Textile auxiliaries are defined as chemicals of formulated chemical products which enables a processing operation in preparation, dyeing, printing of finishing to be carried out more effectively or which is essential if a given effect is to be obtained. Certain Textile Auxiliaries are also required in order to produce special finishing effects such as wash & wear, water repellence, flame retardancy, aroma finish, anti odour, colour deepening etc. The prime consideration in the choice of Textile materials is the purpose for which they are intended, but colour has been termed the best salesman in the present scenario. The modern tendency is towards an insistence on colour which is fast to light, washing, rubbing, and bleaching; this movement makes a great demand on the science of dyeing. Auxiliaries, dyes and dye intermediates play a vital role in textile processing industries. The manufacture and use of dyes is an important part of modern technology. Because of the variety of materials that must be dyed in a complete spectrum of hues, manufacturer now offer many hundreds of distinctly different dyes. The major uses of dyes are in coloration of textile fibers and paper. The substrates can be grouped into two major classes-hydrophobic and hydrophilic. Hydrophilic substances such as cotton, wool, silk, and paper are readily swollen by water making access of the day to substrate relatively easy. On other hand hydrophobic fibers, synthetic polyesters, acrylics, polyamides and polyolefin fibers are not readily swollen by water hence, higher application temperatures and smaller molecules are generally required. Dye, are classified according to the application method. Some of the examples of dyes are acid dyes, basic or cationic dyes, direct dyes, sulfur dyes, vat dyes, reactive dyes, mordant dyes etc. Colorants and auxiliaries will remain the biggest product segment, while faster gains will be seen in finishing chemicals. World demand for dyes and organic pigments is forecast to increase 3.9 percent per year through 2013, in line with real gains in manufacturing activity. Volume demand will grow 3.5 percent annually. While the textile industry will remain the largest consumer of dyes and organic pigments, faster growth is expected in other markets such as printing inks, paint and coatings, and plastics. Market value will benefit from consumer preferences for environmentally friendly products, which will support consumption of high performance dyes and organic pigments.

Some of the fundamentals of the book are antimony and other inorganic compounds, halogenated flame retardants, phosphorous compounds, dyes and dye intermediates, textile fibers, pigment dyeing and printing, dry cleaning agents, dry cleaning detergents, acrylic ester resins, alginic acid, polyvinyl chloride, sodium carboxy methyl cellulose, guar gum, industries using guar gum, gum tragacanth, hydroxyethyl cellulose, polyethylene glycol, industries using polyethylene glycols, etc. The book covers details of antimony and other inorganic compounds, halogenated flame retardants, silicone oils, solvents, dyes and dye intermediates, dry cleaning agents, different types of gums used in textile industries, starch, flame retardants for textile and many more. This is very resourceful book for new entrepreneurs, technologists, research scholars and technical institutions related to textile.
Contents

1. Antimony and Other Inorganic Compounds
   Antimony Compounds
   Boron Compounds
   Alumina Hydrates
   Molybdenum Oxides
   Applications
2. Halogenated Flame Retardants
   Principles of Developing Flame-Retardant Polymers
   Testing
   Polymer Classes
   Additive Flame Retardants
   Reactive Flame Retardants
   Economic Aspects
3. Phosphorous Compounds
   Mechanism of Action of Phosphorus Flame Retardants
   Phosphorus-Based Flame Retardants in Commercial Use
   Health and Safety Factors
   Economic Aspects
4. Urea-Formaldehyde Resins
   Composition Variables
   Melamine
5. Melamine-Formaldehyde Resins
   New Nitrogen Compounds for Amino Resins
6. High Styrene-butadiene Rubber Resins
7. Chlorinated Biphenyls
8. Chlorinated Paraffins
9. Synthetic Rubber Resin Latexes
   Procedure
10. Silicone Oils
    Procedure
11. Solvents
    TYPES OF VOLATILE SOLVENTS
12. Dyes and Dye Intermediates
    Textile Fibers
    Cotton and Rayon
    Wool and Silk
    Cellulose Acetates
    Polyamides
    Polyester
    Acrylcs
    Vinyls
    Polyolefins
    Glass Fibers
    Paper
    THE PROPERTIES OF DYES
    CLASSIFICATION OF DYES
    Acid dyes
    Basic or Cationic Dyes
    Direct Dyes
    Sulfur Dyes
Vat Dyes
Reactive Dyes
Disperse Dyes
Mordant Dyes
Azoic Dyes
Oxidation Dyes
Ingrain Dyes
THE APPLICATION OF DYES
Fiber Preparation
Dye Bath Preparation
Dye Application
Finishing
DYEING EQUIPMENT
PRINTING
PIGMENT DYEING AND PRINTING
NONTEXTILE USES OF DYES
PRODUCTION AND USES
RAW MATERIALS FOR THE MANUFACTURE OF DYES
DYE INTERMEDIATES
Nitration
Reduction
Amination
Sulfonation
Halogenation
Alkaline Fusion
Oxidation
Other Important Reactions
PRODUCTION OF DYE INTERMEDIATES
THE MANUFACTURE OF DYES
Azo dyes
Manufacturing Processes for Azo Dyes
Triphenylmethane Dyes
Xanthene Dyes
Anthraquinone and Related Dyes
Indigoid and Thiindigoid dyes
Sulfur Dyes
Phthalocyanines
Fluorescent brightening agents
PRODUCTION STATISTICS
NEW DEVELOPMENTS IN DYES
13. Dry Cleaning Agents
Stoddard Solvent
Specification Tests
Perchloroethylene
Specification tests
Procedure
Fluorocarbon Solvent
Used Drycleaning Solvents
Drycleaning Detergents
Methods of Analysis
Specification tests
Procedure
Performance tests
Procedure
14. Acrylic Ester Resins
15. Alginic Acid

GENERAL INFORMATION
Chemical Structure
Manufacture
Physical Properties
Solution Properties
Compatibilities
Toxicology/Environment
Application Procedures
Film forming
Pie Fillings
Industrial Applications

LABORATORY TECHNIQUES
Viscosity Measurement
Moisture Determination
Powder color determination
16. Cellulose Ethers
General Information
Chemistry
Manufacture
Toxicity and Handling
Solution Properties
Thickening
Powder and Film Properties
Physical and Chemical Properties
Commercial uses: Compounding and Formulating
Adhesives
Agricultural Chemicals
Chemical Specialties
Construction Industry products
Cosmetics
Food Products
Latex paint
Paint Removers
Paper Products
Pharmaceuticals
Printing Inks
Resins
Elastomers
Textiles
Tobacco Sheet
COMMERCIAL USES: Processing Aids
Ceramics
Leather
Polyvinyl Chloride
INDUSTRIES USING ALKYL AND HYDROXYALKYCELLULOSE
Formulations
Latex Paint
Exterior High-Solids Acrylic
Paint Remover
Scrape-off paint and varnish remover
Mixing
Flash-off Paint Remover Formulation
Construction Industry Products
Food Products
Pharmaceutical products
Tobacco
Leather

17. Sodium Carboxy Methyl Cellulose
Chemical Nature
Physical Properties
Manufacture
Biological Properties
Toxicological Properties
Rheology
Storage and Handling
Applications

18. Guar Gum
Manufacture
Chemical and Physical Properties
Biological Properties
Handling
Applications
Paper
COMMERCIAL APPLICATIONS: Compounding and Formulating
Food
Explosives
COMMERCIAL USES: Processing Aids
Oil and Gas
Textile
Mining

INDUSTRIES USING GUAR GUM
Oil and Gas
Explosives
Food
Paper
Textile
Mining

19. Gum Arabic
Chemical Nature
Physical Properties
Manufacture
Biological/Toxicological Properties
Rheological Properties
Additives/Extenders
Handling
Applications
Application Procedures
Compatibility
COMMERCIAL USES
Food Applications
Pharmaceuticals
Medicines
Cosmetics
Adhesives
Paints
Inks
Lithography
Textiles
Miscellaneous Uses
20. Gum Tragacanth
Chemical Nature
Physical Properties
Preservatives
21. Hydroxyethyl Cellulose
Chemical Nature
Physical Properties
Manufacture
Biological/Toxicological Properties
Rheological Properties of Solutions
Additives/Extenders
Handling
Applications
Application Procedures
Specialties
Future Developments
COMMERCIAL USES: Compounding and Formulating
Protective Colloid in Latex
Thickener for Latex Compositions
Cosmetics and Pharmaceuticals
Paper Sizes and Coatings
Carpet and Textile Dye Pastes
Special Applications
COMMERCIAL USES: Processing Aids
Crude-Oil Drilling and Recovery
Electroplating and Electrowinning
Miscellaneous Binders
Other Specialty Uses
INDUSTRIES USING HYDROXYETHYLCELLULOSE
Adhesives
Agricultural Products
Building Products
Cosmetics
Oil and Gas Extraction
Paints and Coatings
Paper and Allied Products
Synthetic Resins
Textile Mill Products
FORMULATIONS
Copolymer Latex
Latex Interior Flat Wall Paint
Textile Printing
Oil-Well Workover Fluid
Roll-on Antiperspirant
Liquid Shampoo
LABORATORY TECHNIQUES
PRODUCT/TRADENAME/TERM GLOSSARY
FURTHER USEFUL READING
Technical Bulletins
22. Hydroxy Propyl Cellulose
   Chemical Nature
   Physical Properties
   Manufacture
   Toxicological Properties
   Additives
   Handling
   Applications
   Application Procedures
   Specialties
23. Locust Bean Gum
   Manufacture
   Properties
   Biological Properties
   Handling
COMMERCIAL USES: Compounding and Formulating
   Food Products
COMMERCIAL USES: Processing Aids
   Textiles Processing
   Paper Products
   Mining Industry
INDUSTRIES USING LOCUST BEAN GUM
   Food Industry
   14-14 Locust Bean Gum
   Mining Industry
   Paper industry
   Textiles Industry
24. Polyacrylic Acid
   Physical and Chemical Nature
   Methods of Preparation
   Polymer Reactions
COMMERCIAL APPLICATIONS
   Thickening
   Suspending and Dispersing
   Flocculation
   Binders
   Coatings
   Leather Paste
   Ion-Exchange Processes
   Pharmaceuticals
   Adhesives
   Miscellaneous
25. Polyethylene Glycol
   Chemical Nature
   Physical Properties
   Biological/Toxicological Properties
   Manufacture
   Handling
   Applications
   Application Procedures
   Additives/Extenders
Specialties
Future Developments
COMMERCIAL USES: Compounding and Formulating
Chemical Intermediates
Adhesives
Agricultural Formulations
Cellophane-Film Humectants
Cosmetics and Toiletries
Detergents and Cleaners
Inks
Paints and Coatings
Pharmaceutical Products
Rubber Compounds
Miscellaneous Products
COMMERCIAL USES: Processing Aids
Ceramics
Dialysis Operations
Electroplating
Heat-Transfer Baths
Leather Treatment
Metal-Working Operations
Paper Products
Petroleum Recovery and Processing
Plastics Compounding
Rubber Products
Textile Products
Wood Products
INDUSTRIES USING POLYETHYLENE GLYCOLS
Adhesive
Agricultural Products
Ceramics Products
Chemical Specialties
Cosmetics and Toiletries
Electroplating and Electrowinning
Food Products
Inks and Printing
Leather Processing
Lubricants and Hydraulic Fluids
Medical Sundries
Metal Fabricating
Packaging Materials
Paints and Coatings
Paper Products
Petroleum Recovery and Processing
Pharmaceuticals
Photographic Products
Plastics Products
Rubber and Elastomers
Textile Products
Wood Processing
26. Poly-Ethylene Oxide
Chemical Nature
Physical Properties
Manufacture
Biological/Toxicological Properties
Rheological Properties
Additives/Extenders
Applications
Application Procedures
COMMERCIAL USES: Compounding and Formulating
Adhesives
27. Polyvinyl Alcohol
Chemical Nature
Physical Properties
Manufacture
Physiological Properties
Federal Drug Administration (FDA) Status
Biochemical Oxygen Demand (BOD)
Biodegradation
Modifiers
Handling and Storage
Application Procedures
COMMERCIAL USES: Compounding and Formulating Adhesives
Paper and Paperboard Sizing
Paper and Paperboard Coatings
Pigmented Coatings
Greaseproof Coatings
Textile Finishing
Binder Applications
Cast Film
Molded Articles
Emulsions and Dispersions
Cosmetics
Chemical Derivatives
COMMERCIAL USES: Processing Aids
Textile Warp Sizing
Temporary Binder
Casting Slips
Steel Quenchant
Miscellaneous Coating Applications
Materials Stabilization
INDUSTRIES USING POLYVINYL ALCOHOL
Textile Industry
Paper Industry
Adhesives Industry
Cast-Film Industry
Building Products Industries
Packaging Industry
Chemical Industry
Cosmetics Industry
Ceramics Industry
Steel Industry
Materials Binding
FORMULATIONS
Textile Warp Sizing: Slasher Operation
Textile Warp Sizing: Size-Bath Formulas
Preparation Procedure
Adhesives
Tubes and Cores: Spiral Winding
28. Polyvinyl Pyrrolidone
Chemical Nature
Physical Properties
Manufacture
Rheological Properties
Toxicological Properties
PVP Films
Compatibilities
Future Developments
APPLICATIONS OF PVP
29. Starch
GENERAL INFORMATION
Structure and Properties
Starch Supplies
Manufacture of Starch
Starch Modifications
Applications of Starches
30. Tamarind Gum
Chemical Nature
Physical Properties
Manufacture
Biological/Toxicological Properties
Electrochemical Properties
Rheological Properties
Additives/Extenders
Handling
Applications
By Result
Application Procedures
Future Developments
COMMERCIAL USES
Processing Aids
INDUSTRIES USING TAMARIND GUM
FORMULATIONS
Latex Manufacture
Other Uses
LABORATORY PROCEDURES
Viscosity Method
31. Xanthan Gum
GENERAL INFORMATION
Chemical Structure
Physical Properties
Solution Properties
Suspensions
Emulsions
Dispersions
Application Procedures
Handling and Storage
Reaction with Galactomannans
Toxicology and Safety
COMMERCIAL USES: Food
Xanthan Gum
Xanthan Gum with Locust Bean Gum
COMMERCIAL USES: Industrial
Xanthan Gum
Xanthan Gum with Locust Bean Gum
32. Flame Retardants for Textiles
Flame Resistance
Durability
Test Methods
Types of Retardants
Application Techniques
Fire-Retardant Fiber Blends
Mutagenicity

About NIIR

NIIR PROJECT CONSULTANCY SERVICES (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.


NPCS also publishes varies process technology, technical, reference, self employment and startup books, directory, business and industry database, bankable detailed project report, market research report on various industries, small scale industry and profit making business. Besides being used by manufacturers, industrialists and entrepreneurs, our publications are also used by professionals including project engineers, information services bureau, consultants and project consultancy firms as one of the input in their research.