

Lubricant Additives — Chemistry and Applications

Edited by Dr. Leslie R. Rudnick, The Energy Institute, The Pennsylvania State University, and Published by, Marcel Dekker, Inc., 2003. Hard cover, 760 pages.

Reviewer: Dr. Robert M. Gresham, TLT Contributing Editor

I thoroughly enjoyed reviewing this book, which brought back some memories for me when I first began my career in the lubricants industry, as an organic chemist, working for a company specializing in specialty lubricants. In the field of specialty lubricants one is often trying to use additives in unconventional ways to get some unique property. At the time, there were few sources to learn even the most basic mechanisms of additive action, reaction, and compatibility. Thus, I have these biases in reviewing this book.

Dr. Les Rudnick from the Pennsylvania State University has been a member of STLE for a number of years and has made many notable contributions to the Society. It goes without saying that he has yet again made another significant contribution in our industry by editing this book. The various chapters of the book are written by an outstanding group of experts, many of whom also teach some of STLE's education courses.

Part I reviews the significant additive types and *how* they work. This is especially important to formulators of specialty lubricants. Further, the chapters in Part I also provide information on recent trends and technical developments and the markets in which they are most commonly used, providing insight into their importance. In my opinion, Part I would make a valuable book by itself. But

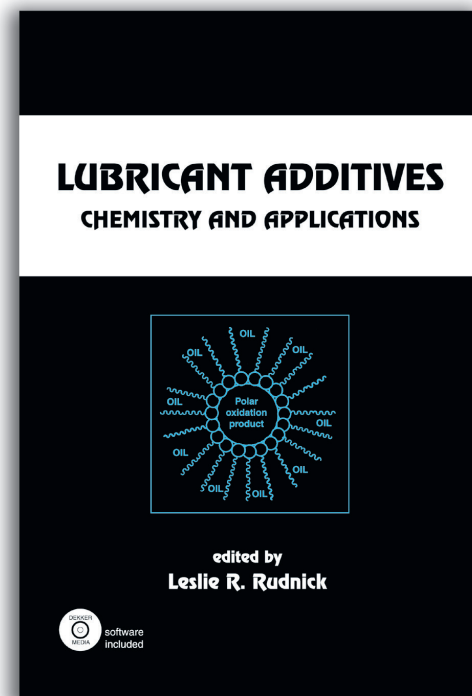
Dr. Rudnick goes much, much further.

Part II reviews the most significant commercial lubricant applications for additives: crankcase, food-grade, grease, magnetic storage and industrial lubricants. These chapters cover the key technical challenges for the application along with considerable support information.

Part III reviews the future trends in crankcase, industrial and aerospace applications. This section helps to put the information in the preceding sections into perspective: what works, what doesn't, what is needed and what is likely to occur in the future.

Part IV is to me even more remarkable in that it reviews the specific test methods, terms and acronyms (also covered in most of the chapters). This makes for an easy reference to identify this information quickly rather than trying to pull it out of the other chapters. But, the most unique part of this section is the chapter on Internet resources—65 pages worth—plus a CD with active links to all those websites! The book contains extensive references for further reading, current standards, test methods and companies involved in this industry.

Some might complain that it isn't a formulary or that it doesn't directly teach how to formulate specific lubricants. That would be pretty hard to do without either giving away propri-



etary information or providing obsolete information. However, anyone with a good chemical background, should be able to develop insight into how to use additives effectively to create useful lubricant products. Additionally, the resources are provided to contact the technical departments of key vendors for help. Further, because this book is also very readable, it can be of great help to manufacturing, sales and marketing people who need a perspective on additive use in lubricants.

Thus, I would consider this to be an indispensable reference for the lubricant professional. <<