Bruker Detection Corporation - Raid-M Handheld Chemical Detector & Identifier



GENERAL DESCRIPTION:

The RAID-M is a complete state-of-theart instrument for the homeland security and military response team professional to detect and identify dangerous chemical vapors. The RAID-M is an easy to use, rugged, versatile, and certified instrument. It detects and identifies a wide range of chemical vapors including CWA, TIC, riot control, and industrial gases. The RAID-M can be operated while in full personal protective gear, in hazardous areas, and in all kinds of environmental conditions.



The RAID-M alerts the operator to the presence of dangerous chemical warfare agents and certain toxic industrial chemicals by means of an audible alarm, visual alarm, and LED display readings. Agents that are verifiably detectable are GA, GB, GD, GF, VX, HD, HN, L, AC, CG, CL2, TDI, SO2, CY, CN, CS, etc. This list is not exhaustive. Chemicals can be added and deleted from selected libraries easily by trained personnel. Applications include emergency response, chemical survey, decontamination validity, glovebox screening of dangerous chemical vapors, site monitoring, critical event monitoring, leak testing, and laboratory analysis.

TECHNICAL DESCRIPTION:

The RAID-M handheld chemical agent detector is an ion mobility spectrometer that samples the ambient air for chemical agent and toxic industrial chemical vapors. The RAID-M has a membrane inlet, an exempt nickel 63 radioactive source for ionization, ammonia dopant for interference rejection, and automatic back flush for saturation protection. The RAID-M uses spectral matching software to classify and identify CWA's, TICs and other gases.

CONTACT INFORMATION

Bruker Detection Corporation 40 Manning Rd Billerica, MA 01821 POC: Frank Thibodeau

COST

- \$18,975/system
- N/A/analysis

Tier Selection



Survey Source

Vendor Supplied Information

Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



Evaluation Criteria

Throughput:

- Detection is instantaneous
- Continuous operation with no defined runs
- System is continuous and provides real time analysis with no defined tests/samples
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- Less than 5 minutes is required for set-up
- Automatic detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a toaster
- Between 1 and 5 kg
- Wireless and wired connections are available
- System or device uses batteries
- 4-8 hours battery life



Operations:

- Can be used from < -21°C to > 42°C (All temperatures)
- Device or system has peak performance at normal relative humidity conditions
- Greater than 3 years shelf life
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system or device is currently fully autonomous
- The system software is open but modification requires licensing
- The system hardware is closed and not available for modification

Detection:

- This system does not test liquids
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- 1x10⁻⁶ 3x10⁻⁵ mg/m³
- 1 ppb 1 ppm
- System currently can identify aerosolized chemical agent