

**SUMMIT COUNTY SPECIAL OPERATIONS RESPONSE TEAM (SCSORT)  
BID FOR HAZMAT GAS CHROMATOGRAPH MASS SPECTROMETER**

The Summit County Special Operations Response Team is requesting bids for a Portable Gas Chromatograph Mass Spectrometer combination device (GC/MS) for Hazardous Materials Emergency Response. The purpose of this instrument is to separate and identify complex hazardous substances and to provide rapid identification of those materials.

**GENERAL REQUIREMENTS**

All specifications contained herein are considered minimum requirements for the delivery of the "new" hazmat GC/MS.

**BID RESPONSE**

Any exceptions to minimum specifications shall be described in detail on a separate page attached to the bid response titled "EXCEPTIONS & CLARIFICATIONS"

Failure to disclose an exception will indicate total compliance.

Each bid must be accompanied by a set of detailed contractor's specifications.

Bids shall be enclosed in a sealed envelope endorsed on the outside of the envelope "Bid for HazMat GC/MS", pursuant to specifications provided, with the name of the bidder prominently displayed on the face of the envelope.

All bids shall be delivered at or before the time and place stated herein. Bids received after the stated date and time will be returned unopened to the bidder.

The following specifications and characteristics must be met with no deviations. These are the minimal acceptable properties of the system. This is a coupled system consisting of a Gas Chromatograph and a Mass Spectrometer with an on-board 5.7" color touch screen computer and integrated battery and carrier gas supply.

**GC/MS System Requirements**

GC/MS is composed of two major building blocks: the gas chromatograph and the mass spectrometer.

**The Capillary Gas Chromatograph portion**

- Must use a low thermal mass metal capillary GC column with dimensions 5 m x 0.100 mm and 0.4  $\mu\text{m}$   $d_f$  (typical)
- Must have a Temperature Program range from 50°C to 300°C with a Temperature Ramp Rate up to 2.5°C/second
- Split/Splitless Injector: Splitless or split flow settings at 10 mL/min (~30:1), 50 mL/min (~160:1) or 60 mL/min (~200:1), user selectable

- Sample introduction must be via Solid-phase micro extraction (SPME), with no additional accessories required to accommodate SPME introduction to the GC inlet
- Carrier Gas is high purity helium (from replaceable internal cartridge)
- Helium Carrier Gas Cartridge Lifetime Up to 150 analyses per replaceable internal cartridge
- Carrier Gas cartridge or cylinder must have a shelf life of no less than seven years from date of purchase

### **The Mass Spectrometer portion**

- Mass Analyzer: Toroidal ion trap mass spectrometer
- Mass Range: 45 – 500 m/z
- Resolution: Better than nominal unit mass to 500 m/z
- Ionization Mode: Internal electron impact
- Detector: Dual-channel electron multiplier
- Vacuum System: Dual stage diaphragm and turbo molecular pumps

### **Overall system requirements**

- The system must be a portable GC/MS whose weight in fully operational configuration including battery, gas supply, and on-board computer must not exceed 35 pounds
- The system must measure less than 16"x16"x10"
- Start-up time (power on to system operational) must be less than five minutes
- Analysis for both VOC's and SVOC's in a single method in three minutes or less
- Operating Temperature 0°C to 40°C continuous operation with vent ports closed
- Up to 45°C continuous operation with vent ports opened
- Operating Humidity 0 to 95% RH non-condensing
- Power Supply Rechargeable COTS Mil-spec Lithium ion battery with SmartBus capability or AC-to-DC converter (100-120V/220-240V, 50/60 Hz, 2.0 A)
- Carrier Gas High purity helium from replaceable internal cartridge (required) with optional connection to external helium cylinder
- No internal standard gas cylinder required
- Battery Lifetime Rechargeable – up to 3 hours of operation
- On-board Touch screen software for instrument control and chemical identification
- PC-based software for method development and advanced library searching must be provided
- NIST/EPA/NIH Mass Spectral Library must be provided.
- System shall be easy to operate in hazardous materials protective equipment.
- System shall come provided with GC/MS software for PC and Bluetooth communications between GC/MC and laptop PC.
- Total of three(3) microextraction (SPME) fiber syringes must be provided.

### **Post Sale System Support**

A ReachBack support system, must be included to provide the following

- Access to 24/7/365 technical support
- Qualified scientists assisting in spectral interpretation
- Trained technicians for trouble-shooting and system operation

- Response time in less than 15 minutes
- Software upgrades
- All parts and labor to repair system in the event of a malfunction
- Free loaner system delivered by overnight carrier if system must return to factory

**Operational Training**

Bidder must provide must provide three (3) one day operational training sessions to be conducted in Summit County Ohio to technicians who will operate this equipment. One (1) set of training materials will be provided to Summit County SORT to be able to conduct future refresher trainings.