

Inter science

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Innovation in the analysis of VOCs in air

Interscience is making new strides in the analysis of volatile organic compounds (VOCs). These compounds have challenged laboratory staff and equipment for years, especially when it comes to measurement at very low concentrations. Our IS-X labs have worked to develop and integrate new concepts and technologies. Applications are very diverse and include exhaled breath analysis, cleanroom monitoring and the assessment of exposure levels in occupational hygiene and environmental contexts.



Find out how this new mobile lab will make your job easier

This unique and sophisticated lab-on-wheels allows you to perform reliable and consistent SIFT-MS and TD GC/MS measurements at any location - at your site as well as at your customer's sites. The installed measuring equipment is particularly suitable for the analysis of volatile compounds and can be used for fast and quantitative emission measurements, problems with odour nuisance, indoor air quality but also in case of calamities.

VOC sampling using a drone

IS-X in collaboration with the company Haviq has developed a specific analytical method to work with a drone.

In situ VOC sampling using mini-vacuum canisters coupled with rapid screening analysis provides the first important insights in no time.





A new line of VOC sampling products

Sampling is a major factor in successful measurement. This is definitely true of VOC sampling. Research has shown that sorbent tubes, sampling bags and canisters are not entirely innocuous and can lead to errors. Interscience's IS-X lab has developed a new range of products for sample collection along with recommendations on good practice.

Helium diffusion sampling (HDS) becomes reality

Various sampling methods are used to determine exposure to toxic VOCs. Approaches include active and passive sampling, sorbent tubes, badges, Radiello, etc. Unfortunately, these methods are vulnerable to discrimination. Consider the polarity of the target compounds, for example. **Helium diffusion sampling (HDS)** is a more modern approach where helium diffusion is used to draw compounds into a canister, independent of their boiling point or chemical composition. Reliable sampling is possible over the full range from C2 to C12, including for formaldehyde or ethylene oxide.





Fibertrapping enables rapid VOC toxicity screening during disasters

Thermal desorption is the gold standard for reliable VOC measurement. However, it is often unsatisfactory in situations involving acute emergencies, drug waste, nuisance odors, fire or sea freight. IS-X has developed a fast, **fibertrapping**-based method to meet these needs. This method is ideal for use on-site in combination with our portable GC/MS solutions, but is also perfectly suited to fast-response mobile laboratories.

TO 15+ Measurement of 117 VOCs in air with thermal desorption GC-MS

In this reference work, we describe a new solution for simultaneous quantitative measurement of TO-15 and TO-17 compounds, ozone precursors and formaldehyde in air. A total of 117 compounds can be measured simultaneously in one run, without a need for liquid nitrogen.





A modern approach to analyzing cleanroom contaminants

Cleanroom contaminants affect chip production negatively and are also hazardous to human health and the environment. Using powerful new technologies, the IS-X team has developed a dependable solution that allows these exotic VOCs to be measured in situ.

VOC calibration requires an ACU

There are different ways to calibrate VOCs. The most reliable solutions make use of dynamic dilution of standard gas mixtures and/or permeation tubing. For maximum flexibility and reliability, both are combined in an Analytical Control Unit. If necessary, wet calibration gases can be used for better representation. This reference work describes how our ACU can be used to perform automatic calibrations.



Training and knowledge modules are available

Our IS-X labs have developed and integrated these concepts and technologies. Applications are very diverse and include exhaled breath analysis, cleanroom monitoring and the assessment of exposure levels in occupational hygiene and environmental contexts.

Do you want to dive into extensive method development right away, or do you wish to learn whether this new approach would benefit your lab?

IS-X Academy and VITO have developed a number of effective knowledge-sharing modules. Take your theoretical and practical knowledge of volatile organic compounds in low concentration analyses to a higher level.



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