ISO/~~PDTR~~ TR 5601:~~2021~~2023(E)

ISO TC 35/SC 16/WG 1

Date: 2023-01-10

Secretariat: DIN

Paints and varnishes — Determination of volatile organic compound (VOC) and/or semi-volatile organic compound (SVOC) content — Best practices for the selection of test methods

~~PDTR stage~~

~~Warning for WDs and CDs~~

~~This document is not an ISO International Standard. It is distributed for review and comment. It is subject to change without notice and may not be referred to as an International Standard.~~

~~Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.~~

Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Style Definition ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...

ISO copyright office

CP 401 • Ch. de Blandonnet 8

CH-1214 Vernier, Geneva

Phone: +41 22 749 01 11

Email: copyright@iso.org

Website: ~~www.iso.org~~www.iso.org

Published in Switzerland

Formatted

Formatted: Font: 11 pt, Font color: Blue

Formatted: Border: Box: (Single solid line, Blue, 0.5 pt Line width)

Formatted: Font: 11 pt, Font color: Blue, English (United Kingdom)

Formatted: Font: 11 pt, Font color: Blue, English (United Kingdom)

Formatted: Font: 11 pt

Formatted: Space After: 0 pt, Line spacing: single

Contents

Formatted: Font: 11 pt

Formatted: Space After: 0 pt, Line spacing: single

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~~ 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see ~~www.iso.org/patents~~www.iso.org/patents).

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~~www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 16, *Chemical analysis*.

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~~www.iso.org/members.html.

Formatted: Font: 11 pt

Formatted: Space After: 0 pt, Line spacing: single

Formatted: Font: 11 pt

Formatted: Space After: 0 pt, Line spacing: single

Paints and varnishes — Determination of volatile organic compound (VOC) and/or semi-volatile organic compound (SVOC) content — Best practices for the selection of test methods

1 Scope

This document aims to enable users to identify- an appropriate method for the determination of volatile organic compounds (VOC) content and/or the semi-volatile organic compounds (SVOC) content of coating materials and their raw materials. This document provides a step-by-step procedure for identifying appropriate tests. This document is intended to be used in conjunction with ISO 11890-1, ISO 11890-2 and ISO 17895, to help users select an appropriate analytical method for their analytical problem.

2 Normative references

~~The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.~~

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain ~~terminological~~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 ~~http://www.electropedia.org/~~https://www.electropedia.org/

3.1
volatile organic compound
VOC
organic liquid and/or solid that evaporates spontaneously at the prevailing temperature and pressure of the atmosphere with which it is in contact

Note 1 to entry: As to current usage of the term VOC in the field of *coating materials* (3.11), see *volatile organic compound content* (3.4).

Note 2 to entry: Under US government legislation, the term VOC is restricted solely to those compounds that are photochemically active in the atmosphere (see ASTM D3960). Any other compound is then defined as being an exempt compound.

Formatted: Different first page header
Formatted: Font color: Blue
Formatted: Space Before: 20 pt, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers
Formatted: Font: Bold, Font color: Blue
Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers
Formatted: std_publisher, Font:
Formatted: std_docNumber, Font:
Formatted: std_docPartNumber, Font:
Formatted: std_publisher, Font:
Formatted: std_docNumber, Font:
Formatted: std_docPartNumber, Font:
Formatted: std_publisher, Font:
Formatted: std_docNumber, Font:
Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers
Formatted: Body Text, Don't keep with next, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers
Formatted: List Continue 1, Indent: Left: 0 pt, First line: 0 pt, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers, Tab stops: 19.85 pt, Left + 39.7 pt, Left + 59.55 pt, Left + 79.4 pt, Left + 99.25 pt, Left + 119.05 pt, Left + 138.9 pt, Left + 158.75 pt, Left + 178.6 pt, Left + 198.45 pt, Left
Formatted: Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers
Formatted: Tab stops: 19.85 pt, Left + 39.7 pt, Left + 59.55 pt, Left + 79.4 pt, Left + 99.25 pt, Left + 119.05 pt, Left + 138.9 pt, Left + 158.75 pt, Left + 178.6 pt, Left + 198.45 pt, Left
Formatted: Font: Not Italic
Formatted: cite_sec
Formatted: Font: Not Italic
Formatted: cite_sec
Formatted: std_publisher
Formatted: std_docNumber

[SOURCE: ISO 4618~~:2014, 2.270~~:—[1], 3.266, modified — Note 3 to entry has been deleted]

3.2
semi-volatile organic compound
SVOC
organic liquid and/or solid that evaporates spontaneously but slower in comparison to volatile organic compound at the prevailing temperature and pressure of the atmosphere with which it is in contact

Note 1 to entry: As to current usage of the term SVOC in the field of *coating materials* (3.11), see *semi-volatile organic compounds content* (~~*SVOC content)* (~~3.5).

[SOURCE: ISO 11890-2:2020, 3.2]

3.4
volatile organic compound content
VOC content
~~**VOCC**~~
mass of the volatile organic compounds present in a *coating material*~~,~~ (3.11), as determined under specified conditions

Note 1 to entry: The properties and the amounts of compounds to be taken into account will depend on the field of application of the coating material ~~(3.11).~~ For each field of application, the limiting values and the methods of determination or calculation are stipulated by regulations or by agreement.

[SOURCE: ISO 4618~~:2014, 2.271~~:—[1], 3.267]

3.5
semi-volatile organic compounds content
SVOC content
~~**SVOCC**~~
mass of the *semi-volatile organic compounds* (3.2) present in a coating material, as determined under specified conditions

Note 1 to entry: The properties and the amounts of the compounds to be taken into account will depend on the field of application of the *coating material* (3.11). For each field of application, the limiting values and the methods of determination or calculation are stipulated by regulations or by agreement.

Note 2 to entry: If the term SVOC refers to compounds with a defined maximum boiling point and minimum boiling point, the compounds considered to be part of the SVOC content are those with boiling points below and including the upper and above the lower limit, and compounds with higher boiling points are considered to be non-volatile organic compounds.

[SOURCE: ISO 11890-2:2020, 3.5]

3.7
ready for use
state of a product when it is mixed in accordance with the manufacturer's instructions in the correct proportions and thinned if required using the correct thinners so that it is ready for application by the approved method

[1] Under preparation. Stage at the time of publication: ISO 4618:2022.

Formatted: Space After: 36 pt, Line spacing: Exactly 12 pt
Formatted: Font: 12 pt
Formatted: Font: 11 pt
Formatted: Space After: 0 pt, Line spacing: single