

INNNOTE Thin Film Solid Phase Microextraction (TF-SPME)

Thin Film Solid Phase Microextraction (TF-SPME or TFME), is a new technology developed to address the limiting uptake rate and capacity sometimes observed with fiber microextraction, which spreads the multicomponent sorptive phase on the carbon mesh. Relative to fiber SPME, both the volume of extraction phase and the surface-to-volume ratio are significantly larger. Meanwhile, it is particularly relevant for extraction of more polar compounds from aqueous matrixes.

After extraction, TF-SPME can be desorbed by the thermal desorption systems and then enter the chromatographic system. This technology is especially suitable for food, perfume, beverage, environmental monitoring and other industries.



Advantage

- 1 The larger surface to volume ratio allows a **higher uptake rate** per unit time, which show **better sensitivity** for VOCs analytes.
- 2 The higher sorbent capacity is beneficial for polar analytes, which show a wider range of polar and not-polar analytes.
- 3 Embedding sorbent particles (HLB or DVB) into the PDMS coating to broaden **the wide range** of target analytes.
- 4 **Robust** membrane design is stronger and more durable than fiber SPME for various applications.
- 5 Green analytical chemistry of solventless sample preparation technique.
- 6 INNNOTE's TF-SPME is suitable for all commercial Thermal Desorption System for thermal desorption.

Application

- Environmental VOCs in-site sampling (e.g. pesticide residues in water, polycyclic aromatic hydrocarbons; Ambient air VOCs)
- Aroma components of food (such as beverage, meat, wine, dairy products)
- Volatile plant odor (e.g. natural plant, tobacco, volatile oil)
- Biological samples (e.g. saliva, sweat, urine metabolite VOCs)

Coating type	Application range	Specification
PDMS	Suitable for analysis of non-polar VOCs and SVOCs analytes	• 20mm*4.8mm for TDU system.
PDMS/DVB	Suitable for analysis of non-polar and low-polar VOCs and SVOCs analytes	• 40mm*4.8mm for all Thermal
PDMS / HLB	Balanced affinity for polar and non-polar compounds, suitable for polar and non-polar VOCs, VOCs and SVOCs analytes	Desorption Systems.

Solid phase microextraction (SPME)



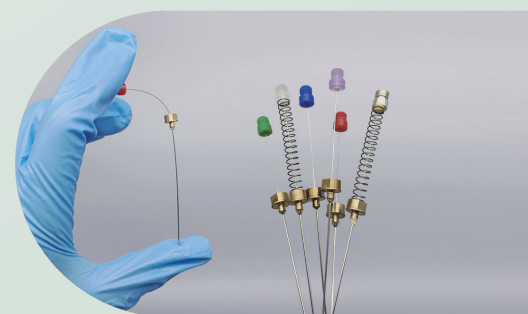
Advantage

Solid phase microextraction (SPME) is one of several important sample preparation techniques. SPME, invented in early nineties by Prof. Janusz Pawliszyn from the University of Waterloo in Ontario, Canada, integrates sampling, extraction, concentration and sample introduction into a single step. It enables solventless extraction via a fused silica, stainless steel, or nitinol fiber coated with a thin film polymer, which acts as the solvent during the extraction of compounds. The fiber is mounted on syringe-like device for extraction of analytes from various matrices and introduction to a chromatographic system.

- 1 SPME is a high sensitive sample extraction and concentration technique.
- 2 SPME is fast, simple, amiable to automation and easy to on-site sampling.
- 3 Green analytical chemistry of solventless sample preparation technique.
- 4 INNOTEK's SPME fiber uses stainless steel or nitinol materials, which has stronger physical strength, flexible, long service life.
- 5 Provide customized services, e.g. extraction fiber type, color, etc. Providing the empty fiber for researchers.

Application

Many applications in environmental, food, forensics, clinical and pharmaceutical laboratories have become commonplace for analysis of semi-volatile and volatile compounds in air, aqueous matrices including complex slurry and soil samples.



Part No.	Description	Specification	Packaging
200100-000-00	INNOTEK-Bare SPME Fiber for Steel Stainless wire-Automatic, 3pk	Automatic	3/PK
200100-000-00	INNOTEK-Bare SPME Fiber for Steel Stainless wire -Manual, 3pk	Manual	3/PK
220100-000-00	INNOTEK-Bare SPME Fiber for 200µm Nitinol wire-Automatic, 3pk	Automatic	3/PK
220100-000-10	INNOTEK-Bare SPME Fiber 200µm Nitinol wire-Manual, 3pk	Manual	3/PK
200101-441-03	INNOTEK-SPME Fiber 44µm PDMS, 1cm, Automatic Injection Fiber, 3pk	Automatic	3/PK
200101-441-03	INNOTEK-SPME Fiber 44µm PDMS, 1cm, Manual Injection Fiber, 3pk	Manual	3/PK
200101-941-03	INNOTEK-SPME Fiber 94µm PDMS, 1cm, Automatic Injection Fiber, 3pk	Automatic	3/PK
200101-941-13	INNOTEK-SPME Fiber 94µm PDMS, 1cm, Manual Injection Fiber, 3pk	Manual	3/PK

INNOTEK is a high-tech enterprise specializing in R&D and production of scientific instruments and equipment. We are professional manufacturer integrating R&D and production of laboratory equipment, method development, laboratory instrument sales and technical services. In addition, INNOTEK cooperates with major scientific research institutes and universities to actively promote the scientific and technological achievements: the industrialization of purposes. The TF-SPME product is fully launched with a professional team to provide customers with a variety of application solutions, professional after-sales team and services to support your analysis and testing.