

The papers are collected in three sections dealing with the development and evaluation of apparatus, with the theoretical aspects of the chromatographic separations and with applications in different fields. The papers on apparatus deal mainly with argon and flame ionization detectors, which are at present considered the most sensitive devices; excellent reports covering many aspects of these detectors are presented. The argon detector seems to have greater flexibility than the hydrogen flame detector, but the use of the latter is more widely spread because it is less subject to disturbing factors.

The stride towards more speed in obtaining chromatograms is highlighted in a paper by R. P. W. SCOTT, who uses a micro-argon detector connected with a d.c. amplifier to a cathode-ray oscilloscope.

Several papers deal with the use of tubular (capillary) columns made of metals, glass and nylon. The factors affecting column efficiency, resolution and operating conditions are evaluated in interesting papers by D. H. DESTY AND M. GOLDUP and R. P. W. SCOTT AND G. S. F. HAZELDEAN.

In two detailed papers C. S. G. PHILLIPS and coworkers describe the application of metal coordination compounds as the liquid phase; crystalline structure may be the determining step in providing separations on the basis of size and shape of eluted compounds. Gas chromatography, though not of universal application, may become an additional tool in the study of coordination chemistry.

Other applications that particularly deserve mention are the gas chromatographic determination of inorganic compounds, which is discussed in several papers and the preparative scale chromatography treated by F. H. HUYTEN.

Anyone engaged in gas chromatographic research will find this book a source of valuable information and anyone who is contemplating using this technique will find the reading of this volume particularly inspiring and stimulating.

A. LIBERTI (Messina)

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*Reagent Chemicals, 1960*, published by The American Chemical Society, 1155 Sixteenth St. N.W., Washington 6, D.C., 1961, 564 pages, price \$ 10.00 (official from March 1, 1961).

"Analyzed Reagent", "Reagent Grade", "Certified Reagent", etc., accompanied by a lot analysis on the label has supplanted the term of a generation ago "C.P." (Chemically Pure) as an indication of the purity of a chemical. The methods of analysis and the maximum permissible quantities of impurities for 234 of the most common chemical reagents are formulated by the half-century old Committee on Analytical Reagents of the American Chemical Society. The present edition is the third revision of the procedures and standards adopted by this Committee to appear in book form, the other two being the 1950 and 1955 editions.

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For each of the reagents listed, the specifications and methods of analysis for principally known impurities are given; for a fewer number of reagents, an assay of the principal constituent is specified.

The procedures for analysis are eminently workable and simple and are so clearly written as to be reliably used by technicians as well as chemists. Most of the procedures are of the classical volumetric or gravimetric type. Where no simple or reliable "wet" method exists, this edition has seen the introduction of several instrumental methods. The flame photometer is used for determining sodium, potassium, calcium and strontium and the ultra-violet and visible spectrophotometer for setting specifications of spectrophotometric solvents.

Other revisions in this 1961 edition include pH meter specifications of the neutrality of 5% solutions of some 33 different salts; conditions for determination of small amounts of nitrate in 36 salts with the brucine sulfate and diphenylamine tests; extraction techniques for determining small amounts of metals; methods for determination of chlorides, bromides and iodide in the presence of each other and the potentiometric method for determination of water in organic solvents with the Karl Fisher reagent.

One of the extra values of this book is that it serves as a practical, self contained source of analytical methods that may be applied to many chemicals in addition to the 234 reagents listed in the book. As such, this volume is rapidly taking its place on the chemist's laboratory shelf alongside the handbook.

TRUMAN S. LIGHT (Boston, Mass.)

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*Soviet Research in Fluorene Chemistry 1949-1956*, published 1959, price \$ 45.00.

*Soviet Research in Fluorene Chemistry 1957-1958*, published 1960, price \$ 25.00.

In English translation by Consultants Bureau Enterprises, Inc., New York.

Consultants Bureau Inc. have prepared four volumes of selected Russian papers dealing with all aspects of fluorene chemistry. Only somebody who has tried to survey this field by using *Chemical Abstracts* can appreciate how important complete translations are for an adequate understanding of the work carried out, and Consultants Bureau deserve high praise for having launched their translation service at a time when it was most needed.

Of course the quality of a translation depends on the technical knowledge of the translator and this is rather an exacting standard in the case of scientific papers. These books are, however, far superior to the work of "official translators" who often produce strings of words obtained from a dictionary and bother little about the sense. Indeed in most of the work under discussion the correct chemical idioms are employed; however the phrase "thiocyanogen ions" (Part. II, page 213) for thiocyanate ions should not have escaped the editor.

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