



SPME Sampling System

Solid Phase Microextraction

AN ACCESSORY FOR
HAPSITE ER CHEMICAL IDENTIFICATION SYSTEM

IDENTIFY AN EXPANDED RANGE OF CHEMICALS IN HARD TO REACH OR DANGEROUS ENVIRONMENTS

The Solid Phase Microextraction (SPME) Sampling System expands the chemical identification capabilities of the field-proven, person-portable HAPSITE ER Chemical Identification System. Small and lightweight, SPME technology maximizes sampling opportunities in hard to reach or dangerous areas for actionable results on-scene. The accessory is easily attached to the HAPSITE ER Universal Interface for fast sample analysis utilizing the Gas Chromatograph/Mass Spectrometer (GC/MS) or MS (Mass Spectrometer) only. SPME provides identifiable results in minutes allowing for rapid decisions affecting life, health and safety.

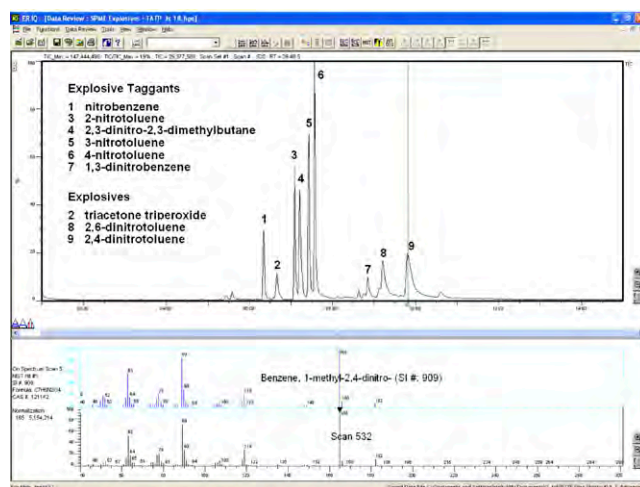


For rapid analysis, the SPME fiber is inserted into the thermal desorption chamber.

FEATURES AT A GLANCE

- Fast sampling using SPME Survey
- Enhanced HAPSITE ER performance with low volatility compounds including V-agents and explosive taggants
- Increased portability and mobility
- Numerous fibers can be brought to the field for sampling and analyzed at a central location
- Samples flammable and explosive materials as well as various unknown compounds
- Quickly and easily attaches to HAPSITE ER via the Universal Interface (UI)
- Integrates with HAPSITE ER IQ software, for access to NIST and the NIOSH database

Fig 1. Total Ion Chromatogram (TIC) of 6 Taggants and 3 Explosives



Column: RTX-1MX column (15m x .25mm x 1.0 μm). Column temperature program: 60°C held for 0.5 minutes, ramp at 30°C/min. to 160°C, ramp at 24°C/min. to 200°C, held for 10 minutes.

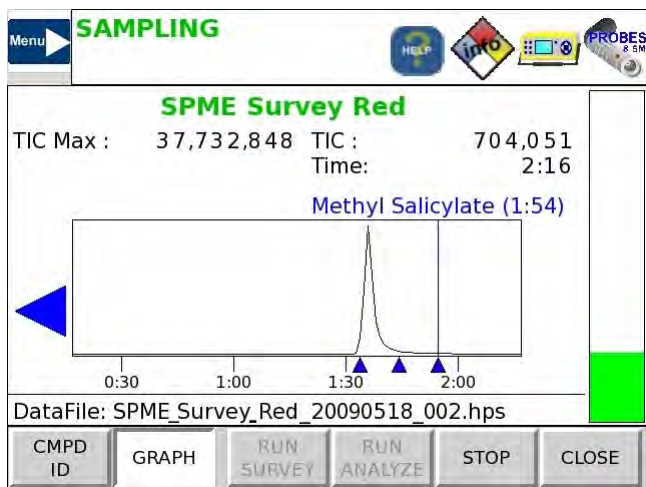
FAST, EFFICIENT SAMPLING TECHNIQUE

SPME sampling, which involves the exposure of a coated fused silica fiber to the sampling source, expands HAPSITE ER detection capabilities to the low ppb range for SVOCs, explosive taggants and phthalates. The SPME fiber can collect analytes in the headspace above a liquid or a gas, or can be directly immersed into a aqueous or gaseous sample. Specialized fibers permit the user to optimize their application.

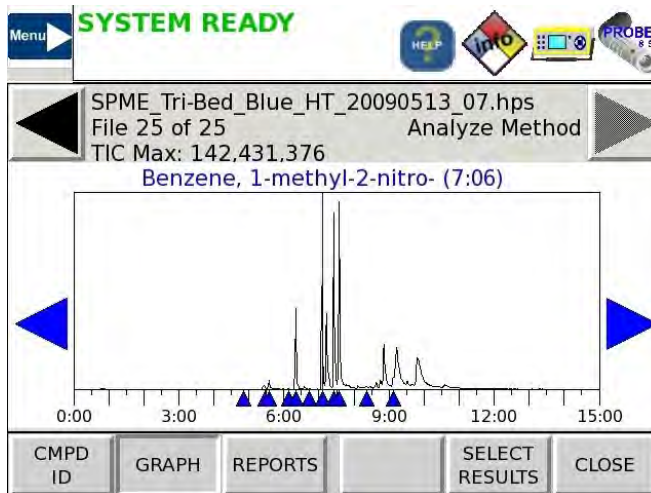
The fiber is fixed to a holder, enabling it to be exposed and retracted. The sample is collected onto the fiber and inserted into the SPME accessory thermal desorption chamber, where the analytes are desorbed from the fiber and carried by flowing nitrogen through HAPSITE ER for rapid analysis. When SPME interfaces with HAPSITE ER, all the features of HAPSITE ER are available, including the NIOSH database and ER IQ software.

ACTIONABLE RESULTS IN MINUTES

In situations where immediate results are critical, SPME Survey bypasses the Gas Chromatograph and uses the Mass Spectrometer exclusively to identify analytes in minutes. With the simple touch of a button, this innovative, high speed feature sends the analyte directly to the MS, allowing for rapid identification of an increased range of chemicals. Although fast, the SPME Survey technique still provides some separation between the target chemicals and interferences.



SPME Survey allows for rapid identification in time critical situations.



SPME technology utilizes the full capability of HAPSITE ER, including explosive taggant identification.

APPLICATIONS

- CWAs in Water
- Explosive Taggants
- Semi-Volatile Organic Chemicals (SVOCs)
- Volatile Organic Chemicals (VOCs)
- TICs and TIMs

SPECIFICATIONS

SPME Desorption Temperature	100-300° C
Methods	Full GC/MS, SPME Survey (MS-only), Fiber conditioning
Environmental Operating Conditions	5-45° C, 0-95% RH, non-condensing
Instrument Compatibility	HAPSITE ER only
Analytical Interface	HAPSITE ER universal interface
Dimensions	4" x 5½" x ¾"
Weight	4 lbs (1.8 Kg)
Power Supply	Receives power from HAPSITE ER
Battery Power Requirement	Receives power from HAPSITE ER
Battery Life (HAPSITE ER + SPME)	1-1.5 hrs.
Carrier Gas	High purity nitrogen, supplied by HAPSITE ER
SPME Fiber	23 gauge, various coating options, approx. 50 injections per fiber
SPME Liner	Deactivated stainless steel with intrinsic 2µ particle filter, removable/replaceable
SPME Fiber Seal Life (Typical)	200 injections
Water Sampling Detection Limits	Trichloroethylene (TCE) low ppb
Air Sampling Detection Limits	Trichloroethylene (TCE) low ppb

DETECT TO PROTECT™

