Homeland Security
Science and Technology

Highlight

U.S. Department of Homeland Security
SAVER
System Assessment and Validation for Emergency Responders

The U.S. Department of Homeland Security (DHS) established the System Assessment and Validation for Emergency Responders (SAVER) Program to assist emergency responders making procurement decisions.

Located within the Science and Technology Directorate (S&T) of DHS, the SAVER Program conducts objective assessments and validations on commercial equipment and systems, and provides those results along with other relevant equipment information to the emergency response community in an operationally useful form. SAVER provides information on equipment that falls within the categories listed in the DHS Authorized Equipment List (AEL). The SAVER Program mission includes:

- Conducting impartial, practitioner-relevant, operationally oriented assessments and validations of emergency responder equipment;
- Providing information that enables decision makers and responders to better select, procure, use, and maintain emergency responder equipment.

Information provided by the SAVER Program will be shared nationally with the responder community, providing a life- and cost-saving asset to DHS, as well as to federal, state, and local responders.

The SAVER Program is supported by a network of technical agents who perform assessment and validation activities. Further, SAVER focuses primarily on two main questions for the emergency responder community: "What equipment is available?" and "How does it perform?"

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Ion Mobility Spectrometry-based Trace Explosives Detectors

The National Institute of Standards and Technology has published a report that establishes minimum performance requirements and an associated test method for Ion Mobility Spectrometry (IMS)-based trace explosives detectors for use by the emergency responder community. The *IMS-based Trace Explosives Detectors for First Responders Report* contains information concerning the theory and operation of IMS trace detectors in order to enhance the understanding of the performance requirements and to aid emergency responders in the selection of equipment that best suits their specific needs. A test method is provided in the report that addresses the basic performance criteria of desktop IMS trace detectors.

The premise of IMS trace detection is that anyone handling explosives (or narcotics) will leave microscopic, invisible traces on anything they touch. These fingerprint residues will be present on personal items such as clothing and hair, and on objects such as luggage handles, laptop computers, door handles, steering wheels, etc. Such fingerprint residues commonly contain enough explosives (or narcotics) to be detected by IMS instruments as long as the material can be effectively sampled. Uses of IMS trace explosives detection include at U.S. airports, by the U.S. military to screen people, mail, vehicles, and other items at points of entry; and by the U.S. Coast Guard to screen cargo on ships. Corrections facilities and state police agencies also use IMS trace detection.

All reports on IMS-based Trace Explosives Detectors can be found on the SAVER Web site (https://www.rkb.us/SAVER), as well as reports on other technologies