



**Homeland
Security**

Science and Technology

U.S. Department of Homeland Security



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?"

To contact the SAVER Program Support Office
Telephone: 877-336-2752

E-mail: saver@dhs.gov

Visit SAVER on the RKB Web site:

<https://www.rkb.us/saver>

Highlight

Evaluation of Commercial Off-the-Shelf and Government Off-the-Shelf Microclimate Cooling Systems

First responders operating in high temperature or stressful environments, compounded with the need for protective clothing and equipment, become very susceptible to the effects of heat stress. When these elements combine to produce highly elevated body temperatures, mission performance can be inhibited, and the responder's health is endangered. In many cases, extreme environmental conditions cannot be avoided, thus, alternative methods of reducing core body temperature rise must be examined.

While a wide variety of microclimate cooling products are commercially available, no standards currently exist to guide first responders in their selections during equipment procurement, requiring them to rely on manufacturer and vendor-supplied information. Unfortunately, some manufacturers and vendors make ambiguous and unsubstantiated claims regarding the performance of their Microclimate Cooling Systems (MCS) products. Historically, emergency responders have relied solely on these claims during the selection process, resulting in the procured system(s) falling short of their technical, physiological and operational needs.

As a SAVER Technical Agent, the U.S. Army Research, Development, and Engineering Command (RDECOM)/Natick Soldier Center (NSC) has been tasked to provide expertise and analysis on products that are categorized into six groups: Evaporative Products, Passive Phase Change Material Products, Vapor Compression Liquid Circulating Products, Thermoelectric Liquid Circulating Products, Compressed Air Products, Active Phase Change Material Products, and Other. In support of this tasking, RDECOM/NSC executed a project and produced the following report(s) that will provide the emergency responder community with specific information on the technologies, capabilities, parameters and limitations of MCS:

- *Evaluation of Commercial Off-the-Shelf and Government Off-the-Shelf Microclimate Cooling Systems* identifies MCS products and provides a valuable starting point for the emergency responder community during evaluation and procurement of MCS products. Findings provided by this document are the result of extensive

testing, Internet searches, and manufacturer responses to a Request for Information.

- *Company and Product Information* is a simple listing of company and product names. If your agency is considering purchasing MCS, these reports may provide important information that can provide greater mission and agency efficiencies. Documents are available on the SAVER Web site (<https://www.rkb.us/SAVER>). Reports on other technologies being assessed in the SAVER Program can also be found on the Web site.