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Polymer Science Dictionary (3rd edition)

Edited by Mark Alger

Springer
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2017
xxi + 1008 pp.
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Polymer science is, as the preface takes pains to indicate, a dynamic and rapidly expanding field of industry and research. This has necessitated this expansive update to the *Polymer Science Dictionary*, coordinated once more by Mark Alger who edited the two preceding books. The field's diversification too is reflected in the expansion of coverage incorporated into the work. The book itself opens with a brief preface to this new edition but, helpfully for those seeking a historical context, also presents the two prior editions' prefaces. Following a brief note on the dictionary's organization and chemical structural representation, a nine-page guide to the notation used within the work is presented. The opening section closes with a contents listing, albeit one limited to indicating on which page each alphabetic listing section commences.

However, the vast bulk of the page count (pp. 1-998) is given over to the main dictionary entries listed in alphabetical order, with the first item on each page denoted at the top. Most entries are brief, a paragraph or less in length, although there are many stub entries where a trade name or acronym is cross-referenced to the main systematically named compound's entry. Thus, the book's claim to contain "more than 12,000" entries is revealed to be a slight hyperbole in terms of the total number of unique ones. Nevertheless, effort has clearly been expended by the author to be as inclusive and comprehensive as possible in producing work covering a field as diverse and dynamic as polymer science.

Entries are not limited purely to compounds, as basic and advanced terms, processes and concepts are also included within the work's definitions. This is most valuable, as it extends the book's reference work value and readership beyond the polymer specialist, to include a more general scientific audience. Entries are, however, authored in a manner that expects the reader to be at least moderately conversant with chemistry at a higher secondary or undergraduate level, which may preclude a more general audience from gleaning much. However, for the student or scholar, there is much of value to be enjoyed within, as the entries are written in a precise and informative style.

A variety of monochrome figures punctuate the entries throughout, which are largely diagrammatic representations of chemical and molecular formula. These illustrations are quite common and very sharply are reproduced throughout the volume. Additionally, there are also many mathematical formulae included, and likewise, these are cleanly presented as separate from the main text of the definition entries.

Cross-referencing is kept to a minimum, commonly appearing as alternative or trade names for substances redirecting the reader to other entries. Given the work's alphabetic layout, no subject index is included; however, a short seven-page section of appendices comes towards the end. This includes tables of standard units, conversion factors, atomic masses and other physical constants. Oddly, these tables are presented with liberal use of page space, making this reviewer wonder if this layout choice was an attempt to ensure the page count exceeded 1,000. The work concludes with a four-page source list, which of itself, would make an excellent jumping off point for the scholar seeking further guidance or the librarian considering additional reference purchases to source.

Whilst this is by no means an inexpensive acquisition, purchasers certainly get a lot of book for their investment. Whilst the volume's scholarly level means it is not a book likely to find much public, school or general library collection use, any university or research institute would likely find it much in demand amongst their reader communities. Given the expanded coverage incorporated since the prior 1996 edition, this is demonstrably a much enhanced and updated work. Hence, this reviewer finds it easy to strongly recommend its acquisition to augment university-level science teaching and research supporting reference collections.

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Practical Handbook of Earth Science

Jane A. Hodgkinson and Frank D. Stacey

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When I first became involved in science, the reference book one went for was the *Rubber Book*