flask is filled to not more than two-thirds of its capacity.

During all subsequent operations, the oil shall be kept at the lowest temperature at which it will remain liquid.

4.1.2 If the essential oil is liquid at ambient temperature, transfer it to a dry conical flask at the same temperature, so that the flask is filled to not more than two-thirds of its capacity.

4.2 Add to the flask a mass of the dehydrating agent (3.3) equal to about 15 % of the mass of the essential oil. Shake vigorously from time to time during a period of at least 2 h.

4.3 Filter the sample. In the case of liquefied essential oils (see 4.1.1), carry out the filtration in the oven, but do not keep the oil in the oven longer than is necessary.

4.4 After each desiccation, check the action of the dehydrating agent by a series of measurements of the refractive index, using the refractometer (3.2), in accordance with the procedure specified in ISO 280.

4.5 The operations specified in 4.1 to 4.4 should immediately precede the analysis. If not, the filtered oil shall be kept in a previously dried, well-filled container fitted with an airtight closure, protected against strong light and in a cool place.

4.6 In certain cases to be specified in the relevant International Standard, eliminate the metallic phenates which give colour to the oil, by agitating with citric acid or tartaric acid.