

# TF-SPME starter kit

Thin-film solid-phase microextraction (TF-SPME) is a newly-available sampling approach for sorptive extraction of VOCs and SVOCs at ultra-trace levels.

## Same applications, greater sensitivity

Developed by the inventor of SPME, Professor Janusz Pawliszyn<sup>1</sup>, TF-SPME uses a strip of carbon mesh impregnated with a SPME sorptive phase.

As with traditional SPME, TF-SPME membranes can be used to extract VOCs and SVOCs from solids and liquids, using immersive or headspace techniques.

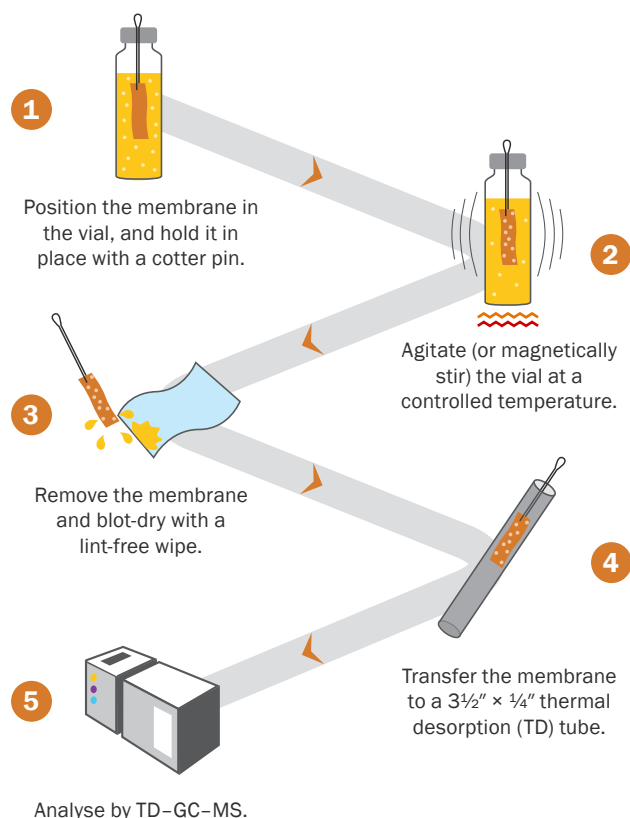
However, the large surface area and 100× greater volume of sorptive phase offer more rapid extraction and greater sensitivity, making TF-SPME an ideal sampling tool for ultra-trace level analysis.



## Each TF-SPME starter kit contains:

- 4 cm TF-SPME membrane with storage vial (× 2)
- 20 mL clear screw-cap vial, cap and septum (× 2)
- Cotter pin (× 2)
- Glass-encapsulated magnetic stir bar (× 2)
- 3½" × ¼" thermal desorption tube (× 2)

## Five-step extraction with TF-SPME



## Product highlights

- Applicable to a wide compound range.
- Environmentally friendly and solvent-free.
- Robust membrane design enables sampling in challenging environments.
- Desorption within TD tubes allows split-flow re-collection on Markes' TD instruments for repeat analysis using different split ratios – aiding analysis over a wide concentration range.

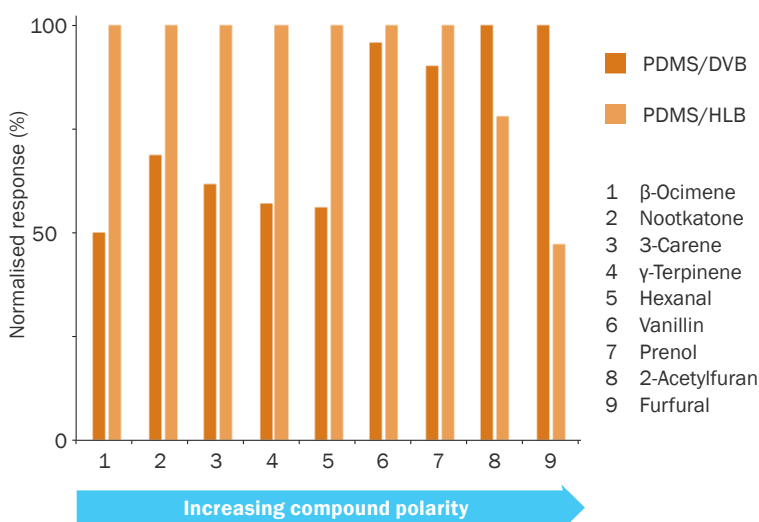
1. I. Bruheim, X. Liu and J. Pawliszyn, Thin-film microextraction, *Analytical Chemistry*, 2003, 75: 1002-1010, <http://doi.org/10.1021/ac026162q>.

## Variety of membrane types

Selectivity for a range of compound classes can be achieved by using an appropriate sorptive phase:

- **PDMS** is suitable for non-polar VOCs & SVOCs.
- **PDMS/CAR** is suitable for VVOCs.
- **PDMS/DVB** is suitable for general analysis of VOCs & SVOCs.
- **PDMS/HLB** has a balanced affinity for polar and non-polar compounds, and is suitable for analysis of 'unknown' VOCs & SVOCs.

## Application example



This study of orange juice compares immersive TF-SPME sampling using two phase types, which show different selectivities for characteristic orange-juice flavour compounds.

## Ordering information

Description	Part number
TF-SPME starter kit, PDMS	C-TF-P-KIT
TF-SPME starter kit, PDMS/CAR	C-TF-PCAR-KIT
TF-SPME starter kit, PDMS/DVB	C-TF-PDVB-KIT
TF-SPME starter kit, PDMS/HLB	C-TF-PHLB-KIT

All the above contain two sets of TF-SPME membranes and sampling equipment. Membranes are also sold separately as packs of five.

### Markes International

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## Application areas



**Beverages** (e.g. orange juice, whisky)



**Biological samples** (e.g. saliva, sweat)



**Environmental** (e.g. in-situ water sampling, pollutants such as PAHs, disinfection by-products)



**Foods** (e.g. dairy products)



**TF-SPME membranes can be used with any instrument that can accept 3½" x ¼" TD tubes – such as Markes' Centri® automated sampling and concentration platform**



**Order your TF-SPME starter kit today**

Please contact your regional distributor or one of our offices (details below).

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