No significant difference was observed in the amount of chloroform extractives or in the types of chemical constituents isolated from the culture filtrates of the virulent strain (IMI-186539) of the fungus.

The dermatitic properties of the trichothecene mycotoxins, diacetoxyscirpenol, T-2 and HT-2 toxins, nivalenol, and fusarenone, have been used as the basis for semiquantitative biological tests (7). Doses of 0.05, 0.1, and 0.2 mg of the residue from the chloroform extract were tested on albino rats (80–120 g, bred from CDRI strains) according to the method of Wei *et al.* (7). Two rats were used at each dose level. On the 2nd day, edema was noticed on all six rats. It became progressively severe, developing into a heavy scab and hemorrhaging by the 4th day. The animals that received 0.1 or 0.2 mg of the total toxins died within 6 days. Smaller doses (100–500 μg) of the chloroform extract left pinkish scars on the treated spots.

The chloroform extract of the culture filtrates of the fungus also showed prolonged emetic activity in pigeons at nonlethal concentrations on oral and intravenous administrations. The mean toxic values for this substance were 1.4 and 0.3 mg/kg, respectively.

The biological effects of the toxic substance from *F. oxysporum* are analogous to those reported for 12,13-epoxytrichothecenes (3, 9). The present study has additional significance because this is a seedborne disease of safflower. Furthermore, similar trichothecene derivatives, found in the culture filtrates of the fungus, also were detected in the infected safflower seeds. Work is now in progress to characterize and bioassay the remaining components in the chloroform and ethyl acetate extracts and in the infected seeds.

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BOOKS

REVIEWS

Emulsions and Emulsion Technology, Part II (Surfactant Science Series, Vol. 6). Edited by KENNETH J. LISSANT. Dekker, 270 Madison Ave., New York, NY 10016, 1974. 971 pp. 16 × 23.5 cm. Price $48.50.

This text consists of five chapters covering *extensively* the various aspects of emulsion technology.

Chapter 9 dealing with emulsion polymerization is well organized, tracing the subject from its beginning with the technique of polymerizing liquid monomers in bulk and expanding the theory to include in detail the mechanism of polymerization of hydrophilic (in the presence and absence of surfactants) and hydrophobic monomers. The behavior of additives such as initiators, protective colloids, organic solvents, plasticizers, and the like including their role in emulsion polymerization is given careful attention.

Chapter 10 deals with emulsions in the paper-making industry, devoting special consideration to surface roughness and permeability of paper as well as emulsion stability. The role of emulsions in the process of making paper with a controlled sensitivity to water, referred to as sizing, is given thorough coverage. The extensive use of emulsions in coatings applied to paper is discussed in addition to other topics such as foam control, bubble, and encapsulated coatings.

Chapter 11 deals with emulsions in the graphic arts and points out the limited amount of research in this area. The first part of the chapter discusses prevention or remedy of emulsification that is deleterious to the production of a graphic arts product. The latter part of the chapter addresses itself to the creation of emulsification products or processes that facilitate or improve function or output in printing, duplication, copying, photography, or recording.

Chapter 12 moves on to discuss hydraulic fluid emulsions. The authors point out the advantages of the hydraulic system of power transmission and indicate requirements necessary for the successful operation of the hydraulic system. A good review of emulsion rheology is provided as well as general stability considerations for emulsion systems. A discussion of the basic components of any hydraulic system and methods for testing stability, viscosity, lubricity, *etc.*, concludes this section.

The final chapter is probably the most significant and relevant for the pharmaceutical scientist. It is very well organized, covering an initial section on emulsion theory, prediction of types of emulsions and their identification. The author does a very thorough job of discussing microemulsions. The HLB system and the selection, classification, and mechanism of emulsifying agents are covered in such detail that this section could serve as an excellent reference on the subject. Equipment generally used for emulsification and milling is covered to a lesser degree with some pictorial and di-

agrammatic aid. The last section provides some 60 examples of every possible type of cosmetic emulsion with its specific formula and procedure for manufacture. This listing should prove particularly useful for academicians involved in teaching courses in cosmetic formulation.

In summary the text is well organized, and the pharmaceutical scientist will find chapters 9 and 13 of special interest.

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Index Nominum 1975/76, 8th Ed. Edited by the Laboratory of the Swiss Pharmaceutical Society (Zurich), Swiss Pharmaceutical Society, Berne, Switzerland, 1975. xxvi + 1495 pp. 16 × 23 cm. Price $65.75 (U.S. Distributor: Drug Intelligence Publications, Inc., Hamilton, IL 62341)

"Index Nominum" is an alphabetic listing of generic and trade names of internationally available drug products containing one active substance. This newest edition includes about 3600 drug entities with more than 21,000 entries. Information is given on the International Nonproprietary Name (INN) and other generic names, trade names and manufacturers, chemical names and structures, pharmacopoeial monographs, and main therapeutic uses.

In this edition, the designations of the main therapeutic use have been completely revised according to a new systematic classification scheme. In addition, the English translation of the therapeutic use, which is given in French in the text, is now given in the front of the book.

This book is an accurate, reasonably complete, and easy-to-use reference source for international drug names and is recommended to those needing to locate and verify such information.

Staff Review

Official Methods of Analysis of the Association of Official Analytical Chemists, 12th Edition. Edited by WILLIAM HORWITZ. Association of Official Analytical Chemists, P.O. Box 540, Benjamin Franklin Station, Washington, DC 20044, 1975. 18.5 × 27 cm. 1094 pp. Price $40.00 (domestic); $41.00 (foreign).

"Official Methods of Analysis" compiles analytical methods developed and used by local, state, and federal regulatory officials. Collaborative studies are conducted to validate the methods which cover agricultural products, foods, beverages, drugs, cosmetics, and color additives.

Included in this 12th edition is a new forensic sciences chapter with methods for the examination of glass fragments and fingerprints. Five chapters provide methods for drug analysis: drugs, general; acidic drugs; alkaloid and related bases; neutral; and illicit. Two additional chapters detail the analysis of drugs in animal tissue and animal feed. Several automated methods are given for drugs.

Eight pesticide formulation methods included in this edition were approved by the Association of Official Analytical Chemists and the Collaborative International Pesticide Analytical Council Ltd. The approval of identical methods avoids unnecessary duplication and confusion.

Another important addition is the inclusion of collaboratively studied automated methods of analysis for phosphorus and potassium.

Staff Review

NOTICES

Angewandte Statistik. By LOTHAR SACHS. Springer-Verlag, Berlin, Germany, 1974. 545 pp. 16 × 24 cm. Price $23.70. *(German)*

Problemes Actuels de Biochimie Appliquee. Edited by MAURICE-LOUIS GIRARD and FRANCOIS ROUSSELET. Masson & Cie, 120 Boulevard Saint-Germain, Paris, France, 1974. 207 pp. 16 × 24 cm. Price 100 F. *(French)*

Problemes Actuels de Biochimie Appliquee. Edited by MAURICE-LOUIS GIRARD and FRANCOIS ROUSSELET. Masson & Cie, 120 Boulevard Saint-Germain, Paris, France, 1974. 281 pp. 16 × 24 cm. Price 140 F. *(French)*

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Problems of Drug Dependence 1975, Proceedings of the 37th Annual Scientific Meeting of the Committee on Problems of Drug Dependence. National Academy of Sciences Printing and Publishing Office, 2101 Constitution Ave., Washington, DC 20418, 1975. vii + 1212 pp. 22 × 28 cm. Price $22.50 (paper bound).

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The Toxicology Newsletter, Vol. 1, No. 1. Edited by C. L. WINEK and W. D. COLLOM. Duquesne University, School of Pharmacy, Pittsburgh, Pa., August 1974. Published bimonthly, distributed without charge.

Drug and Chemical Blood Level Data. Chart prepared by C. L. WINEK. Duquesne University, School of Pharmacy, Pittsburgh, Pa. 2 pp.

Progress in Medicinal Chemistry, Vol. 11. Edited by G. P. ELLIS and G. B. WEST. North-Holland Publishing Co., distributed by American Elsevier, 52 Vanderbilt Ave., New York, NY 10017, 1975. 277 pp. 15.5 × 19 cm. Price $32.95.

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Proteinase Inhibitors, Proceedings of the 2nd International Research Conference, Bayer Symposium 5. Edited by H. FRITZ, H. TSCHESCHE, L. J. GREENE, and E. TRUSCHEIT. Springer-Verlag, 175 Fifth Ave., New York, NY 10010, 1974. 751 pp. 16 × 24 cm. Price $52.50.

Protein–Metal Interactions. Edited by MENDEL FRIEDMAN. Plenum, 227 West 17th St., New York, NY 10011, 1974. 692 pp. 16 × 24 cm. Price $39.50.

Advances in Drug Research, Vol. 8. Edited by N. J. HARPER and A. B. SIMMONDS. Academic, New York, N.Y., 1974. 338 pp. 15.5 × 22 cm. Price $26.00.

Advances in Drug Research, Vol. 9. Edited by N. J. HARPER and A. B. SIMMONDS. Academic, New York, N.Y., 1974. 142 pp. 15.5 × 22 cm. Price $12.25.

Notions de Pharmacie Galenique. By A. MANGEOT and M. POISSON. Masson & Cie, 120 Boulevard Saint-Germain, Paris, France, 1974. 236 pp. 16.5 × 21 cm. Price 48 F. *(French)*

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Drugs in Current Use and New Drugs 1975. Edited by WALTER MODELL. Springer Publishing Co., 200 Park Ave., New York, NY 10003, 1975. 179 pp. 14 × 18.5 cm. Price $5.25.