



HAPSITE[®]

Chemical Identification System

A FIELD-PORTABLE GAS CHROMATOGRAPH/
MASS SPECTROMETER



Fast, on-scene, identification of toxic chemicals and chemical agents

AT THE SAMPLE—ON-SCENE ANALYSIS

HAPSITE Chemical Identification System, the only portable gas chromatograph/mass spectrometer (GC/MS) designed for on-scene detection, identification and quantitation of toxic industrial chemicals (TICs) and chemical warfare agents (CWAs), provides results when and where they are needed. GC/MS is the benchmark for positive identification of organic chemicals with the highest degree of accuracy of any available analytical technique. And with HAPSITE Chemical Identification System, users get the confirmatory results within minutes that are necessary to make critical decisions affecting life, health, safety and the mission.

DETECT AND IDENTIFY VOCs IN THE LOW PPB TO PPT RANGE

The HAPSITE microtrap concentrator enables detection and identification of volatile organic compounds (VOCs) in the low parts per billion/parts per trillion (ppb/ppt) range. The microtrap concentrator uses a small bed of absorbent material to trap VOCs over a 30 to 60 second sampling period. Airflow through the trap is reversed as it is heated at a rate of 800°C/min. and then the trapped analytes are flash desorbed onto the GC column. The result is unprecedented sensitivity for on-scene analysis. This can be helpful in investigating problems caused by extremely low-level contamination, such as odor complaints, sick building syndrome, or chemical warfare agents.

FEATURES AT A GLANCE

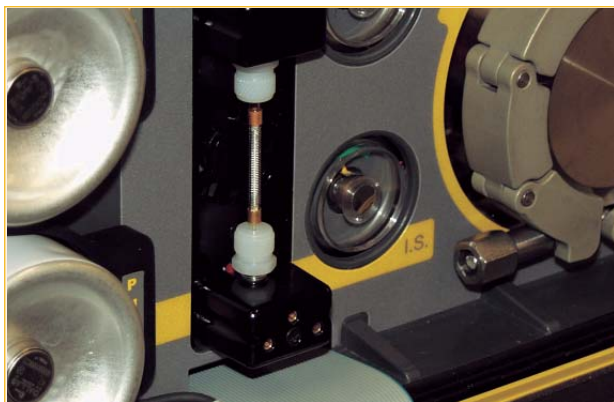
- the only field-portable GC/MS with results directly comparable to laboratory analysis
- results on-scene in real-time
- microtrap or loop injection for ppt to low percent detection
- temperature-programmable GC expands the range of detectable compounds

SPEED, FLEXIBILITY, AND PRECISION

There are several features that enhance the performance of the HAPSITE Chemical Identification System:

- The innovative low thermal mass GC oven design includes **temperature programming capability**. This expands the range of analytes in a single run, while shortening analysis times.
- **A microtrap injection mode** allows HAPSITE Chemical Identification System to identify chemicals present in the ppt range, while standard loop injection provides direct analysis in the ppb to ppm (parts per million) range.
- **A built-in Global Positioning System (GPS)** allows HAPSITE to automatically record the exact latitude and longitude of the sampling location, along with the field data time and date/time stamp. This allows for legally defensible data in criminal and/or civil cases.
- **The onboard Intel® Pentium® computer and 2Gb hard disk** provide fast, reliable data for field applications.

Rugged, reliable, and built for field analysis



Microtrap – HAPSITE uses a microtrap concentrator to lower detection limits to the ppt range.

ENGINEERED FOR THE FIELD

The totally self-contained HAPSITE Chemical Identification System is rugged and easy to use. It operates on a rechargeable nickel metal hydride battery for field use or from a 24-volt converter when external power is available. Specially designed to withstand harsh conditions, the entire unit is weather resistant and easily decontaminated. Years of field use by environmental agencies, military units, HAZMAT response teams, stack testing companies, and environmental and industrial hygiene professionals from major corporations have proven the reliability of HAPSITE and the benefits of field analysis.

¹Environmental Technology Verification Report, U.S. EPA/600/R-98/142 November 1998. Field-Portable Gas Chromatograph/Mass Spectrometer. INFICON Inc. HAPSITE. The EPA Environmental Technology Verification Report was conducted on HAPSITE Portable GC/MS using isothermal GC and no concentrator. HAPSITE Chemical Identification System, field-portable GC/MS, is equipped with a temperature programmable gas chromatograph and a microtrap concentrator.

ACCURATE ON-SITE RESULTS REPLACE OFF-SITE LAB DATA

The U.S. Environmental Protection Agency's Environmental Technology Verification Program compared HAPSITE on-scene results with those from a reference laboratory using U.S. EPA Method 8260A. The EPA reported that HAPSITE "could be employed in a variety of applications, ranging from producing rapid analytical results for screening investigations, to producing accurate and precise data that are directly comparable to that obtained from an off-site laboratory."¹

With HAPSITE, you'll be able to accurately identify hazardous organic chemicals—and make the right decisions—faster and more reliably than ever.

LET US TRAIN YOU

INFICON offers comprehensive HAPSITE training to meet your specific needs. Call for more details.

SERVICE MODULE

HAPSITE is available with a Service Module that gives you additional flexibility to change the NEG pump as an auxiliary vacuum source and to operate with different carrier gases.



SPECIFICATIONS

ANALYTICAL MODULE

Operating Conditions	5°C to 45°C. Cold weather insulating bag and insulation available
L x W x H	18" x 17" x 7" (46 cm x 43 cm x 18 cm)
Weight	Approximately 16 kg (35 lbs) with battery
Power Supply	Rechargeable NiMH battery pack or AC inverter
Battery Life	Battery lasts approximately 3 hours before recharging is needed
Internal Power Consumption	24 V(dc), 30 watts at normal operating conditions. 150 watts maximum.
Sample Introduction	Direct...internal sample pump
Carrier Gas	Nitrogen (can be customized for Helium)
Data System	Integral Intel® Pentium® processor & external Windows®-based laptop (not required for operation)
Special Features	Person/field portable; integral concentrator; analytical/survey modes of operation; built-in National Institute of Standards and Technology (NIST) and AMDIS Mass Spectral libraries; built to operate under adverse conditions; can be cleaned with water and bleach for field decontamination.
Detection Limits	<ppb for most analytes
Mass Spectrometer	
Mass Range	1-300 AMU
Scan Rate	1000 AMU/sec @10 points per AMU
Ionization Mode	70 eV EI
Detector	Electron multiplier
Vacuum System	Non-evaporable getter pump (NEG)
Dynamic Range	7 decades
Gas Chromatograph	
Temperature Programmable GC Column	45°C to 200°C
GC Column	30 m x .32 mm i.d. Alternate phase and film thickness options available.

SERVICE MODULE

Operating Conditions	5°C to 35°C.
L x W x H	18" x 17" x 8.5" (46 cm X 43 cm x 22 cm)
Weight	Approximately 45 lbs (20 kg)
Vacuum System	Molecular drag/turbo pump with oil-free backing pump
Power Consumption	100-250V(ac), 332VA at normal operating conditions



GLOBAL HEADQUARTERS:

Two Technology Place, East Syracuse, NY 13057 USA
Tel: +1.315.434.1100 Fax: +1.315.437.3803 E-mail: reachus@inficon.com

Visit our website for other sales offices worldwide. www.inficon.com

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