

Logo

106-E, Kamla Nagar, New Delhi-110007, India.
Tel: 91-11-23843955, 23845654, 23845886, +918800733955
Mobile: +91-9811043595
Email: npcs.ei@gmail.com, info@entrepreneurindia.co
Website: www.entrepreneurIndia.co

Drugs & Pharmaceutical Technology Handbook

Code: NI130	Format: paperback
Indian Price: ₹1075	US Price: \$125
Pages: 636	ISBN: 8178330547
Publisher: Asia Pacific Business Press Inc.	

Description

Drugs and pharmaceutical industry plays a vital role in the economic development of a nation. It is one of the largest and most advanced sectors in the world, acting as a source for various drugs, medicines and their intermediates as well as other pharmaceutical formulations. India has come a long way in this field, from a country importing more than 95% of its requirement of drugs and pharmaceuticals; India now is exporting it even to developed countries. Being the intense knowledge driven industry, it offers innumerable business opportunities for the investors/ corporate the world over. The existence of well defined and strong pharmaceutical industry is important for promoting and sustaining research and developmental efforts and initiatives in an economy as well as making available the quality medicines to all at affordable prices. That is, it is essential to improve the health status of the individuals as well as the society as a whole, so that positive contributions could be made to the economic growth and regional development of a country. On the global platform, India holds fourth position in terms of volume and thirteenth position in terms of value of production in pharmaceuticals. The pharmaceutical industry has been producing bulk drugs belonging to all major therapeutic groups requiring complicated manufacturing processes as well as a wide range of pharmaceutical machinery and equipments. The modern Indian Pharmaceutical Industry is recent and its foundation was laid in the beginning of the current century. The pharmaceutical industry can be broadly categorised as bulk drugs, formulations, IV fluids and pharmaceutical aids (such as medical equipment, hospital disposables, capsules, etc.). Special feature of the pharmaceutical industry is a large number of manufacturers in the small scale sector. The government is also encouraging the SSI sector providing some incentives. The recent developments in the technology and R & D work in this field have led to the increased growth rate of industries and have established Indian Pharmaceutical

industries in the international market.

The content of the book includes information about properties, general methods of analysis, methods of manufacture, of different types of drugs and pharmaceuticals. Some of the fundamentals of the book are polymeric materials used in drug delivery systems , theoretical aspects of friction and lubrication , a convenient method for conversion of quinine to quinidine, formulation and evaluation of bio-available enteric-coated erythromycin and metronidazole tablets, extraction of virginiamycin, antipyretics and analgesics, column chromatographic assay of aspirin tablets, differentiating titration of phenacetin and caffeine, infrared spectra of some compounds of pharmaceutical interest etc.

This book covers an intensive study on manufacturing, production, formulation and quality control of drugs and pharmaceuticals with technology involved in it. This book is an invaluable resource for technologists, professionals and those who want to venture in this field.

Content

1. INTRODUCTION

Manufacturing

Production

Formulation

Quality Control

2. POLYMERIC MATERIALS USED IN DRUG DELIVERY SYSTEMS

Preparation of polymers

Addition (chain reaction) polymerization

Condensation (step-growth) polymerization

Crosslinked polymers

Copolymerization

More complex co-polymer systems

3. PROPERTIES OF FATTY ALCOHOL MIXED EMULSIFIERS AND EMULSIFYING WAXES

Mixed emulsifier components

Fatty alcohols

Surfactants

Mixed emulsifiers and emulsifying waxes

4. TABLET LUBRICANTS

Theoretical aspects of friction and lubrication

Mechanisms of friction

Boundary lubrication

Applications to tableting

Chemical composition of lubricants

Metallic salts of fatty acids (soaps)

Fatty acids, hydrocarbons and fatty alcohols

Fatty acid esters

Alkyl sulphates

Polymers

Inorganic materials

Miscellaneous materials

Effects of lubricants on the manufacture and properties of tablets

Batch variation of lubricants

Processing

Tablet properties

Magnesium stearate

Commercial materials and batch variation

Pure grade materials

Selection of Lubricants

5. PARACETAMOL-AN ANALYSIS OF TECHNOLOGIES FOR CLEANER PRODUCTION

6. A MODIFIED PROCESS FOR CONVERSION OF - PICOLINE TO NOCOTINIC ACID

Experimental Procedure

Experimental Data

7. A CONVENIENT METHOD FOR CONVERSION OF QUININE TO QUINIDINE

Experimental Procedure

Reduction of quinidinone with alane

8. SUSTAINED RELEASE SALBUTAMOL TABLETS - THEORETICAL CONSIDERATIONS

Theoretical considerations

Calculation of Sustained Release Parameters for Salbutamol Sulphate

9. SUSTAINED RELEASE SALBUTAMOL TABLETS - FOR MULATION ENGINEERING AND EVALUATION USE OF FAT AND WAX MATRIX

Materials and methods

Discussion

10. SUSTAINED RELEASE SALBUTAMOL TABLETS - FORMULATION ENGINEERING AND EVALUATION COMPOSITE WAX MATRIX AND INFLUENCE OF ADDITIVES

Materials and methods

Results and Discussion

11. FEASIBILITY OF PRODUCTION OF CHOLERA VACCINE IN FERMENTOR

Materials and methods

Media

Results and Discussion

12. MODIFICATION OF BEESWAX FOR ITS APPLICATION IN TABLET COATING

Materials and methods

Results and discussion

13. FORMULATION AND EVALUATION OF BIO-AVAILABLE ENTERIC-COATED ERYTHROMYCIN AND METRONIDAZOLE TABLETS

Materials and Methods

Coating formulations

Coating process

Dissolution rate studies

Methods of analysis

Results and discussion

Conclusion

14. REDUCING - SUBSTANCES-FREE ACETIC ANHYDRIDE FOR PHARMACEUTICAL INDUSTRIES

Experimental procedure

Materials

Procedure

Results and discussion

15. ANTHRACYCLINE ANTIBIOTICS (DAUNORUBICIN AND ADRIAMYCIN)

Biosynthesis

A. Origin of the Carbon Skeleton

B. Biosynthetic Interrelationships

Fermentation and Recovery

A. Inoculum Preparation and Production of Daunorubicin

B. Isolation and Purification of Daunorubicin

C. Inoculum Preparation and Production of Adriamycin

D. Isolation and Purification of Adriamycin

16. 6-APA

Production of 6-Apa using Penicillin Acylase

A. Enzymation of Penicillin G

B. Extraction of 6-APA

17. EXTRACTION OF VIRGINIAMYCIN

Extraction

18. SAGAMICIN

Fermentation Process

19. CHEMOTHERAPEUTICS, ANTIVIRAL

Antiviral Agents Effective in Humans

Thiosemicarbazones

Amantadine Hydrochloride

5-Iodo-2'-deoxyuridine

Trifluorothymidine

Arabinosylcytosine

Arabinosyladenine

Ribavirin

Interferon

Immunopotentiating Agents

Future of Antiviral Chemotherapy

20. CHEMOTHERAPEUTICS, ANTIPROTOZOAL

Coccidiosis

Thiamine Competitors

Antifolates

Antibiotics

Nitrobenzamides and Nitrofurans

Toxoplasmosis

Anaplasmosis

Babesiasis

Theileriasis

Trypanosomiasis

African Trypanosomiasis

Chagas' Disease

Leishmaniasis

Pneumocystosis

Trichomoniasis

Hexamitosis
Balantidial Dysentery
Giardiasis
Amebiases
Intestinal Amebiasis
Primary Amebic Meningo-Encephalitis
The Malaras
Drugs Acting on Asexual Blood Forms
Drugs Affecting Tissue Forms
Drugs Acting on Gametocytes
Action Spectra of Antiprotozoal Drugs
Economic considerations

21. CHEMOTHERAPEUTICS, ANTIMYCOTIC AND ANTIRICKETTSIAL

Mycotic Infections
Superficial Mycoses
Systemic and Generalized Mycoses
Antifungal Agents
The Polyene Antibiotics
Candididin
Pimaricin
Nonpolyene Antifungal Antibiotics
Griseofulvin
Cycloheximide
Other antifungal agents
Synthetic Antifungal Agents
Nonspecific Systemic Medications
5-Fluorocytosine
Imidazole Compounds
Tolnaftate
Haloprogin
Agricultural Use of Antifungal Agents
Rickettsial Infections
Treatment of Rickettsial Infections

22. CHEMOTHERAPEUTICS, ANTIMITOTIC

Drug Classification
Alkylating Agents
Antimetabolites
Antibiotics

Plant alkaloids
Miscellaneous Agents
Hormones
Combination therapy
Multidrug Treatment
Immunology
Drug Toxicity
Radiation Therapy

23. CHEMOTHERAPEUTICS, ANTHELMINTIC

Treatment of Blood Fluke Disease (Schistosomiasis)
Treatment of Fluke (Trematode) Infections in the Lungs, Intestines, and Liver
Treatment of Tapeworm (Cestode) Infections
Treatment of Intestinal Roundworm (Nematode) Infections
Treatment of Tissue Roundworm (Nematode) Infections

24. ANTIPYRETICS AND ANALGESICS

Salicylic Acid and its Derivatives
Methods of Manufacture
Sodium Salicylate
Aspirin
Salicylamide
Salicylic Acid
Sodium salicylate
Aspirin
Salicylamide
Methods of Analysis
Separation and Identification
Extraction into Sodium Bicarbonate Solution
Procedure
Separation by Column Chromatography
Procedures
Preparation of Chromatographic Column
Preparation of Samples
Separation of Components
Separation by Gas Chromatography
Procedures
Preparation of Column
Preparation of Samples
Separation of Components

Identification

Procedures

Test with Ferric Chloride

Precipitation of Salicylic Acid

Assay Methods

Titrimetric Assay of Aspirin Capsules

Procedure

Column Chromatographic Assay of Aspirin Tablets

Procedures

Preparation of Column

Preparation of Samples and Standard

Analysis of Samples

Assay by Gas Chromatography

Procedures

Preparation of Column

Calibration

Assay of sample for aspirin content

Determination of Impurities

Determination of free salicylic acid in aspirin

Chromatographic Method

Procedures

Preparation of Reagent

Preparation of Salicylic Acid Standard

Preparation of Column

Analysis of Aspirin and Aspirin Tablets

APC Tablets and Flavoured Tablets

Spectrophotometric Method

Procedure

Readily Carbonizable Substances in Aspirin

Procedures

Preparation of Reagents

Cobaltous Chloride

Cupric Sulphate

Ferric Chloride

Sulfuric Acid

Testing of Sample

Impurities in Salicylic Acid

Ion Exchange Ultraviolet Method

Procedures

Preparation of Apparatus

Preparation of Column
Analysis of Samples
Procedure
Procedures
Preparation of Plates
Preparation of Reagents & Standards
Preparation of Sample
Qualitative Detection
Quantitative Determination
Determination in mixtures
Determination After Separation by Extraction
Ultraviolet absorption method
Procedures
Calibration
Calculations
Heuermann And Levine Method
Procedures
Preparation of Sample
Preparation of Column
Separation of APC Organic base Combination
APC Barbiturate Combinations
TURI Method
Procedures
Preparation of Column
Preparation of Samples
Separation of Fractions
Spectrophotometric Measurement
Koshy Method
Procedures
Preparation of Column
Preparation of Samples
Separation of Components
Determination of Components
Determination by Gas Chromatography
Hoffman and Mitchell Method
Procedures
Calibration
Analysis of Samples
Crippen & Freinuth Method
Procedure

Preparation of Column

Operating Conditions

Preparation of Methylating Reagent

Preparation of Samples & Standards

Analysis of Samples

Calculations

Direct Spectrophotometric Procedure

Procedure

Preparation of Mixed Solvents

Preparation of Reference Solutions

Analysis of Samples

Development of Equations

Infrared and Ultraviolet Spectrometry

Procedures

Mixtures of Aspirin, Phenacetin and Caffeine

Mixtures of Aspirin, Phenacetin and Caffeine and Caffeine Phosphate

Mixtures of Aspirin, Phenacetin and Caffeine and Phenylpyramine Hydrochloride

Nonaqueous Titrations

Wollish Methods

Procedures

Determination of Aspirin in the Presence of Stearic Acid

Determination of Aspirin in the Absence of Stearic Acid

Determination of Phenacetin

Determination of Caffeine

APC Tablets in Combination with Phenindamine Tartrate

Determination of Phenacetin

Determination of phenindamine Tartrate

Lin and Blake Methods

Procedures

Determination of Aspirin in APC Mixtures

Differentiating Titration of Phenacetin and Caffeine

Differentiating Titration of Aspirin and Phenobarbital

Nuclear Magnetic Resonance Spectrometry

Procedures

Determination of Spectra

Calculations

Derivatives of Aniline and p-Aminophenol

Methods of Manufacture

Commercial Grades and Specifications

Methods of Analysis

Separation and Identification

Separation by Ion Exchange Paper Chromatography

Procedures

Preparation of Iodoplatinate Reagents

Extraction

Chromatography

Separation by Gas-Chromatography

Procedures

Preparation of Column

Operating Conditions

Calibration

Preparation of Samples

Separation of Components

Assay Methods

Gravimetric Methods

Procedure

Titrimetric Methods

Titration with Sodium Nitrite

Procedure

Iodometric Titration

Procedure

Assay Through Ethoxy Content

Procedure

Preparation of Reagent

Analysis of Sample

Calculations

Colorimetric Methods

Hydroxamic Acid Method

Procedure

Diazotation Procedures

Procedure

Procedures

Preparation of Buffer Solution

Calibration of the Method

Hydrolysis of Phenacetin

Mouton and Masson Method

Procedure

Chromic Acid Method

Procedure

Ultraviolet Spectrophotometry

Procedure

Determination of Impurities

Impurities in Phenacetin

Procedures

Determination of Acetanilide

Determination of P-Chloroacetanilide

Determination of P-Phenetidine

Free P-Amino Phenol in Acetaminophen

Procedures

Determination in Mixtures

Derivatives of Quinoline

Methods of Manufacture

Commercial Grades and Specifications

Methods of Analysis

Separation and Identification

Cinchophen

Neocinchophen

Assay Methods

Gravimetric Methods

Procedure

Titrimetric Methods

Procedures

Assay of Cinchophen Powder

Assay of Cinchophen Tablets

Procedure

Procedure

Spectrophotometric Methods

Procedure

Determination of Impurities

Procedures

Aniline Derivatives in Cinchophen

Readily Carbonizable Substances

Cinchophen in Neocinchophen

Determination in Mixtures

Derivatives of Pyrazolone

Methods of Manufacture

Commercial Grades and Specifications

Methods of Analysis

Separation and Identification

Antipyrine

Separation by Gas Chromatography

Aminopyrine

Assay Methods

Antipyrine

Spectrophotometric Methods

Procedure

Preparation of Reagent

Analysis of Sample

Gravimetric Method

Titrimetric Method

Polarographic Method

Procedure

Aminopyrine

Gravimetric Methods

Procedure

Assay of Elixir

Assay of Tablets

Acid-base Titration

Complexometric Titration

Procedures

Preparation of Reagents

Analysis of Samples

Bromate Titration

Procedure

Oxidative-Cleavage Method

Procedure

Colorimetric Methods

Procedure

Preparation of Diazotized P-Nitroaniline

Preparation of Sample Solution

Determination by Ferric Chloride

Determination of Diazotized P-Nitroaniline

Determination of Impurities

Antipyrine in Aminopyrine

Procedure

Determination in Mixtures

Antipyrine

Aminopyrine

25. ANTI-ASTHMATIC AGENTS

Adrenergic Stimulants
Anticholinergics
Inhibitors of the release of Allergic Mediators
Xanthine Derivatives
Prostaglandins
Other Drugs

26. PENICILLINS AND RELATED COMPOUNDS

Properties
General Method of Analysis
Separation and Identification
Chromatography
Spectroscopy
Other Methods
Assay Methods
Microbiological Methods
Chemical Methods
Iodometric Titration
Procedure
Acid-Base Titration
Hydroxylamine Colorimetric Method
Procedure
Ultraviolet Spectrophotometric Method
Procedure
Determination of Impurities
Benzylpenicillin
Analysis of Benzylpenicillin
Microbiological Assay Methods
Procedure
Procedure
Chemical Assay methods
Procedure
Procedure
Allylmercaptomethylpenicillin
Analysis of Penicillin O
Microbiological Assay Methods
Chemical Assay Methods
Phenoxymethylpenicillin
Analysis of Phenoxymethylpenicillin
Microbiological Assay Methods

Chemical Assay Methods

Phenethicillin

Analysis of Phenethicillin

Microbiological Assay Methods

Chemical Assay Methods

Methicillin

Analysis of Methicillin

Microbiological Assay Methods

Chemical Assay Methods

Carbenicillin

Analysis of Carbenicillin

Microbiological Assay Methods

Procedure

Chemical Methods

Ampicillin

Analysis of Ampicillin

Microbiological Assay Methods

Procedure

Chemical Assay Methods

Isoxazolypenicillins

Analysis of Isoxazolypenicillins

Microbiological Assay Methods

Chemical Assay Methods

Nafcillin

Microbiological Assay Methods

Chemical Assay Methods

Cephalsoporins

Analysis of Cephalosporins

Microbiological Assay Methods

Chemical Assay Methods

27. SULFONAMIDES

Therapeutic Aspects

Systemic infections

Urinary Tract Infections

Physical and Chemical Properties

Theoretical Aspects

Biological Mechanism of Action

Structure-Activity Relationship

Preparation and Manufacture

N1-Heterocyclic Sulfanilamides
N1-Acylsulfanilamides
N1-Heterocyclic-N4-Acylsulfanilamides
N1-Heterocyclic-N1-Acetylsulfanilamides
Miscellaneous Compounds
General Anesthetics, Volatile and Gaseous
Nitrous Oxide
Cyclopropane
Diethyl Ether
Fluroxene
Methoxyflurane
Halothane
Enflurane
Isoflurane
General Anesthetics, Fixed
Ultrashort-Acting Barbiturates
Propanidid
Ketamine
Innovar
Althesin
Etomidate
Spinal Anesthetics
Metabolism and Toxicity of Volatile Anesthetics
Adjuncts to General Anesthesia
Local Anesthetics
Benzocaine
Bupivacaine Hydrochloride
Cocaine Hydrochloride
Dibucaine Hydrochloride
Dimethisoquin Hydrochloride
Dyclonine Hydrochloride
Lidocaine Hydrochloride
Pramoxine Hydrochloride
Procaine Hydrochloride
Tetracaine Hydrochloride

28. INFRARED SPECTRA OF SOME COMPOUNDS OF PHARMACEUTICAL INTEREST

DIRECTORY SECTION

PHARMACEUTICAL / BIOTECHNOLOGY COMPANIES

WORLD WIDE PHARMACY RESOURCES

PHARMACEUTICAL, BULK DRUGS, MEDICINES & RAW MATERIALS

PHARMACEUTICAL MACHINERY & EQUIPMENT

About NIIR Project Consultancy Services (NPCS)

NIIR Project Consultancy Services (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. Its various services are: Pre-feasibility study, New Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Preparation of Project Profiles and Pre-Investment and Pre-Feasibility Studies, Market Surveys and Studies, Preparation of Techno-Economic Feasibility Reports, Identification and Selection of Plant and Machinery, Manufacturing Process and/or Equipment required, General Guidance, Technical and Commercial Counseling for setting up new industrial projects and industry. NPCS also publishes various technology books, directories, databases, detailed project reports, market survey reports on various industries and profit making business. Besides being used by manufacturers, industrialists, and entrepreneurs, our publications are also used by Indian and overseas professionals including project engineers, information services bureaus, consultants and consultancy firms as one of the inputs in their research.

NIIR PROJECT CONSULTANCY SERVICES

106-E, Kamla Nagar, New Delhi-110007, India.

Tel: 91-11-23843955, 23845654, 23845886, +918800733955

Mobile: +91-9811043595

Email: npcs.ei@gmail.com, info@entrepreneurindia.co

Website: www.entrepreneurIndia.co