

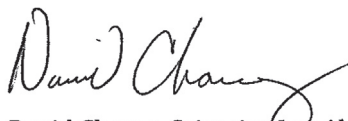
Foreword 2

There are several books covering many different aspects of energetic materials, such as explosives, propellants, and pyrotechnics. Many of these examples go into great depth and detail. However, there are very few books available that cover, in a general way, the main concepts associated with high energy materials (HEMs). This book is one of the first that ties together many of the subjects important to understanding HEMs from a broad perspective.

This book covers topics at a conceptual level and help the reader obtain a good foundation. Examples of topics covered include: energetics of energetic materials, deflagration vs detonation, performance, propulsion, pyrotechnics, safety and security issues, characterization and evaluation, trends and challenges, and applications.

The book also provides many examples of problems that are solved in step-by-step detail to help the reader obtain a good understanding of subject matter being covered. Each chapter ends with a presentation of questions that cover the main concepts as well as references and suggested reading. The chapters are also written in a very clear manner and S. Venugopalan does an excellent job explaining the many diverse and difficult concepts associated with HEMs.

This book will be very beneficial to people who work in all different areas of energetic materials, and will be particularly useful for beginners in the field. The book will allow workers in energetic materials to understand how each HEM concept relates to one another. The book will be an excellent addition to not only the libraries meant for HEMs like propellants, explosives, and pyrotechnics, but also to universities and college libraries, so that a scientific awareness about HEMs can be spread among students with a chemistry background.



Dr. David Chavez, Scientist, Los Alamos National Laboratory,

New Mexico, United States of America

David Chavez received his BS with honor in chemistry from the California Institute of Technology and PhD from Harvard University. He was a National Science Foundation and Beinecke Memorial predoctoral fellow, a Frederick Reines Distinguished Fellow at Los Alamos National Laboratory, and is an invited Professor at the Ecole Normale Supérieure, in Cachan, France.

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In 2011, he was awarded the prestigious E. O. Lawrence Award in the Atomic and Molecular Sciences category. He has published over 50 papers in the areas of organic chemistry and energetic materials synthesis (with over 1800 citations) and holds 10 patents in energetic materials and pyrotechnics.