tion and purification of precipitates is almost totally neglected.

The section on systematic analysis includes general information which should be useful for reference purposes.

There are a number of aids for the student and the instructor: question and problem sets following each chapter; a plan of the course; and an appendix containing sample report forms, a division on the literature of analytical chemistry, a division on reagents and supplies, density tables, gravimetric factors and a table of five-place logarithms.

The experiments are well chosen and conveniently arranged, if a bit old-fashioned, but the book suffers from an attempt to cover too much ground in too short a space with a resultant dearth of specific information. However, the material included could serve as good basis for a course in quantitative analysis if properly expanded in the accompanying lectures.

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THE CHEMICAL FORMULARY

The Chemical Formulary. Vol. VI. By H. BENNETT, editor-in-chief. xx + 636 pp. Brooklyn, N. Y.: Chemical Publishing Company, Inc. 1943. $6.00.

THIS is the sixth volume of the series, and as in previous volumes the editor-in-chief has had the assistance of an editorial board of about fifty specialists in industrial and educational organizations. A footnote to the preface states that all the formulae in volumes I to VI are different except for a few typical cases used in the introduction to illustrate directions and advice for new users of the volumes.

The fields covered in the present volume include Adhesives, Beverages, Emulsions, Inks, Paints and Varnishes, Paper, Pyrotechnics and Explosives, Rubber, Plastics, Detergents, Textiles, etc. A timely section is included on special formulae of military interest.

Another section which may be of value to many users is devoted to substitutes for scarce or priority materials. A perusal of this section would seem to indicate that many of the suggested substitutes would be far from universally adaptable but might be useful for certain specific applications.

A directory of sources of chemicals and supplies is included. This will prove of value to users of the volume, since many of the substances mentioned in formulae throughout the book are trade-marked or copyrighted "trade names" and could not be secured on the open market either by reason of their compound nature or secret composition. The editor feels justified in including such substances, since without them many ideas and processes offered in formulae of specialty producers would have been automatically eliminated.

Tables of weights and measures, a list of foreign sources of chemicals and an index of some 2,400 entries complete the present volume. Previous volumes have been widely reviewed in technical and trade publications such as *American Dyestuffs Reporter, Electrochemical Society Bulletin, Modern Plastics, Rubber Age,* etc., and have received most generous and favorable comment. The present volume is a worthy addition to the series and will doubtless find wide acceptance among chemists and technologists throughout the industry.

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SPECIAL ARTICLES

INFLUENCE OF ADRENAL CORTICAL SECRETION ON BLOOD ELEMENTS[1]

THE marked decrease of lymphoid tissue produced by augmented adrenal cortical secretion[2] has led to an examination of the changes in blood elements resulting from adrenal cortical stimulation. The availability of purified pituitary adrenotropic hormone,[3] the normal physiological regulator of adrenal cortical activity, makes possible the study of fundamental phenomena resulting from adrenal cortical secretion. The establishment of these data should be of significance in the elucidation of changes following stimulation of the adrenal cortex by a variety of agents.

It is the purpose of this communication to indicate the striking alterations in blood elements which result in normal, approximately fifty-day old, mice of both sexes (CBA strain, Strong) within a few hours following a single subcutaneous injection of pituitary adrenotropic hormone (1.0 mg in 0.5 ml solution). Blood analyses have been conducted at intervals after hormone injection, using groups of mice at each time interval, rather than successive determinations on the same animals. The blood picture observed is characterized by the following: (a) decrease in total leucocyte count, (b) decrease in absolute number of lymphocytes, and (c) increase in absolute number of

[1] This investigation has been aided by grants from the International Cancer Research Foundation, the Fluid Research Fund, Yale University School of Medicine and the Committee on Therapeutic Research, Council on Pharmacy and Chemistry, American Medical Association.

[2] T. F. Dougherty and A. White, *Proc. Soc. Exp. Biol. Med.*, 53: 132, 1943.

[3] G. Sayers, A. White and C. N. H. Long, *Proc. Soc. Exp. Biol. Med.*, 52: 199, 1943.