



HazRAE

Chem/Bio/WMD Decision Support

PDA-based First Responder Database

HazRAE is a hazardous materials decision support application for chemical, biological and WMD assessments that runs on handheld, wireless devices. It was developed to address the unique needs of first responders determining unknown hazards.

The **HazRAE** database contains more than 91,000 chemical, biological warfare and bioterror agents, trade names, and improvised explosive devices. Materials can be retrieved using traditional search identifiers such as name or UN number, but when no standard identifiers are present or known (particularly a concern when responding to terrorism), **HazRAE** is able to identify unknown chemicals using observable physical characteristics and signs and symptoms observed in victims.

91,000 Chemicals

HazRAE includes integrated response information for more chemical agents (TICs, TIMs, CW agents), biological agents (bio-weapon and bioterror agents), and improvised explosive devices than all the other legacy systems combined!

Unknown Material Identification

HazRAE identifies a broad range of agents via observed physical properties. The patent-pending signature library of 780,000+ attributes identifies materials in less than 3 seconds.

- Identify unknown agents via observed medical signs and symptoms
- Identify a broad range of dual-use precursors

- Model dual-use precursor outcomes. **HazRAE** lets you virtually mix agents and predict the most probable dual-use precursor outcomes.
- Identify chemical reactions. **HazRAE** allows you to virtually mix agents and model their chemical reactions.

Improvised Explosive Devices

HazRAE provides Improvised Explosive Device (IED) standoff distances and an evacuation calculator. The application includes a database of two times more explosives than other systems.

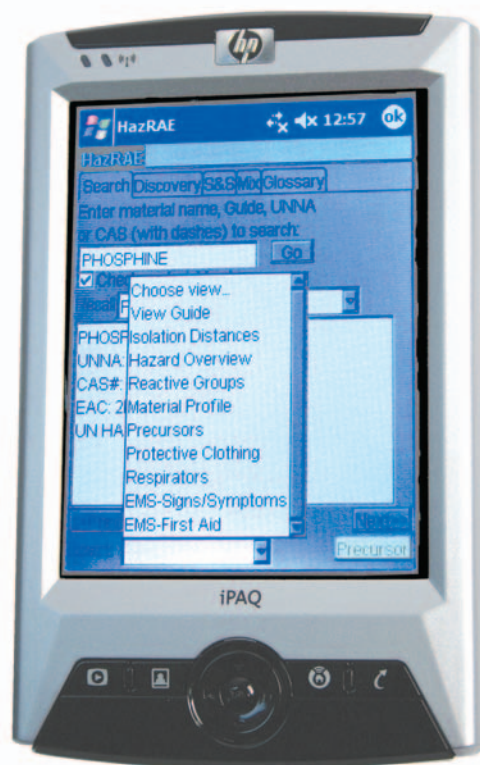
International and Maritime

Ready for international and maritime operations, **HazRAE** displays units of measure in both imperial and metric units. It displays and decodes EAC, HIN, APP, PG and UN hazard codes, and includes trade names in German, English, French, and Spanish.

Key Features

- Five times more biological agents than any other mobile system
- Integrated Correction Factors for RAE Systems 9.8 eV, 10.6 eV and 11.7 eV PIDs found in MultiRAE Plus, MiniRAE 2000 and ppbRAE Plus
- More than 150 fields containing physical properties, working allowances, reactivity, Acute Exposure Guidelines (AEGs), Military Exposure Guidelines (MEGs), Levels of Concern (LOCs), and more
- Specific emergency life support/first aid for chemical and biological agents

- Agent-specific chemical protective clothing and respirator recommendations
- Intuitive, full-color view of isolation distances and protective action zones
- Time-stamped, high-resolution accountability logging
- **HazRAE** is the only DOD Common Operating Environment/Joint Technical Architecture compliant solution
- Includes material hazard categories, chemical profiles, descriptions and decontamination procedures
- Glossary of commonly used terms and phrases
- Integrated interactive NFPA704 classification identifier
- Context-sensitive online help



Specifications*

Hewlett Packard iPAQ rx3100 series PDA
or equivalent with HazRAE Version 1.0 installed

Data Source	Number of materials and trade names	Where used
EPA Response Information Data	80,000	LEL, UEL, physical attributes, trade names
National Oceanic and Atmospheric Administration (NOAA)	67,743	Reactive materials, physical attributes, trade names
NOAA, EPA, CDC, USAMRIID	6,613	Reactivity, flammability, toxicity, specific hazards
Chemical Abstract Service	5,459	CAS numbers
DOT ERG-2004	3,408	Response SOP guides, isolation distances
NIH	3,727	Health, toxicological and ELSP information
USCG CHRIS	1,102	Various material attributes/ water reactivity
EPA, NIH, NIOSH	1,101	IDLH values
DOE	975	TEEL, ERPGs
NFPA, RIDs	949	Fire rating classifications. Note: Where NFPA ratings between data sources differ, the most conservative value (from a safety perspective) is used.
NIOSH Pocket Guide	670	IDLH values, physical attributes
Argonne National Labs	632	Isolation Distances, Protective Action Zones
NIOSH, EPA, DuPont	30,000+	Protective clothing / break-through times
USAMRIID, WHO, CDC, HC	159	Biological warfare agents, biotoxins, and bioterror agents
FBI, DEA, EPA, United Nations	6,800+	Precursors

* Ongoing programs to improve our products mean these specifications are subject to change.

HazRAE includes:
Part Number 055-5000-000

HP iPAQ rx3100 series PDA or equivalent

- Bluetooth® enabled
- 64MB SD card

HazRAE Software Version 1.0

- Includes a 1-year subscription plan
 - Access to online help
 - Access to updates

HazRAE

Other data sources referenced in HazRAE include:

"The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals," S. Budavari, Ed., Merck & Co., Inc., Rahway, NJ, 1996

Aldrich Handbook of Fine Chemicals and Laboratory Equipment, 2000-2001 Aldrich-Sigma

Bretherick's Handbook of Reactive Chemical Hazards, 5th ed. Butterworth Heinemann, Oxford, 1995

C. R. Noller, "Chemistry of Organic Compounds," 2nd Ed., W. B. Saunders Company, 1958

Carson, P. A. and Mumford, C. J.: Hazardous Chemicals Handbook. Butterworth-Heinemann, Oxford, 1994

ChemCheck Handbook. STP Specialty Technical Publishers, Vancouver, Canada, 1994

Chemical and Engineering News, published weekly by the American Chemical Society

Chemical Manufacturers Association Case Histories

Chemistry and Technology of Explosives, Urbanski, T., London, MacMillan

Davis, D. J. and Davis, J. A.: Hazardous Materials Reference Book.

Van Nostrand Reinhold, New York, 1996

DISTRIBUTED BY:



RAE Systems Inc.
1339 Moffett Park Drive, Sunnyvale, California • 94089 • USA
Tel: 408.752.0723 • Fax: 408.752.0724
Email: raesales@raesystems.com • www.raesystems.com

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RAE Systems Europe
Orestads Boulevard 69, 2300 Copenhagen S • Denmark
Tel: +45.8652.5155

RAE Systems (Hong Kong) Ltd.
Room 8, 6/F, Hong Leong Plaza, 33 Lok Yip Road, Fanling, N.T. • Hong Kong
Tel: 852.2669.0828

