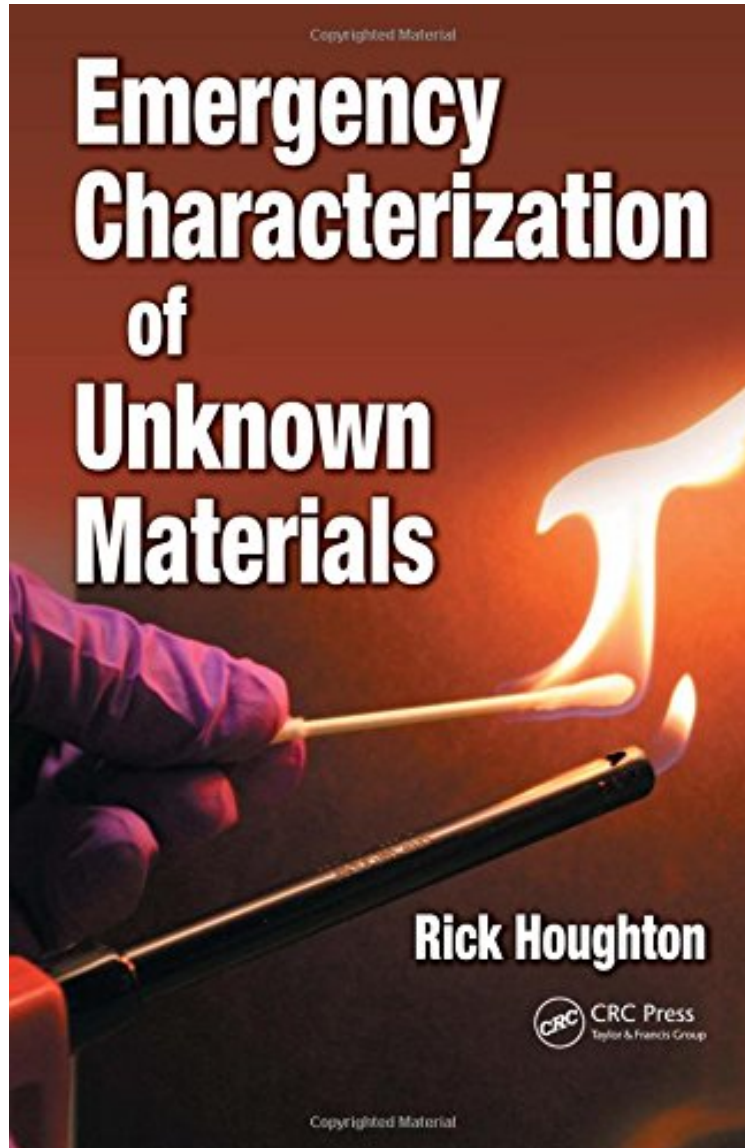


[FREE] Emergency Characterization of Unknown Materials

Emergency Characterization of Unknown Materials

Rick Houghton

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Rick Houghton : Emergency Characterization of Unknown Materials before purchasing it in order to gage whether or not it would be worth my time, and all praised Emergency Characterization of Unknown Materials:

1 of 1 people found the following review helpful. A "must have" for high level HazMat technicians By Tony O
Emergency Characterization of Unknown Materials is the best reference book I have seen for detailed (but not too technical) information about all the hazardous materials emergency responders face. It is written by Rick Houghton, a retired Captain with the Lansing, Michigan Fire Department. There is a fabulous section with descriptions and

information on all of the detection/identification technologies on the market. This is a "must have" for high level HazMat Technicians. Tony Osborn Vice President (and retired firefighter) CBRNE Technologies Corporation 2 of 2 people found the following review helpful. A chemistry guide for us "average" responders. By Paul R. Laska Emergency Characterization of Unknown Materials, Rick Houghton, CRC Press, Boca Raton, FL, 2008, ISBN: 978-0849379680 Review by Paul R. Laska First, for full disclosure, I am the same Paul R. Laska whose comments appear in advertising blurbs for this book. During his research, Rick Houghton requested I review material dealing with explosives characterization; based upon that introduction, I recognized the value of his work. Having had the opportunity to read the entire book, my only negative comment is that I wish I had had it much earlier. My science background is as weak as most with a degree in social science; then I entered a field of law enforcement where chemistry is an important aspect. I did attend a field offering of the NFA Haz-Mat Chemistry program. It was a well presented class, and I learned a great deal of organic chemistry, but over the years it faded. The first chapter of Houghton's book, Terms and Definitions, is a wonderful introduction to hazardous materials chemistry...not just organic, but also inorganic. It also covers biological, and importantly to me, radiologicals. The middle chapter of the book deals with detection technologies. These range from simple "chemistry set" procedures to the variety of field useable and lab based advanced electronic technology that is available today. The final chapter looks at the application of these various technologies to the characterization of an unknown material. Houghton approaches the material with the understanding that the audience is basically science ignorant. Without talking down, he educates them in the area of hazardous materials chemistry, using simple approaches to explain the whats and whys of the subject. Through wonderful sketches by his son he introduces humor, which he further follows up with his "Commandments of Thy Characterization Strategy." The photographs in the book are produced in black and white, which Houghton admits are not illustrative of the effects one should be observing. To overcome this, he includes a web link to his site, where the original, color photos are available for review. Emergency Characterization of Unknown Materials is a well written book for the average firefighter, haz-mat responder, law enforcement clandestine lab/bomb tech/environmental investigator, or anyone else whose assignment includes exposure to unknown chemical materials. It will greatly improve the reader's comprehension of haz-mat chemistry and walk the reader through the technologies and their application in the real world. It has application beyond the field, to the training and educational setting, where it could well serve as a text for basic hazardous materials chemistry classes.

Deliberately, accidentally, or consequentially, first responders and waste site workers handle unknown substances of varying degrees of danger every day. Unidentified chemicals involved with clandestine production of WMD agents or drugs, explosive materials, unlabeled waste, and forensic samples all pose a threat to the worker and those they protect. A straightforward, concise handbook of practical strategies is needed to perform effective risk assessment and management in the face of uncertainty. Written for emergency workers responsible for the safe response to and management of unknown hazardous materials, Emergency Characterization of Unknown Materials provides readily applicable strategies for developing and implementing a fluid concept of risk analysis based on hazard characterization in emergency situations where definitive identification of the material may be impractical or even impossible. Using a hands-on approach involving the manipulation of small amounts of material, the author discusses strategies to identify threats and vulnerabilities, ascertain exposure, and reduce or eliminate impact. The book begins with an overview of chemical and physical terms and definitions. It continues with a look at types of hazards presented by chemical compounds and mixtures, organisms, and radiation sources. It covers approximately 63 portable technologies for field identification or characterization and examines general technological advantages and disadvantages relative to hazard identification. The final chapter presents strategies for use in identifying or characterizing suspected weapons of mass destruction, illegal drugs, explosive substances, biological hazards, and other hazardous materials. Each chapter includes extensive references and a comprehensive index. Providing a sweeping overview of hazards and emphasizing risk analysis and public safety, Emergency Characterization of Unknown Materials gives first responders an advantage they deserve.

" offers a good blend of the required science followed by an overview of some of the common field detection devices and testing processes. identifies all of the terms used by the National Fire Protection Association Standard for Competence of Responders to Hazardous Materials /WMD Incidents (NFPA 472 2008) and provides a good explanation of each offers some excellent background material. "The largest section of the text covers detection technology focusing on the technology that drives the devices . It is an excellent overview of the current technologies with an appropriate level of description. "An investigator who routinely characterizes unknown materials and routinely works with hazardous materials will be comfortable with the processes. The text certainly offers a good basis to train someone to perform these characterizations " the text is well written and flows well. If you respond to unidentified materials or have to characterize potential evidence in the field then this text offers the background, devices, and strategies to accomplish those objectives. Christopher Hawley, Sr. Deputy Project Manager, Computer Sciences Corporation, International Counterproliferation Program, Alexandria, Virginia, writing in the Journal of Forensic

Science, January 2009, Vol. 54, No. 1 Few people are as passionate and committed to this subject as Rick. His book provides an easy to read and understand guide to HAZMAT and should form part of any HAZMAT teams reference arsenal. --Peter-John Jacobs, Captain, South African Police Service, Forensic Science Laboratory, Pretoria Rick Houghtons Emergency Characterization of Unknown Materials brings a needed practical look at identification of materials in the field for the first responder. First responders, whether hazardous materials technicians, bomb disposal technicians, crime scene investigators, narcotics investigators, public health environmental specialists, or environmental protection specialists are most often not trained as chemists. Houghtons book examines field identification in terms that these technical, non-scientists can easily understand, and allow them to safely and efficiently apply these techniques in their incident response. In todays world, with hazardous materials being an often encountered response, and the concerns of use of weapons of mass destruction by terrorists on the minds of many responders, this user friendly book is a treasure for the responder to study and refer to. Paul R. Laska, Paul R. Laska Forensic Consulting, Inc., Palm City, and Retired Sergeant commanding the Bomb Disposal Team of Martin County Sheriffs Office, Stuart, Florida, USA A well written resource providing a straightforward approach to identification of all types of unknownscommercial materials, hazardous decomposition products, military chemical and potential biological agents. Using a combination of technical details, practical examples and humor, Mr. Houghton describes not only the various methods of field analysis, but also provides proven strategies for applying these methods. Most importantly, he provides insight into how to avoid critical, and potentially dangerous, mistakes. A valuable addition to the library of any first responder, emergency manager, or field analytical chemist. --Hank Ellison, Cerberus Associates, Hampshire, UK "... provides a comprehensive review of information that emergency responders must know when attempting to mitigate releases involving unknown materials. ... provides practical examples and diagrams that will help responders in analyzing a situation and making the correct decision. --Scott H. Tobey, Professor, School of Criminal Justice, Michigan State University About the AuthorConsultant, Saint Johns, Michigan, USA