



ISO 16000-3

Indoor air —

Part 3:

Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air — Active sampling method

Air intérieur —

*Partie 3: Dosage du formaldéhyde et d'autres composés
carbonylés dans l'air intérieur et dans l'air des chambres d'essai
— Méthode par échantillonnage actif*

**Fourth edition
2026-09**

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Published in Switzerland

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This document was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 6, *Indoor air*.

This fourth edition cancels and replaces the third edition (ISO 16000-3:2022), which has been technically revised.

The main change is as follows: [Annex A](#) has been added which provides a suitable method for the determination of acrolein.

A list of all parts in the ISO 16000 series can be found on the ISO website.

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This document is intended to be used for characterizing indoor air following the sampling strategy specified in ISO 16000-2 [\[1\]](#). This document applies to 14 aldehydes and ketones. Formaldehyde is the simplest carbonyl compound, with one carbon, one oxygen and two hydrogen atoms. In its monomolecular state, formaldehyde is a colourless, pungent and reactive gas. Formaldehyde has been used in the production of urea-formaldehyde resins, adhesives and insulating foams. Emissions from particle (chip) board and wall insulation are the major sources of formaldehyde in indoor air. As formaldehyde has a high toxic potential, [\[2\]](#) determining its level accurately is key for air quality.

When formaldehyde is collected by passing air through a reactive medium that converts the compound to a derivative of lower vapour pressure is more efficiently retained by the sampler and its level can be easily analysed.

ISO 16017-1 [\[3\]](#), ISO 16017-2 [\[4\]](#), ISO 12219-1 [\[5\]](#) and ISO 12219-5 [\[6\]](#) describe analytical methods for a broader spectrum of volatile organic compounds (VOCs) and can be used if other groups besides carbonyl compounds are to be analyzed.

Instead of systematic International Union of Pure and Applied Chemistry (IUPAC) nomenclature, traditional names are used in this document. Some equivalent names are:

- acetaldehyde for ethanal;
- acetone for 2-propanone;
- butyraldehyde for butanal;
- capronaldehyde for hexanal;
- formaldehyde for methanal;
- isovaleraldehyde for 3-methylbutanal;
- propionaldehyde for propanal;
- m-tolualdehyde for 3-methylbenzaldehyde;
- o-tolualdehyde for 2-methylbenzaldehyde;
- p-tolualdehyde for 4-methylbenzaldehyde;
- valeraldehyde for pentanal.