

(number average) as a function of degree of polymerization. This particular distribution is obtained in one very special type of polycondensation process, no examples of which are presented in the discussion prior to this.

Secondly, although it is true that certain very specific systems exist in which both the change in enthalpy and entropy are positive for the propagation reaction, this type of system is extremely specific, perhaps too specific for a work such as this. In fact, in a more general sense, the failure of most monomers to propagate below some temperature is more a question of activation energy than anything else.

Thirdly, the differentiation between thermoplastic and thermosetting polymers in Chapter 4 gives a false impression. Historically, the term thermosetting was originally applied to such systems as phenol-formaldehyde polymers which, because of the presence of still unreacted sites, would cure further instead of melting upon application of heat. Although a highly crosslinked polymer network does not exhibit a "liquid" state on heating, due to the crosslinks, I do not consider such a system as a thermosetting polymer.

Finally, the reference to the book *International Symposium on Inorganic Polymers* (Nottingham, 1961), Chemical Society, London, 1961, is cited incorrectly in this book as 1962. This is probably a misprint, and I mention it only because it is an excellent reference and I would like to save a little time for anyone who attempts to find it. I spent a reasonable amount of time looking for it with the wrong year.

In summary, despite the several points of disagreement which exist between the author and the reviewer, I consider this to be a fine book for the audience to which it is addressed. In particular, I would like to commend the author on his inclusion of a chapter on inorganic polymers, until recently a much discounted area. The author's words about the study of inorganic polymers ". . . being given an added urgency by the material requirements of the space age, which have already pushed beyond the temperature limits of most organic polymers. . ." are of timely significance.

This book is well worth the nominal price (\$1.95) for anyone interested in a brief introduction to the world of polymers.

Donald J. Metz is a member of the Radiation Research Section at Brookhaven National Laboratory where for the past ten years he has studied the radiation chemistry of organic compounds, radiation polymerization, and graft copolymerization. He received his M.S. and Ph.D. degrees in 1949 and 1955, from the Polytechnic Institute of Brooklyn,

majoring in physical chemistry. Since 1947 he has also been on the faculty of St. Francis College (New York), at present as a Professor in Chemistry and Physics.

WHOLE-BODY COUNTING

Title Directory of Whole-body Radioactivity Monitors
Author IAEA
Publisher International Atomic Energy Agency/1964
Pages 704
includes 450 diagrams and figures; 37 tables.

Reviewer Stanton H. Cohn

This book consists of a compilation of data on 111 whole-body counters in the world. The information was obtained by the IAEA, using a standardized questionnaire, with the object of permitting an intercomparison of data on the many whole-body counters now in existence. Data are tabulated on counting methods, detectors, shielding, auxiliary equipment and calibration techniques. Some 600 pages of data in tabular form, along with numerous diagrams of installations and graphs of spectral data of the various whole-body counters, make up the bulk of the book. A large bibliography of articles on all phases of whole-body counting is also included.

To eliminate the many minor variations in counter design and to analyse basic differences in operation and performance in terms of design variables, it is necessary that a critical intercomparison be made. While an intercomparison is provided in the final section, in tabular form, it is wholly factual and presents no critical analysis. The reader thus is left free to draw his own conclusions as to the merits of the various techniques and instrumentation.

The book makes a large contribution to the rapidly developing field of whole-body counting by compiling, for the first time, data on the rapidly proliferating breed of whole-body counters. It is of primary interest to specialists in the field, and to those who contemplate construction and operation of a whole-body counter; it is of limited interest to all others.

Dr. Stanton H. Cohn has been a Scientist in the Medical Physics Division at Brookhaven National Laboratory since 1958. Born in 1920, he received his Ph.D. in physiology and radiobiology in 1952 from the University of California. He has held posts at Argonne National Laboratory (University of Chicago), Crocker Radiation Laboratory (University of California), and the U.S. Naval Radiological Defense Laboratory. His chief interests lie in the chemical dynamics of the mineral metabolism of bone, the distribution and biological effects of internally deposited radioisotopes, and the inhalation hazards of radioactive material.