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Essential oils — General ~~rules~~ requirements and guidelines for packaging, conditioning and storage

~~Huiles essentielles — Règles générales d'emballage, de conditionnement et de stockage~~

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This first edition cancels and replaces ISO/TS 210:2014, which has been technically revised.

The main changes are as follows:

- ~~Change of format according to ISO Standards.~~
- ~~Addition~~ addition of Clause 2 (Normative references);
- ~~Addition of) and~~ Clause 3 (Terms and definitions);
- ~~Revision~~ revision of the Bibliography.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Essential oils — General ~~rules~~ requirements and guidelines for packaging, conditioning and storage

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1 Scope

This document ~~International Standard~~ describes the requirements ~~offor~~ containers ~~which are~~ intended for containing essential oils, ~~as well as gives. It also provides~~ some general ~~rules~~ requirements and ~~recommendations~~ guidelines relating to ~~their~~the conditioning and storage ~~of essential oils.~~

Essential oils are used for different purposes:

- food use;
- pharmaceutical use;
- perfumery and cosmetic use;
- reference samples or test samples;
- industrial raw materials.

~~According to the use of the essential oils, it~~ is expected that ~~appropriate~~the containers ~~are used, which~~ for essential oils also meet the requirements of national or international regulations.

This document describes the materials which are used for the containers intended for containing essential oils, depending on the uses listed above.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp><https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/><https://www.electropedia.org/>

4 Composition of the containers

4.1 General

Essential oils shall be packed in containers which, by their nature, do not cause alteration of the product and which protect it against any external attack.

Generally, the container materials shall be inert towards the packed product so as to prevent any simultaneous damage of the product and of the material.

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4.2 Materials for containers intended for containing essential oils for food use

4.2.1 Glass

Type III glass (soda-calcic glass, according to Pharmacopoeia standards), is recommended as it permits to keep the organoleptic properties of the essential oils^[1].

Tinted non-actinic glass is always advisable.

4.2.2 Metals and alloys

4.2.2.1 Stainless steel

These materials shall contain at least 13 % of chromium.

They also may contain nickel and manganese.

Furthermore, one or more of the following elements in Table 1 may be included, with the following limit for each of them^[2].

Table 1 — Maximum content of some elements in stainless steel containers

Element	Content
Tantalum	1 % max
Niobium	1 % max
Zirconium	1 % max
Molybdenum	4 % max
Titanium	4 % max
Aluminium	4 % max
Copper	4 % max

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4.2.2.2 Aluminium and aluminium alloys

Aluminium shall be at least 99 % pure.

The total content of impurities shall not exceed 1 %, and they are limited as shown in Table 2^{[3][4][5]}.

Table 2 — Maximum content of impurities in aluminium containers

Impurities	Content
Iron + Silicon	Lower than 1 %
Titanium	0,15 % max
Chromium, Zinc, Copper, Manganese, Magnesium, Nickel, Tin	0,1 % max (for each of these elements)
Lead, Thallium, Beryllium, and each of the other present impurities	0,05 % max (for each of these elements)
Copper	Between <u>the mass fraction of 0,10 % (m/m)</u> and <u>of 0,20 % (m/m),%</u> , on the condition that the chromium and manganese contents are less than <u>the mass fraction of 0,05 % (m/m)</u>

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In the aluminium alloys, the percentage (m/m) mass fraction of the elements (in percentage) which may be added, or which are present as impurities, shall not exceed the following values in Table 3.

Table 3 — Maximum content of impurities in aluminium alloys containers

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