Search

- Contact us
- Login

MARKES international

- Instrumentation View Instrumentation submenu
  - Thermal desorption instruments View Thermal desorption instruments submenu
    - Sorbent tube
      - DAAMS instruments
      - TD100-xr
      - UNITY-xr
      - UNITY–ULTRA-xr
      - UNITY–ULTRA-xr Pro
      - Centri
    - On-line sampling
      - UNITY–Air Server-xr
      - UNITY–CIA Advantage
      - TT24-7NRT
      - TT24-7xr
    - Canister & bag
      - CIA *Advantage*-xr
    - Accessories
      - Micro-Chamber/Thermal Extractor
      - Multi-tube sampler
      - Tube conditioners
      - Water management
  - Sample automation & concentration View Sample automation & concentration submenu
    - Sample concentration
      - Centri 90
      - Centri 180
      - Centri 360
- Sampling technologies View Sampling technologies submenu
  - Active sampling
  - Breath sampling
  - Direct desorption
  - High-capacity sorptive extraction (HiSorb)
  - Microchamber sampling
  - Passive sampling
  - Vacuum-assisted extraction
- Applications View Applications submenu
  - Automotive View Automotive submenu
    - Vehicle Interior Air Quality (VIAQ)
    - Automotive material testing
    - Quick screening of automotive materials
  - Breath analysis
  - Chemical ecology
  - Defence
  - Environmental monitoring View Environmental monitoring submenu
    - Ambient air
    - Indoor air
    - Industrial air
    - PFAS
    - Soil analysis
    - Water analysis
  - Food & drink View Food & drink submenu
    - Food
    - Drink/Beverage
    - Ethylene oxide analysis
  - Forensic
    - Forensic
  - Fragranced products
  - Hydrogen fuel impurities
  - Materials & consumer products View Materials & consumer products submenu
    - Cleanroom contaminants
    - Construction products
    - Formaldehyde testing
    - Plastics
    - Spray polyurethane foam
  - Respiratory medical devices
  - Tobacco & e-cigarettes
- Content hub View Content hub submenu
  -
    - Application guides
    - Application notes
    - Articles
    - Blog
  -
    - Brochures
    - Case studies
    - E-books
    - FAQs
  -
    - 'How to' videos
    - Infographics
    - 'Instant Insight' notes
    - Instructions for use
  -
    - Technical specifications
    - News
    - Podcasts
    - Posters
  -
    - Reports
    - Standard Methods

Semi-volatiles

Understanding the role of SVOCs in environmental and human health

Page contents

Anthropogenic semi-volatile organic compounds are widespread in the environment, and as understanding of their negative effects on human and environmental health grows, they are coming under ever-greater regulatory scrutiny.

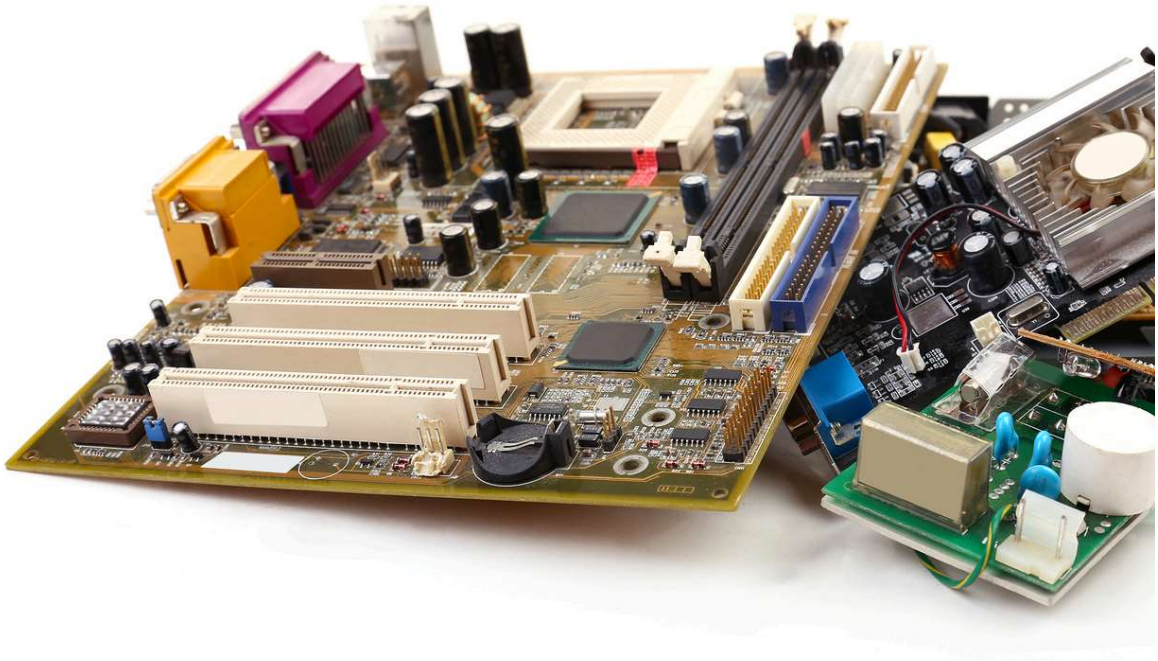
What are SVOCs?

Semi-volatile organic compounds (SVOCs) are generally considered to be those with boiling points above that of n-hexadecane (n-$C_{16}H_{34}$), and include:

- Polycyclic aromatic hydrocarbons (PAHs) emitted from combustion processes.
- Polychlorinated biphenyls (PCBs) formerly widely used in electronics.
- Phthalate esters used as plasticisers.
- Flame retardants – including polybrominated diphenyl ethers (PBDEs), organophosphates (OPs or OPFRs) and 'novel' brominated flame retardants (NBFRs).

Many of these compounds are subject to regulation due to their known or suspected health effects. Reliable analysis is therefore vital for many environmental monitoring campaigns, and increasingly for product quality control.

Using thermal desorption for SVOC monitoring



Monitoring SVOCs in ambient air has traditionally involved labour-intensive and error-prone large-volume sampling onto filters, followed by solvent extraction.

Pumped-tube sampling followed by thermal desorption analysis overcomes the numerous disadvantages of this approach, and offers a large sensitivity improvement because of the use of two-stage sample focusing.

SVOC monitoring equipment from Markes International

Markes' TD100-xr is ideal for many SVOC monitoring campaigns because of its 100-tube capability – but for smaller projects, the single-tube UNITY-xr may be more suitable. In either case, optimum performance for semi-volatiles is achieved using the ACTI-VOC to sample air onto multi-bed sorbent tubes.

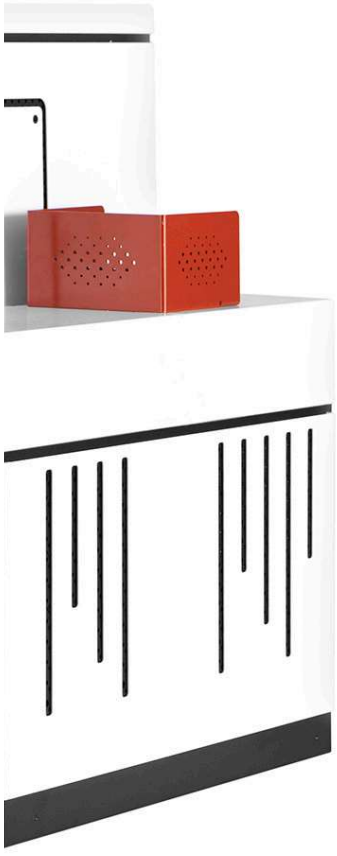
Related content

Content hub

Related products


TD100-xr
Automated thermal desorber
Split flow
Trap flow


MARKES
international
MARKES
international




ES
nal


12V IN EXTERNAL
12V IN BATTERY
12V FAN
TIME SEC/MIN
RESET
OVERIDE
OFF
ON/OFF (TRIP)
START
OTHER PUMPS
ELEC PUMP
SET PUMP CHANGE
PUMP CURRENT 10 - 300 mA
LEV IN
MARKES
International
ACTI-VOC
Acid Battery
Pb


Micro-Chamber/
Thermal Extractor
M-CTE250
HIGH
FLOW
LOW
FAN ON
FAN OFF
MARKES
International


Kori-xr
Water condenser

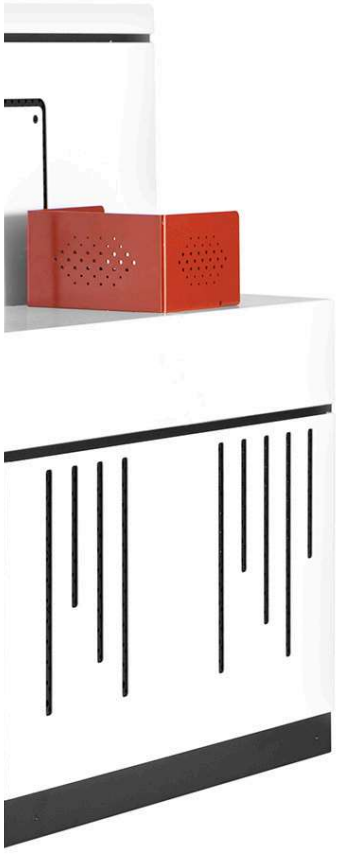

MARKES
international


K 49
22°
380
U
P
TT 49
0 150
OUT1
OUT2
U
P
TC-20
MARKES
International


ES
nal


TD100-xr
Automated thermal desorber
Split flow
Trap flow


MARKES
international
MARKES
international




ES
nal


12V IN EXTERNAL
12V IN BATTERY
12V FAN
TIME SEC/MIN
RESET
OVERIDE
OFF
ON/OFF (TRIP)
START
OTHER PUMPS
ELEC PUMP
SET PUMP CHANGE
PUMP CURRENT 10 - 300 mA
LEV IN
MARKES
International
ACTI-VOC
Acid Battery
Pb


Micro-Chamber/
Thermal Extractor
M-CTE250
HIGH
FLOW
LOW
FAN ON
FAN OFF
MARKES
International


Kori-xr
Water condenser

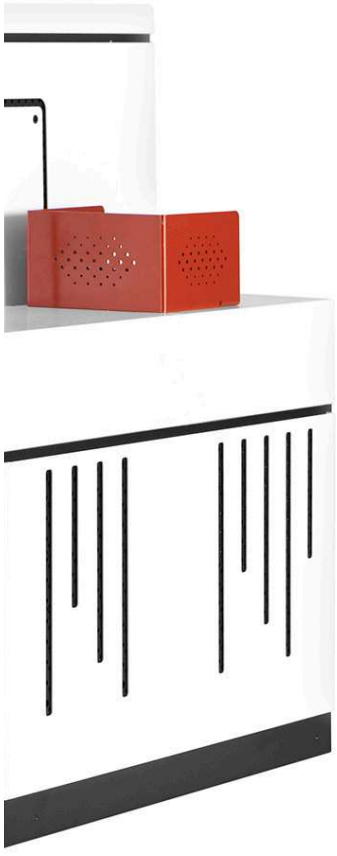

MARKES
international


K 49
22°
380
U
P
TT 49
0 150
OUT1
OUT2
U
P
TC-20
MARKES
International


ES
nal


TD100-xr
Automated thermal desorber
Split flow
Trap flow


MARKES
international
MARKES
international



Supplies

A wide range of everyday supplies to keep your laboratory running efficiently

Find out more

- About Markes
- About us
- Contact us
- Meet the team
- News
- Events
- Careers
- Technical innovation
- 'The Sample' newsletter
- Markes China website

- Support & services
- Raise a support case
- FAQs
- Virtual laboratory tour
- Training
- Unit conversion
- Buy online
- Open a customer account

- Policies
- Terms & conditions
- Website use T&Cs
- Trademarks
- Privacy policy
- Modern slavery policy
- Anti-bribery & corruption policy

+44 (0)1443 230935

enquiries@markes.com

中文

Back to top