

A more serious criticism of the book is that it deals rather briefly or not at all with several topics of major importance. For example, chain folding is only mentioned in a passing phrase, and the whole of the discussion on molecular conformation and stereoregularity is given without one illustration. In the discussion of rotational isomerism there is confusion concerning the terms *gauche* and *cis* and the distinction between rotational isomerism and stereoregularity is not made clear. A notable omission from the text is a discussion of copolymers.

In conclusion, this book presents a number of aspects of the infra-red spectroscopy in polymers, and is at its best in describing the various approaches to band assignments. It will prove valuable as an extended introductory essay on the subject by an acknowledged expert.

I. M. WARD

Autoxidation of Hydrocarbons and Polyolefins. Kinetics and Mechanisms

L. REICH and S. S. STIVALA. Marcel Dekker: New York, 1969. 6 in. × 9 in.
xi + 527 pp. \$29.75

REACTIONS involving molecular oxygen and organic compounds in both the gas and liquid phases are a very important class of chain processes and have been extensively studied both from an academic and a technological point of view. The mechanism of autoxidation in the liquid phase and in solution is the better understood, but overall discussion of the field has been lacking and this book supplies a definite need. Despite the title there is much consideration of the oxidation of organic compounds, such as aldehydes, containing other elements as well as carbon and hydrogen.

After an introductory chapter of a historical and general nature on chain reactions and polymers, the autoxidation and co-oxidation of low molecular weight hydrocarbons (and their derivatives) in the absence and presence of inhibitors and/or accelerators (particularly metal catalysts), involving the formation and subsequent reactions of various types of peroxide, is discussed in detail (Chapters 2-5). Stress is laid on the determination and values of rate coefficients of individual elementary reactions, and there is an interesting section on chemiluminescence during hydrocarbon oxidation. The last three chapters are devoted to the autoxidation of saturated polyolefins, and include methods of investigation (with special reference to polyethylene, polypropylene and polybutene-1) and the effect of the physical properties of the polymer. Problems are included at the ends of some of the chapters. This is an unusual feature in a book of this type, but they provide extra information (often from recent work) and interesting exercises in obtaining kinetic data from raw experimental results.

There is a tendency in some sections to become bogged down in too much detail, and the subject index (only ten pages) could, with advantage, have been much fuller. There are a few minor mistakes, though the correct text is usually obvious. However, all in all this is a most useful book, though the price seems high even for these days.

C. F. H. TIPPER

ANNOUNCEMENT

FIFTEENTH CANADIAN HIGH POLYMER FORUM

The Fifteenth Canadian High Polymer Forum, sponsored by the Macromolecular Sciences Division of the Chemical Institute of Canada and the National Research Council of Canada, is to take place at Queen's University, Kingston, Ontario, 3-5 September 1969. Details are obtainable from Dr R. ST JOHN MANLEY, Pulp and Paper Research Institute, McGill University, Montreal, Quebec, Canada.