

INTERNATIONAL STANDARD

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Cigarettes — Determination of carbon monoxide in the vapour phase of cigarette smoke — NDIR method

*Cigarettes — Dosage du monoxyde de carbone dans la phase gazeuse de
fumée de cigarette — Méthode IRND*



Reference number
ISO 8454:1995(E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8454 was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*.

This second edition cancels and replaces the first edition (ISO 8454:1987), which has been technically revised.

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Cigarettes — Determination of carbon monoxide in the vapour phase of cigarette smoke — NDIR method

1 Scope

This International Standard specifies a method for the determination of carbon monoxide (CO) in the vapour phase of cigarette smoke.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3308:1991, *Routine analytical cigarette-smoking machine — Definitions and standard conditions*.

ISO 3402:1991, *Tobacco and tobacco products — Atmosphere for conditioning and testing*.

ISO 4387:1991, *Cigarettes — Determination of total and nicotine-free dry particulate matter using a routine analytical smoking machine*.

ISO 8243:1991, *Cigarettes — Sampling*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 vapour phase: The portion of smoke which passes the particulate phase trap during smoking in accordance with ISO 4387 using a machine conforming to ISO 3308.

3.2 clearing puff: Any puff taken after a cigarette has been extinguished or removed from the cigarette holder.

4 Principle

Smoking of cigarettes in accordance with the procedure given in ISO 4387. Collection of the vapour phase of the cigarette smoke and measurement of the carbon monoxide using a non-dispersive infrared (NDIR) analyser calibrated for carbon monoxide. Calculation of the amount of carbon monoxide per cigarette.

5 Apparatus

Usual laboratory apparatus and, in particular, the following items.

5.1 Conditioning enclosure, maintained accurately in accordance with the conditions specified in ISO 3402, for conditioning the cigarette sample prior to smoking (see also 8.1).

5.2 Routine analytical cigarette-smoking machine and accessories, complying with the requirements of ISO 3308.

5.3 Vapour-phase collection system, which can be fitted to one or more of the smoking machine channels. The use of the system shall ensure collection of all the vapour phase (normally vented to atmosphere) to be stored in a previously evacuated container for subsequent sampling through an NDIR analyser.

The collection system shall not cause interference with the normal performance of the smoking machine