INTRODUCTION TO SPME AND **SPME-TRAP**

WHAT IS IT?

Solid-phase microextraction (SPME) is a technique for getting VOCs and SVOCs from a sample into a GC–MS.



absorb compounds

Equilibrium technique (although often performed under non-equilibrium conditions)

(headspace) and liquids (headspace and immersive)

Recently released: Option for focusing onto a sorbent-packed trap to enhance sensitivity

KEY APPLICATIONS



Aroma/flavour compounds in food



Pollutants in soil and water



Biomarkers in clinical samples



drinking water

HISTORY







and high-capacity sorptive extraction (Centri[®], Markes International)

CTC Analytics)

TYPICAL WORKFLOW



HOW SPME SAMPLING WORKS



WHAT CAN SPME BE USED FOR?

What types of samples are compatible?



ADVANTAGES & DISADVANTAGES

SPME is a versatile technique with a range of benefits, enhanced further by the use of trapping.



Desorption of fiber is fast



Reduced water issues compared to headspace injection



Relatively low cost per sample



More flexible than purge-and-trap



Range of fiber types allow selectivity for different analytes



Highly automated workflows

ADVANTAGES





Small fiber volume limits sensitivity





Fibers have fairly narrow analyte ranges



Immersive SPME is not suitable for dirty matrices



Fibers are easily saturated with high-abundance analytes



Quantitation can be complicated



easily broken

Limited GC-injector heating rates can cause peak broadening

To learn more about automating SPME and SPME-trap using Markes' Centri® multi-mode sampling and preconcentration platform, visit chem.markes.com/Centri-Platform



