



ISO 21438-2

**Workplace atmospheres —
Determination of inorganic acids by
ion chromatography —**

**Part 2:
Volatile acids, except hydrofluoric
acid (hydrochloric acid,
hydrobromic acid and nitric acid)**

*Air des lieux de travail — Détermination des acides inorganiques
par chromatographie ionique —*

*Partie 2: Acides volatils, sauf acide fluorhydrique (acide
chlorhydrique, acide bromhydrique et acide nitrique)*

**Second edition
2024-01**

This is a preview of ISO 21438-2:2024. [Click here to purchase the full version from the ANSI store.](#)



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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

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This document was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 2, *Workplace atmospheres*.

This second edition cancels and replaces the first edition (ISO 21438-2:2009), which has been technically revised.

The main changes are as follows:

- terms, definitions and references have been updated;
- information on sample preparation and analytical methodology has been updated.

A list of all parts in the ISO 21438 series can be found on the ISO website.

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The health of workers in many industries is at risk through exposure by inhalation of volatile inorganic acids. Industrial hygienists and other public health professionals need to determine the effectiveness of measures taken to control workers' exposure and this is generally achieved by making workplace air measurements. This document has been published in order to make available a method for making valid exposure measurements for volatile inorganic acids in use in the industry, such as hydrochloric acid, hydrobromic acid and nitric acid, but excluding hydrofluoric acid. This document is intended to be of benefit to:

- agencies concerned with health and safety at work;
- industrial hygienists and other public health professionals;
- analytical laboratories;
- industrial users of hydrochloric acid, hydrobromic acid and nitric acid and their workers, etc.

The execution of the provisions and the interpretation of the results obtained with the use of this document are entrusted to appropriately qualified and experienced people.

The procedure is intended to differentiate between the acids and their corresponding salts. If both are present in the air, particulate salts are trapped on a pre-filter. Co-sampled particulate matter either trapped on the pre-filter or deposited on the walls of the sampler, or both, can be analysed, if desired.

Acids can react with co-sampled particulate matter on the pre-filter, causing interference with the measurement of the acid concentration.