Volatile Organic Compounds in Indoor Environments

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Abstract  This chapter provides an overview of the types, sources and current techniques for characterising volatile organic compounds (VOCs) in nonindustrial indoor environments. It reviews current knowledge on the levels of VOCs in indoor environments, discusses concepts for regulating indoor levels of VOCs and appraises current efforts to understand the links between VOCs and building-related health/sensory effects. It also provides an up-to-date outline of new trends in and perspectives for indoor air VOC research.

Abbreviations
AfoDAS/AVODAS  Automated formaldehyde data acquisition system/automated volatile organic compounds data acquisition system
ECA  European Collaborative Action
ECD  Electron capture detector
ETS  Environmental tobacco smoke
EXPOLIS  Air pollution exposure distributions of adult urban populations in Europe
FID  Flame ionisation detector
GC  Gas chromatography
HPLC  High-performance liquid chromatography
IAQ  Indoor air quality
MS  Mass spectrometry
PAS  Photoacoustic spectroscopy
PDMS  Poly(dimethylsiloxane)
SBS  Sick building syndrome
SER  Area-specific emission rate
SPME  Solid-phase microextraction
SSV  Safe sampling volume
SVOC  Semivolatile organic compounds
TOF  Time of flight
TVOC  Total volatile organic compounds
US EPA  United States Environmental Protection Agency
VOC  Volatile organic compounds
VVOC  Very volatile organic compounds