

**Dyes, Electroplating, Metal Treatment, Paints,  
Pigments, Plastics, Resin, Rubber, Surface  
Coating, Textile Spinning & Processing,  
Varnishes, Lacquer, Thinner, solvent,  
Enamel, Textile Printing, weaving,  
Finishing, Polymer**

[Modern Technology of Plastic Processing Industries \(2nd Edition\)](#)

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI22

**Pages:** 592

**ISBN:** 8186623426

**Price:** Rs. 975.00 US\$ 25.95

Plastics are contemporary, synthetic materials. Plastics are oil and gas based, and consumes less than four per cent of our oil and gas reserves. Plastic in fact saves the energy it takes less energy to convert into plastic from raw materials. Throughout their whole life circle one-third less energy needs than making paper bags. Without plastic, whole packaging would take almost double energy by around 160 percent. The better-quality properties of plastics such as sanitized or germ free barrier properties, light weight, and durability contribute appreciably to our health and quality to way of life. The Plastic industry has been witnessing a continuous increase in demand from a long time attracting many towards it. To all those who are looking forward for a proper understanding of technology and methodology used in the plastic industries so that they could penetrate into plastics industries with a consideration of the current industry trend then this book provides you about certain very essential information about Plastic. PVC can be processed by all the conventional conversion processes as used for other thermoplastics but with some modifications. This book covers an intensive study of Current Trends in Conducting Polymers with a significant and detail explanation of thermosetting, thermoplastic material and products environment health and the future prospects. The content of the book includes information about plastic and allied products equipped with latest technology. It also includes comprehensive information on the development of the sector and manufacturing process. The several chapters of the book contain information about: Processing of PVC, Applications of PVC and so on. The book also has chapter that will provide you with some very interesting, feasible and profitable plastic project profiles that will act as guide in proper understanding and analysis of the sector. Recent Developments in Plastics Extrusion and Environment Health and Future Prospects, Constructive use of HDPE, The Processing of Fibre Re-in forced Thermo- plastics Using Co-Rotating Twin Screw Extruders, Economical Film Extrusions with Modular Systems these are few chapters that are very informational and will help you in deep penetration of the industry. Along with these feature the book also encloses a directory section which list all major manufacturers of plastic processing machinery and raw material suppliers.

# Profitable Plastic Industries

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI24

**Pages:** 248

**ISBN:** 818662323X

**Price:** Rs. 250.00 **US\$** 6.75

Plastic has brought immense benefits to the society in a number of ways. A number of industries have been benefitted by plastic. In actuality, plastic has helped aeronautics technology take massive steps forward over the past 50 years, including advancements in satellites, shuttles, aircraft, and missiles. In addition, pharmaceuticals industry, the building and construction, electronics, packaging, and transportation industries have all benefited greatly from plastic. Plastic is superior, light, sturdy and economical to produce. There are numerous benefits of using plastic. It does not decay but it can instead be recycled. Unlike aluminium cans, plastic bottles can be reused and stored for a longer period of time. Plastic is usually unbreakable and it is transparent. It's light-weight and odourless. Plastics are oil and gas based, and consumes less than four per cent of our oil and gas reserves. To sum up modern day advancement is highly dependable on plastic industry. Plastic has emerged as one of the most important invention of mankind with utmost tendency to grow. Thorough knowledge of profitable plastic industry can help you to get deeper penetration and reap advantage. Besides you can also get better understanding of plastic industry if you read on profitable plastic profiles. So that if you try your hands you are altogether not perplexed. This book gives you a brief summary of profitable plastic profiles. Let's talk about the introductory chapter that is on Disposable Plastic Syringes, Needles & Needle Tube Plant. With the development of pharmaceutical industries the use of syringes and disposable needles has also witnessed an increase in demand. This means that the projects aims at manufacturing each and every components of a syringe within the plant and assemble them into a complete syringe for sale under its own reliable brand name. Similarly the other chapters of the book like Electroplating of Plastics, Disposable Plastic Cups and Glass, Polyester Resin Etc deal in topics with great detail. The book provides you with comprehensive information on installation of entire equipments needed for an integrated Disposable syringe plant. The book aims to provide you with many other profitable profiles, the manufacturing process, and details of present manufacturer of the profile dealt.

# Manufacture of Paint, Varnish & Allied Products (3rd Revised Edition)

**Author:** P. K. Chattopadhyay

**Format:** Hardcover

**Book Code:** NI25

**Pages:** 138

**ISBN:** 9788195577576

**Price:** Rs. 1,995.00 **US\$** 52.95

Manufacture of Paint Varnish & Allied Products (Industrial Paint, N.C. Thinner, Paint Industry, Infrared Reflected (IR) Paint, High Temperature Aluminium Based Paint, Paint Drier, Powder Coating Paint, Latex Paints for Roof) Varnishes are organic solvent-based solutions of natural or manmade resins that dry when applied thinly to a surface. The dried films are firm and translucent in appearance. The films have varied degrees of gloss, protective ability, flexibility, and durability depending on the solution's composition. Varnishing materials are as varied as the many paint media and techniques used throughout the history of painting. The advantages of applying a transparent resin as a final surface coating were discovered in Antiquity; waxes, for example, have been discovered on the surfaces of ancient wall murals. By the early Renaissance, a number of materials, ranging from egg white to resin, had been produced for use as painting varnishes. Tree resins (mastic and dammar), fossil resins (copal), and insect excretions (shellac) became the most common materials used as varnishes over time. Artists and restorers still use many of these natural materials today. There have also been numerous synthetic varnishes made that provide a wide range of surface properties. Synthetic varnishes have gained popularity, however they differ from natural varnishes in terms of qualities. Varnishes should be removable so that the underlying surface can be cleaned without being damaged. By allowing the painting to be solubilized and removed, along with any surface pollution, the use of a removable varnish provides a vital tool to anyone wanting to restore or clean the painting. The varnish must be flexible enough to flow with the painting surface while still being firm enough to prevent grime and dust from adhering to the surface by giving a non-tacky surface. It must be made with the appropriate porosity to either allow moisture to pass through or provide a moisture barrier, depending on the substrate and weather circumstances. It should be resistant to chemicals and water. Over time it should resist discoloration caused by factors like humidity, heat and visible and ultra violet (UV) light sources. Finally, the varnish must possess excellent clarity, without discoloration or fogging. The global paints and coatings market is expected growth rate (CAGR) of 8.5%. There is a rapid growth in consumption of paints and coatings in many industries. Paints and coatings are widely used in the automotive, construction and manufacturing industries. Biocides

are being used in paints to enhance their longevity and to maintain their quality. Biocide additives have been designed to protect paints from getting damaged during storage or to keep fungi and algae from growing on the applied paints. The market for biocides in paints will continue to grow due to the switch from solvent based to water based paints as they are not hazardous for human health and environment, and minimize fungal and algae growth. However, replacement of traditional biocides based on chlorine and formaldehyde with environmentally friendly biocides add to the costs of paint production. Construction, automotive and transportation, and the wood sectors all employ paints and coatings. They have a significant application in the building and construction business, where they are used to protect structures from harm from the outside. In addition, the product is used to decorate residential and non-residential infrastructures and buildings, industrial equipment, vehicle and marine, industrial wood, and other applications. The materials are widely used in diverse applications, owing to their properties such as protection from environmental factors, corrosion protection, reflection-absorption, anti-friction, and hardness. High-tech coatings that comprise cationic electrocoating ingredients are becoming more popular, as they protect multifarious metal objects against corrosion by covering all the corners and crevices. High-performance ceramic extends the life of aircraft turbine engines and automobile engines. It primarily serves to safeguard components against high temperatures, wear, and corrosion. This industry's growth has led to huge product demand in other applications such as residential and commercial construction. Furthermore, these products also gain momentum due to applications such as automotive & transportation, wood, coils, and industrial metals that will lead to an upsurge in the global market. Based on application, the market is categorized into architectural, automotive OEM, marine, coil, general industries, protective coatings, automotive refinish, industrial wood, and others. Amongst these applications, the architectural segment is expected to remain dominant in terms of revenue and volume during the forecast period. In architectural applications, coatings and paints are mainly used for decorative purposes for residential and non-residential structures to protect them from environmental harm, UV radiation, and others. Increasing use of these materials in diverse industries such as construction and automotive is expected to fuel this market's growth. High demand for paints and coatings in the automotive industry, owing to its color stability, continuous protective film formation, corrosion resistance, abrasion and scratch resistance, flexibility, and durability, will boost the market prospects. The growth in

coil segments can be linked to the high production of sheets of various materials such as polymers, steel, and copper. Coils are used in semiconductors, household wires, cables, automotive, building & construction, etc. The book covers a wide range of topics connected to Industrial Paint, N.C. Thinner, Paint Industry, Infrared Reflected (IR) Paint, High Temperature Aluminium Based Paint, Paint Drier, Powder Coating Paint, Latex Paints for Roof, BIS Specifications, as well as their manufacturing processes and plant economics. A thorough guide on Paint Varnish & Allied Products manufacture and entrepreneurship. This book is a one-stop shop for everything you need to know about the Paint Varnish & Allied Products, which is ripe with opportunity for producers, merchants, and entrepreneurs. This is the only book that covers the process of making commercial Paint Varnish & Allied Products. From concept through equipment procurement, it is a veritable feast of how-to information.



# Handbook on Biodegradable Plastics (Eco Friendly Plastics)

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI26

**Pages:** 276

**ISBN:** 8186623531

**Price:** Rs. 600.00 US\$ 15.95

Plastic has brought immense benefits to the whole human race. The light weight, cheap chemical resistant and strong material has got almost omnipotent presence. When we talk of its strength we talk of the time till it survives and to everyone's knowledge plastic does not bio-degrade. Yes, plastic the greatest invention of mankind has the power to even destroy mankind. Plastic that is not biodegradable brings a lot of environmental issues. It deteriorates the ozone layer. For the most part plastic is produced from oil. The world is progressively running out of oil. Research says plastic brings number of harms not only to humans but also the entire cosmos. The plastic which cannot be recycled has to be disposed off in some or the other way. Let's say if we dispose in water it has the tendency to destroy marine life. So the only way left to reduce the ill effects of plastic is to use eco-friendly or biodegradable plastic. Biodegradable plastics are plastics that will decay in usual aerobic environments. These include plastics that are made from vegetable oil and other organic matter. The book, Handbook on Bio Degradable Plastics (Eco friendly plastics) is one of its kinds which give the information about biodegradable plastics. The book gives comprehensive information about Standard Methods for Biodegradation of Plastics, Commercialization of Eco-Friendly Plastics, and multipurpose exploitation of municipal solid waste (plastics), management of non recoverable plastic waste, guidelines to be followed in recycling of plastic and several other crucial topics required for the understanding of recycling of plastic. According to a report out of 200 million plastic produced in the world 26 million is produced by the United States and only 6%(approximately) of plastic waste gets recycled posing both a challenge and opportunity. Challenge in the sense that it is causing environmental issue and opportunity for the young entrepreneurs to penetrate in this sector. The book provides important and descriptive information on the whole topic of biodegradable plastic, the benefits and the techniques used. The book also contains information on topics arising social concern like present technologies for recycling of polyethylene terephthalate (pet) waste, how to minimise the impact of packaging materials on the environment and also provides information on new bio-degradable plastic, as business options for entrepreneurs. The book at the end contains a list of directory providing information on List of Plant & Machinery,

List of Raw Material, Plant/Machinery Suppliers, Overseas Suppliers of Machinery and Raw Material Suppliers.

# Electroplating, Anodizing & Metal Treatment Hand Book

**Author:** NPCS Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI63

**Pages:** 720

**ISBN:** 9788178331386

**Price:** Rs. 1,475.00 **US\$** 39.86

Surface finishing is a broad range of industrial processes that alter the surface of a manufactured item to achieve a certain property. Currently, the trend is towards surface treatments. Surface engineering techniques are generally used to develop a wide range of functional properties, including physical, chemical, electrical, electronic, magnetic, mechanical, wear-resistant and corrosion-resistant properties at the required substrate surfaces. In general, coatings are desirable, or even necessary, for a variety of reasons including economics, material conservation, unique properties, or the engineering and design flexibility which can be obtained by separating the surface properties from the bulk properties. Surface engineered products thus increase performance, reduce costs, control surface properties independently of the substrate and medium, thus offering an enormous potential in the finishing Industry. Electro depositing of metals is a very significant industrial process. Electroplating is both an art and science. It entailed adhering a thin metal coating to an object by immersing it into an electrically charged solvent containing the dissolved plating metal. Electroplating served a number of functions, such as protecting from corrosion and wear, decoration, and electrical shielding. Anodizing most closely resembles standard electroplating. Anodizing or anodizing is an electrolytic passivation process used to increase the thickness of the natural oxide layer on the surface of metal parts. Anodizing increases corrosion resistance and wears resistance, and provides better adhesion for paint primers and glues than bare metal. Anodic films are most commonly applied to protect aluminium alloys. The aim of this handbook is to give the reader a perspective on several metal surface treatment techniques which are generally followed in the finishing Industry. This is a unique compilation and it draws together in a single source technical principles of surface science and surface treatments technologies of plastics, elastomers, and metals along with various formulae of bath solutions, current density, deposit thickness, manufacturing processes, various ingredients used in these processes. It is a very useful guide for the readers, engineers, scientists, practitioners of surface treatment, researchers, students, entrepreneurs and others involved in materials adhesion and processing.

# Modern Technology of Paints, Varnishes & Lacquers (2nd Edition)

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI66

**Pages:** 682

**ISBN:** 8178330881

**Price:** Rs. 1,075.00 **US\$** 28.95

Surface coating industry is one of the most popular industries. Paints, varnishes and lacquers industry is gaining ground at a rapid pace in modern time accompanied with closed advance in surface coating technology. They are formulated for specific purposes: outside house paints and exterior varnishes are intended to give good service when exposed to weathering; interior wall paints are formulated to give excellent coverage and good wash ability; and lacquers are formulated for rapid drying. Varnish is one of the important parts of surface coating industry. Varnish is a transparent, hard, protective finish or film primarily used in wood finishing but also for other materials. They are used to change the surface gloss, making the surface more matte or higher gloss, or to provide the various areas of a painting with a more unified finish. Varnishes are also applied over wood stains as a final step to achieve a film for gloss and protection. Some products are marketed as a combined stain and varnish. Paint is any liquid, liquefiable, or mastic composition which after application to a substrate in a thin layer is converted to an opaque solid film. It is most commonly used to protect, colour or provide texture to objects. The paint industry volume in India has been growing at 15% per annum for quite some years now. As far as the future growth prospects are concerned, the industry is expected to grow at 12 to 13% annually over the next five years. The technology is required to produce different type of new paints and varnishes based on different type of uses. The paint and coatings industry plays an integral role in sustainability; coatings protect the objects we depend on every day, preserve our possessions, so they last longer and provide for a sustainable future. They are indispensable products that extend the useful life of everyday objects by acting as a protective barrier. These newer products have enabled paint manufacturers to improve the performance properties of their paints and coatings and so satisfy the more stringent requirements of our modern industrial society. The future for industrial paints, varnishes and lacquers is bright. In the next few years its value will go up gradually in line with the global trend. The major contents of the book are application of paints, fundamentals of paint, varnishes and lacquers, manufacturing of different type of paints, paint formulation, pigment dispersion, emulsion paints, and so on.

The book deals with fundamentals of paints, Varnishes and lacquers, pigments, Oils used in paints and varnishes, solvents, dryers, plasticizers, additives for surface coating, various types of paint manufacturing etc. The book is very useful for new entrepreneurs, existing units, technocrats, technical institutions and for those who wants to diversify in the field of paints manufacturing.



# Modern Technology of Textile Dyes & Pigments (2nd Revised Edition)

**Author:** Dr. H. Panda

**Format:** Paperback

**Book Code:** NI67

**Pages:** 512

**ISBN:** 9789381039717

**Price:** Rs. 1,675.00 **US\$** 44.95

Dyestuff sector is one of the core chemical industries in India. There are two types of colorants dyes and pigments. Dyes are soluble substances used to pass color to the substrate and find applications primarily in textiles and leather. Pigments are coloring materials, which are water insoluble. Key end-user industries of pigments include wood-coloring, stone, textiles, paints & coatings, food and metals. Pigment are usually manufactured as dry colorants and grounded into fine powder. The dyes market, meanwhile, largely depends upon the fortunes of its principal end-user, textiles, which account for about 70 percent of the total demand. Their importance has grown in almost every area of an economic activity. In the colorants market, Asia-Pacific accounts for the largest share. This region is one of the key markets for dyes and pigments production. In the Asia-Pacific, India and China are the important countries contributing towards the growth of colorants market. Rising consumer spending will drive increased demand for colorants in textiles. Increases in value demand will reflect the growing importance of expensive, higher value dyes and pigments that meet increasingly stringent performance standards. Growing demand for high-quality value-added pigments is one of the key factors expected to result in a spurt in growth. This book describes the various formulae, manufacturing processes and photographs of plant & machinery with supplier's contact details. The major contents of the book are metal pigments, black pigments, inorganic colour pigments, organic colour pigments, extender pigments, white pigments, photocatalytic activity of titanium dioxide pigment, azo pigments, bisazo pyridine pigments, high grade organic pigments, high temperature stable inorganic pigments, anti corrosive pigments, metals and metal ions in pigmentary systems, control of organic pigment dispersion properties, pigments for plastics, rubber & cosmetics, pigments for printing inks, vat dyes, reactive dyes, disperse dyes, direct dyes and sulphur dyes etc. It will be a standard reference book for professionals, entrepreneurs, those studying and researching in this important area and others interested in the field of textile dyes & pigments.

# Modern Technology of Plastic & Polymer Processing Industries

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI83

**Pages:** 429

**ISBN:** 8178330776

**Price:** Rs. 750.00 **US\$** 19.95

The Indian plastic and polymer industry has taken great strides. In the last few decades, the industry has grown to the status of a leading sector in the country with a sizable base. The material is gaining notable importance in different spheres of activity and the per capita consumption is increasing at a fast pace. Continuous advancements and developments in polymer technology, processing machineries, expertise and cost effective manufacturing is fast replacing the typical materials in different segments with plastics. Plastics play a very important role in our daily lives. Throughout the world the demand for plastic, particularly plastic packaging, continues to rapidly grow. Polymer processing industry deals with the manufacture and production of polymer and synthetic substances for example acrylic plastics: poly (methyl methacrylate), poly vinyl chloride (PVC), polyamides, polyesters, cellulose plastics etc. Plastic is incredibly versatile and can be made from different ingredients, moulded into any shape, and put to a huge range of uses across industry and the rest of society. Polymer Energy system is an award winning, innovative, proprietary process to convert waste plastics into renewable energy. Polymers are the most rapidly growing sector of the materials industry. No wonder polymers are found in everything from compact discs to high tech aerospace applications. On the basis of value added, Indian share of plastic products industry is about 0.5% of national GDP. This book majorly deals with properties and applications of engineering, the strength of thermoplastic composites, and the application of thermoplastic structural composites, applications of differential scanning, calorimetry and polymer characterization, polymer degradation and stabilization, advances in photo degradation and stabilization of polyurethanes and so on. This book also consists of raw material suppliers for plastic and plastic products, manufacturers of plastic processing machinery, plastics processing machinery and equipment (foreign), machinery and equipment for plastic converting, extruders and extrusion lines, injection moulding machines and so on. This book offers, in standardized and readily accessible information on the synthesis, structure, properties and applications of the most important polymeric materials. It has been designed as a text giving a balanced coverage of the science and

technology of polymers finding major applications plastics.  
This book is very useful for industrialists, consultants,  
research scholars and institutes.

**Polymers and Plastics Technology Handbook**

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI84

**Pages:** 424

**ISBN:** 8178330768

**Price:** Rs. 750.00 **US\$** 19.95

Plastics play a very important role in our daily lives. Throughout the world the demand for plastic, particularly plastic packaging, continues to rapidly grow. Polymer technology deals with the manufacture and production of polymer and synthetic substances. Plastic is incredibly versatile and can be made from different ingredients, moulded into any shape, and put to a huge range of uses across industry and the rest of society, from carrier bags to electrical cables. Polymer energy system is an award winning, innovative, proprietary process to convert waste plastics into renewable energy. Some of the important example of polymers and plastics are polytetra fluoroethylene (PTFE), polyether sulphone (PES), phenol-formaldehyde (PF), polyolefins, vinyl polymers, thermoplastic polyesters, polysulfones, poly(phenylene sulfide), etc. Polymers are the most rapidly growing sector of the materials industry. The Indian plastic industry has taken great strides. In the last few decades, the industry has grown to the status of a leading sector in the country with a sizable base. The material is gaining notable importance in different spheres of activity and the per capita consumption is increasing at a fast pace. Continuous advancements and developments in polymer technology, processing machineries, expertise, and cost effective manufacturing is fast replacing the typical materials in different segments with plastics. On the basis of value added, Indian share of plastic products industry is about 0.5% of national GDP. The major contents of the book are properties and applications of speciality plastics, thermoset plastics, applications of recycle plastics, introduction of polymer science, polymer additives, blends and composites, commodity thermoplastics and fibres etc. This book also consists of raw material suppliers for plastic and plastic products, manufacturers of plastic, processing machinery, plastics processing machinery and equipment (foreign), machinery and equipment for plastic converting, extruders and extrusion lines, injection moulding machines, presses and accessories, blow moulding and thermoforming machines etc. The book has been designed with the idea of blending and integrating basic polymer science and the technology of plastics into a composite structure. This book is an outcome of an endeavour in the direction of polymer and plastic processing. It would be of immense use to entrepreneurs, consultants, students and libraries etc.

# The Complete Technology Book on Dyes & Dye Intermediates (2nd Edition)



**Author:** Dr. Himadri Panda

**Format:** Paperback

**Book Code:** NI91

**Pages:** 544

**ISBN:** 9788194737957

**Price:** Rs. 1,995.00 **US\$** 52.95

Dyeing is the process of imparting colours to a textile material. Different classes of dyes are used for different types of fiber and at different stages of the textile production process, from loose fibres through yarn and cloth to completed garments. Dyes are any substance, natural or synthetic, used to colour various materials, and have wide industry applications ranging textiles, leather, and food, paper etc. They are available in widest ranges for different applications like acid dyes for wool and nylon, direct dyes for cotton, etc. Dyes and its intermediates are specifically used to make the textiles decorative and attractive. At present, India contributes about 6% of the share in the global market with a CAGR of more than 15% in the last decade. The organized sector dominates, with 65% share of the total market, while the unorganized sector controls the remaining 35% of the market. The demand for dyes and dye intermediates is expected to grow at around 6%, backed by strong demand from the textiles, leather, and inks industries. Dyestuff sector is one of the core chemical industries in India. It is also the second highest export segment in chemical industry. The major users of dyes in India are textiles, paper, plastics, printing ink and foodstuffs. The textiles sector consumes around 80% of the total production due to high demand for polyester and cotton, globally. Globally the dyestuffs industry has seen an impressive growth. This book majorly deals with classification & nomenclature of dyes, commercial form of dyes, properties, formulae, applications of dyes, manufacturing process of dye intermediates, plant and machinery used etc. The major contents of the book are diazotization, coupling, azo coupling, oxidative coupling, anthraquinone dyes; disperse dyes, dispersion, effect of dispersing agents etc. Due to increasing growth of textile industries, demand of dyes and dye Intermediates are also increasing very fast in domestic as well as in global market. The book gives stress on syntheses of different types of dyes and dye Intermediates. The formulae and processes have been described in very proper way. Professionals, corporate houses and new entrepreneurs will find this book very useful.

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**[The Complete Technology Book on Textile Spinning, Weaving,](#)**

## [Finishing and Printing \(3rd Revised Edition\)](#)

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI107

**Pages:** 564

**ISBN:** 9788178331638

**Price:** Rs. 1,725.00 US\$ 46.62

Textile industry is one of the few basic industries, which is characterised as a necessary component of human life. One may classify it as a more glamorous industry, but whatever it is, it provides with the basic requirement called clothes.

Spinning is the process of converting cotton or manmade fibre into yarn to be used for weaving and knitting. Weaving is a method of textile production in which two distinct sets of yarns or threads are interlaced at right angles to form a fabric or cloth. Finishing refers to the processes that convert the woven or knitted cloth into a usable material. Printing is the process of applying colour to fabric in definite patterns or designs. The textile industry occupies an important position in the total volume of merchandise trade across countries.

Developing countries account for little over two-third of world exports in textiles and clothing. It is the second largest employer after agriculture, providing employment to over 45 million people directly and 60 million people indirectly. The future for the textile industry looks promising, buoyed by both strong domestic consumption as well as export demand. This book is based on the latest technology involved in textile industry, which describes the processes available at the spinning and fabric forming stages coupled with the complexities of the finishing and colouration processes to the production of wide ranges of products. The major contents of the book are dyeing of textile materials, principles of spinning, process preparatory to spinning, principles of weaving, textile chemicals, yarn preparation, weaving and woven fabrics, knitting and knit fabrics, nonconventional fabrics, cellulose, mixed fibers, printing compositions, printing processes, transfer dyes, transfer inks etc. It describes the manufacturing processes and photographs of plant & machinery with supplier's contact details. It will be a standard reference book for professionals, entrepreneurs, textile mill owners, those studying and researching in this important area and others interested in the field of textile industry.

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## [The Complete Technology Book on Textile Processing with Effluent](#)

## Treatment

**Author:** NIIR Board

**Format:** Paperback

**Book Code:** NI108

**Pages:** 584

**ISBN:** 8178330504

**Price:** Rs. 1,000.00 **US\$** 26.95

Textile manufacturing is a major industry, it is based in the conversion of three types of fibre into yarn, then fabric, then textiles. These are then fabricated into clothes or other artefacts. Cotton remains the most important natural fibre, so is treated in depth. There are many variable processes available at the weaving and fabric forming stages coupled with the complexities of the finishing and colouration processes to the production of wide ranges of products. Certain other fiber properties increase its value and desirability in its intended end use but are not necessary properties essential to make a textile fiber. Such secondary properties include moisture absorption characteristics, fiber resiliency, abrasion resistance, density, luster, chemical resistance, thermal characteristics, and flammability. Some primary properties of textile fibers are: fiber length to width ratio, fiber uniformity, fiber strength and flexibility, fiber extensibility and elasticity, and fiber cohesiveness. Some, mostly larger, firms operate in the organized sector where firms must comply with numerous government labour and tax regulations. Most firms, however, operate in the small scale unorganized sector where regulations are less stringent and more easily evaded. The textile industry occupies a unique place in our country. One of the earliest to come into existence in India, it accounts for 14% of the total Industrial production, contributes to nearly 20% of the total exports. Being the largest foreign exchange earner, it accounts for more than 5 per cent of GDP. This book majorly deals with characteristics of cotton textile processing, characteristics of effluents, characteristics and treatment of synthetic, textiles processing effluents, processes, volume and characteristics of effluents, treatment, the properties of textile fibres, important properties of fibres, basic aspects of textile fibres etc. The book covers complete details of textile processing with the standard parameters of effluents treatment which is the burning problem for the textile processors. Needless to say that this book will be of immense use to textile processors, consultants and chemists engaged in water and waste water treatment, research institutions etc.

**The Complete Technology Book on Electroplating, Phosphating, Powder Coating and Metal Finishing (2nd Revised Edition)**

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI129

**Pages:** 504

**ISBN:** 9788194099536

**Price: Rs. 1,675.00 US\$ 44.95**

The Complete Technology Book on Electroplating, Phosphating, Powder Coating and Metal Finishing (2nd Revised Edition) Electroplating is the process of depositing a metal coating onto the surface of an object through the use of an electrical current. Electroplating has evolved into a highly complex process requiring a high level of precision and expertise. Phosphating is the process of converting a steel surface to iron phosphate. This is mostly used as a pretreatment method in conjunction with another method of corrosion protection. Powder coating is a finishing process in which a coating is applied electrostatically to a surface as a free-floating, dry powder before heat is used to finalize the coating. The powder can be made of any number of products: polyester, polyurethane, polyester-epoxy, straight epoxy, and acrylics. Metal finishing is the final step in the manufacturing process used to provide aesthetics and environmental protection. The electroplating market mostly is driven by the electronics and electrical industry and followed by the automotive industry. The demand for electroplating is rising rapidly from the end user industries which propel the growth of the market. The increasing demand for durable metals and growing use of adaptable manufacturing processes for a wide range of applications in the automotive, aerospace & defense, and electrical & electronics industries are likely to boost the demand for electroplating. With the growing demand for high-performance automobile components having excellent resistance to corrosion to enhance the appearance of exterior automobile parts, such as emblems, door handles, hood ornaments, and wheel rims, is driving the demand for electroplating and likely to continue owing to the increasing automobiles production in Asia-Pacific and other emerging economies in the Middle East & Africa. The zinc-nickel electroplating is one of the popular methods of electroplating in the automotive industry. The book cover various aspects related to different Electroplating, Phosphating, Powder Coating and Metal Finishing with their manufacturing process and also provides contact details of machinery suppliers with equipment photographs and plant layout. A total guide to manufacturing and entrepreneurial success in one of today's complete process of electroplating to metal finishing in industry. This book is one-stop guide to one of the fastest growing electroplating, phosphating, powder coating and

metal finishing industry, where opportunities abound for manufacturers, retailers, and entrepreneurs. The book serves up a feast of how-to information, from concept to purchasing equipment.

# Synthetic Resins Technology Handbook

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI150

**Pages:** 588

**ISBN:** 8178330261

**Price:** Rs. 1,100.00 **US\$** 29.73

Synthetic resin is typically manufactured using a chemical polymerization process. This process then results in the creation of polymers that are more stable and homogeneous than naturally occurring resin. Since they are more stable and are cheaper, various forms of synthetic resin are used in a variety of products such as plastics, paints, varnishes, and textiles. There are various kinds of synthetic resins; acetal resins, amino resins, phenolic resins, epoxy resins, fufuryl alcohol: resins, fluorocarbon resins, polyurethane resins, etc. Resins are polymeric compound which are available in nature and are also manufactured by synthetic routes. Some resins are also manufactured by partial modification of natural precursor polymer by chemical. The classic variety is epoxy resin, manufactured through polymerization, used as a thermoset polymer for adhesives and composites. Epoxy resin is two times stronger than concrete, seamless and waterproof. Various thermoplastic thermosetting polymers, including elastomers, have been incorporated to modify the properties for the cured epoxy resin products. Elastomers provide greater elongation and impact strength. Polysulfides, the most commonly used elastomer to flexibilise epoxy resins. Heat resistant polymers are employed for the various uses; heat flame resistant fibers plus ultra high strength, high modulus fibers; films, laminating varnishes and wire enamels; structural adhesives and molding powders. The Synthetic Resin Manufacturing industry initially enjoyed strong growth over its earlier history as plastics began to increasingly replace traditional materials such as wood, leather and metal. Plastic is estimated to have been the most used material globally. The book basically deals with new raw materials for cost reduction of alkyds and unsaturated polyester, amino resins, polyester based resins, enzymatic synthesis of phenolic copolymers, radiation curable hybrid formulation, self polishing anti fouling, epoxy resins, epoxy resins from methyl epichlorohydrin, fillers, reinforcements, and other additives, cardanol modified epoxy resins, baking coatings from epoxy derived from cardanol, phenolic resins, polyurethane resins, aqueous polyurethane dispersion technology, heat resistant resins, etc. The resin have wide industrial uses like in lacquers, paints, textiles, varnishes, printing inks and cosmetic etc. this book contains formulae, processes and applications of various resins. This book will



be very resourceful to new entrepreneurs, consultants, technical institutions, libraries and for those who wants to venture into this field.

# The Complete Technology Book on Synthetic Resins with Formulae & Processes

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI151

**Pages:** 512

**ISBN:** 818662399X

**Price:** Rs. 1,150.00 **US\$** 29.95

Synthetic resin is typically manufactured using a chemical polymerization process. This process then results in the creation of polymers that are more stable and homogeneous than naturally occurring resin. Since they are more stable and are cheaper, various forms of synthetic resin are used in a variety of products such as plastics, paints, varnishes, and textiles. There are various kinds of synthetic resins; silicones resins, polyvinyl pyrrolidone, gum arabic, epoxy resins, guar gum, carrageenan, carboxymethyl cellulose, etc. Resins are polymeric compound which are available in nature and are also manufactured by synthetic routes. Some resins are also manufactured by partial modification of natural precursor polymer by chemical. Silicones are unique among the commercially important polymers both in chemistry and in variety of industrial applications. Silicones can be applied as high temperature insulating varnishes, impregnates to be used with glass, asbestos, mica products and encapsulating agents for electrical components. Water borne dispersions or emulsions, for example emulsions of vinyl or acrylic copolymers are popular in decorative coatings. The applications of synthetic resins are seen in some important industries like paint industry, adhesive industry, the textile industry, paper, paint, agricultural industry, petroleum industry etc. As it can be seen that there is an enormous scope of application of resins hence it is one of the major field to venture. Some of the fundamentals of the book are electrodepositable pigmented coating compositions based on alkyd resins, phosphorus containing allyl resins, vapour permeation cure technology, characterization of water soluble anodic electrodepositive pigmented coating compositions, protection of concrete substrates, zinc rich coatings, electro deposition primers, developments in thermosetting powder coatings, application of powder coatings, polyethylene glycol, petroleum recovery and processing, industries using polyethylene glycols, silicones resins, preparation & formulation of silicone resin based coatings, pigments and dyes etc. Synthetic Resins are used by lot of industries. Yet, little emphasis has been placed on the comparative value on functionality of polymeric material as a class. These resins have been classified in separate categories, usually in terms of their Chemistry, sources or end uses. The present book contains formulae, processes and other valuable details for

various synthetic resins. This is very useful book for those concerned with development, consultants, research scholars, new entrepreneurs existing units, institutional libraries etc.

# Natural Fibers Handbook with Cultivation & Uses

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI154

**Pages:** 560

**ISBN:** 8186623981

**Price: Rs. 1,275.00 US\$ 33.95**

Natural fibers production, processing and export are vital to the economies of many developing countries and the livelihoods of millions of small scale farmers and low wage workers. Almost all natural fibers are produced by agriculture, and the major part is harvested in the developing world. It is convenient to classify natural fiber in two ways; morphologically, according to the part of plant from which they are obtained and practically according to the uses to which they are put, which in turn depend on their properties. From the view point of the uses vegetable fibers may be classified into following groups; textile fibers, cordage fibers, brush and mat fibers, stuffing and upholstery materials, paper making materials etc. Fibers from the view point of the part are classified as hair fibers, leaf fibers, woody fibers, bast fibers, etc. The use of fibers for paper making differs completely from their use in textiles, in that in papermaking it is ultimate fiber cells which are used; thus in papermaking process consists in breaking down the strands of fiber into the ultimate fibers. Jute, the most important textile fiber apart from cotton, is obtained from two species of corchorus(white jute) and *C.olitorius*L. (tossa jute). Farmers around the world produce a wide variety of natural fibres, planting crops and rearing animals. Plant fibres may be from the plant fruit (e.g. cotton), stems (e.g. flax and jute) or leaf (e.g.sisal). Natural fibres are generally considered more environment friendly than synthetics in their production and disposal. However, there is great variation depending on the fibre and the growing conditions. Many chemicals are used to contain pests and weeds. Chemicals are also used in the processing and dyeing which can lead to water contamination. Processing of some natural fibers can lead to high levels of water pollutants, but they consist mostly of biodegradable compounds, in contrast to the persistent chemicals, including heavy metals, released in the effluent from synthetic fiber processing. Farming and production of natural fibres also plays a significant role in eradicating poverty as an important source of farming income and contribution to food security in developing countries. Demand for natural fiber composites are largely driven by increasing environmental awareness. Due to low cost, low density, acceptable specific properties, ease of separation, enhanced energy recovery, CO<sub>2</sub> neutrality, biodegradability and recyclable properties, natural fiber use in composites is

gaining as demand grows for component materials that are durable, reliable, light weight, with mechanical properties better than those of traditional materials. Total global natural fiber composite market expected to grow at 11% CAGR. Some of the fundamentals of the book are the occurrence and nature of vegetable fibres, conditions necessary for growing flax, mulberry family (moraceae), lime family (titliaceae), experiments on mechanized production of jute, mallow family (malvaceae), kenaf production in various other countries, the use of unretted kenaf ribbons for sack manufacture, pea family (leguminosae), sterculia family (sterculiaceae), agave family (agavaceae), structure of the sisal industry, narcissus family (amaryllidaceae), lily family (liliaceae), pineapple family (bromeliaceae), fibres from other species of musa and a related genus, brush making fibres, etc. The book contains process and other parameters for the manufacturing of fibers arrive from natural sources. Due to eco friendly nature there is very good domestic and export potentiality for natural fiber. This is very useful book for new generation entrepreneurs, consultant institutional libraries, and existing units.

# Speciality Plastics, Foams (Urethane, Flexible, Rigid) Pet & Preform Processing Technology Handbook



**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI156

**Pages:** 672

**ISBN:** 8178330288

**Price:** Rs. 1,275.00 **US\$** 33.95

Plastic technology is one of the fields where people can show their ability and performance both theoretically and practically. The Indian plastic and polymer industry has taken great strides. In the last few decades, the industry has grown to the status of a leading sector in the country with a sizable base. The material is gaining notable importance in different spheres of activity and the per capita consumption is increasing at a fast pace. Continuous advancements and developments in polymer technology, processing machineries, expertise and cost effective manufacturing is fast replacing the typical materials in different segments with plastics. Some examples of the specialty plastics are polytetra fluoroethylene (PTFE) , thermoplastic polyurethanes (TPU), polysulphones (PSO), polyester sulphone (PES), polyarylates, polyamide imide (PAI), etc. Polyurethane is polymer composed of a chain of organic units joined by carbamate (urethane) links. Polyurethane polymers are formed by combining two bi or higher functional monomers. Urethane foam is an artificial material with several different uses. The manufacturing process can produce foams of varying densities and flexibilities. This means it can serve functions as diverse as bedding, packaging and footwear. It is important to note that urethane foam is most commonly used to refer to a material made from polyurethane. Furniture, bedding, automotive interiors, energy management, footwear and insulation utilize flexible foam technology due to its wide range of density, cushioning ability and versatility of use. Appliance (refrigeration, water heaters), construction panels, roofing boardstock, and spray applied insulation utilize rigid polyurethane foam due its superior insulating and mechanical properties to reduce energy consumption and enhance structural integrity of the finished product. The versatility of the technology and processability makes rigid polyurethane foam uniquely suited for other applications, like architectural molding, energy absorbing materials in automobiles, entry doors, and even picnic coolers. Polymer Energy system is an award winning, innovative, proprietary process to convert waste plastics into renewable energy. Polymers are the most rapidly growing sector of the materials industry. Some fundamentals of the book are properties and applications of speciality plastics, thermoplastic polyurethanes, formation of urethane foams,

flexible foams, variables in the preparation of prepolymers, procedures for the preparation of prepolymers, catalyzed prepolymer preparation, application of flexible foams, applications of rigid foams, one-stage injection stretch blow moulding, pet material and applications, injection and co-injection preform technologies, pet film and sheet, plastics as safe & hygienic medium for packaging food & food products The book covers processes and other required information for the manufacturing of different specialty plastics, Foams, PET and Pre form PET etc. This is very useful book for new entrepreneurs, technocrats, existing units, institutional libraries etc.

# The Complete book on Natural Dyes & Pigments

**Author:** NIIR Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI160

**Pages:** 448

**ISBN:** 8178330326

**Price: Rs. 1,100.00 US\$ 29.73**

Natural dyes are dyes or colorants derived from plants, invertebrates, or minerals. The majority of natural dyes are vegetable dyes from plant sources. Dyeing is the process of imparting colors to a textile material. Different classes of dyes are used for different types of fiber and at different stages of the textile production process, from loose fibers through yarn and cloth to completed garments. There are technologies that manufacture the pigments for plastics, rubber and cosmetics. Therefore; dyes and pigments have a vast area of applications and have a huge demand in industry. Contrary to popular opinion, natural dyes are often neither safer nor more ecologically sound than synthetic dyes. They are less permanent, more difficult to apply, wash out more easily, and often involve the use of highly toxic mordant. Of course, the colour possibilities are far more limited; the color of any natural dye may be easily copied by mixing synthetic dyes, but many other colors are not easily obtained with natural dyes. However, some mordant are not very toxic, and the idea of natural dyestuffs is aesthetically pleasing. Applying natural dyes in your fabric production using enzymes will reduce your production cost and improve control. There are various kind of natural dyes; quinonoid dyes, cyanine dyes, azo dyes, biflavyonyl dyes, omochromes, anthraquinone, coprosma gesus etc. The use of natural dyes in cloth making can be seen as a necessary luxury to trigger off a change in habits. Dyes which stand out for their beauty and ecological attributes would never be employed on just any material but on noble fabrics such as wool, silk, linen or cotton, made to last more than one season. Market value will benefit from consumer preferences for environmentally friendly products, which will support consumption of high performance dyes and organic pigments. This book basically deals with the use of carotenoids as food colours , bianthraquinones and related compounds, intermediate degradation products of biflavonyls, dyestuffs containing nuclear sulphonic and carboxylic acid groups, quinonoid dyes, cyanine dyes, optical whitening agents, natural dyes for food, stability of natural colourants in foods effect of additives, pyrimidine pigments, the total synthesis of the polyene pigments, red pigment from geniposidic acid and amino compound, effect of acid and amine on the formation of red pigment from geniposidic acid, effect of the substituted position of amino group and chain length of amino compound

etc. Due to pollution problems in synthetic dyes and pigments industry, the whole world is shifting towards the manufacturing of natural dyes and pigments. The present book contains techniques of producing different natural dyes and pigments, which has huge demand in domestic as well as in foreign market. It is hoped that entrepreneurs, technocrats, existing units, institutional libraries will find this book very useful.

**Directory/ Database/ List of Rubber Industries/ Companies in India  
(Manufacturers of Rubber & Rubber Products, Rubber Chemicals,  
Machinery Suppliers etc.) 5th Edition [.xlsx, excel format]**

**Format:** CD-Rom

**Book Code:** NID84

**Price:** Rs. 4,248.00 **US\$** 150.00

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## [The Complete Book on Rubber Processing and Compounding](#)

# Technology (3rd Revised Edition)



**Author:** P.K. Tripathi

**Format:** Paperback

**Book Code:** NI174

**Pages:** 632

**ISBN:** 9788178331621

**Price: Rs. 2,275.00 US\$ 58.00**

Rubber processing and compounding refer to the process of transforming natural or synthetic rubber into various usable products, such as tyres, rubber seals, belts, and hoses. The rubber processing industry encompasses various methods of transforming raw rubber into useful products, which include blending, mixing, extrusion, molding, and curing. Rubber compounding involves the addition of various additives, such as carbon black, antioxidants, curing agents, plasticizers, and other chemicals, to modify the physical and mechanical properties of the rubber. Compounding ingredients and techniques vary according to the end-use application and the desired properties of the final product. Rubber compounds are widely used in various industries, including automotive, construction, electrical, and healthcare. The unique properties of rubber compounds, such as durability, flexibility, and resistance to heat and chemicals, make them ideal for various applications. The market for rubber processing and compounding is positive, with increasing demand for high-performance and environmentally sustainable rubber products. Key trends driving this growth include a growing demand for electric vehicles, advancements in tyre technology, and increased demand for rubber products in emerging markets. The market is expected to grow at a steady rate in the coming years, with a compound annual growth rate (CAGR) of 5.3%. This growth can be attributed to the rising demand for high-performance and eco-friendly rubber products. The increasing demand for rubber processing and compounding services in the Asia-Pacific region is one of the primary drivers of the market growth. China and India are the key markets in the region, with high growth potential due to the growing automotive industry and government initiatives promoting the use of eco-friendly materials. Moreover, the increasing demand for tyres, rubber seals, gaskets, and hoses, coupled with advancements in the manufacturing process, is driving the growth of the market. Another trend driving the market is the growing focus on sustainability and reducing the carbon footprint. Many companies are investing in research and development to develop sustainable rubber products. The rubber processing and compounding industry is witnessing rapid growth in recent years. With the increasing demand for rubber products across various industries such as automotive, construction,

healthcare, and electronics, the market outlook for this industry looks promising. The book's main contents are Mixing Technology of Rubber, Techniques of Vulcanization, Rubber Vulcanization, Rubber Compounding, Rubber Gloves Manufacturing, Condoms Manufacturing, Rubber Band Manufacturing, Latex Mattress Manufacturing, Rubber Bushings Production, Rubber Gasket Manufacturing, Rubber Sheets Manufacturing, Rubber Tubing and Its Manufacturing, Tyre Manufacturing, Waste Tyre Recycling Process, Hoses Manufacturing, Conveyor Belt Production, Latex and Foam Rubber, Silicone Rubber, Reclaimed Rubber, Rubber Natural. The Manufacturing Process, Machinery Equipment Details, and Photographs with Suppliers Contact Details are also given. A total guide to manufacturing and entrepreneurial success in today's most demandable rubber processing and compounding industry. This book is one-stop guide to one of the fastest growing sectors of the rubber processing and compounding industry, where opportunities abound for manufacturers, retailers, and entrepreneurs. This is the only complete handbook on the commercial production of rubber. It serves up a feast of how-to information, from concept to purchasing equipment.

# Handbook on Natural Dyes for Industrial Applications (Extraction of Dyestuff from Flowers, Leaves, Vegetables) 2nd Revised Edition

**Author:** Dr. Padma S Vankar

**Format:** Paperback

**Book Code:** NI195

**Pages:** 432

**ISBN:** 9789381039755

**Price:** Rs. 1,575.00 US\$ 42.56

Dyeing is the process of imparting colors to a textile material. Natural dyes are friendly and satisfying to use. They are obtained from sources like flowers, leaves, insects, bark roots etc. however, they are not readily available and involve an extraction process. With the advancement of chemical industry, all finishing procedures of textile materials have been growing constantly and, sustainable and ecological production techniques have become extremely crucial. This is a single book which has information related to extraction of dyestuff from 19 common flowers, weeds, bark or leaves and its application on cotton silk and wool fabrics for textile industry. The Handbook describes the step wise methodology of extraction, mordanting, dyeing with photos of the actual plants part used for extraction of Natural dye. Shade cards have been incorporated so that the full gamut of colors can be visualized from each dyestuff. Major contents of the book are nature of material to be dyed, history of natural dyes, promotion of natural dyes, sources of natural dyes, mordanting the textiles for natural dyeing, quality standards for vegetable dyes, methods of dye extraction, dyeing methodology, chemistry of dye, some recent publications on natural dyes. This handbook is designed for use by everyone engaged in the natural dye manufacturing and explains different methods of dye extraction. Also contains addresses of machinery suppliers with their photographs. It will be a standard reference book for professionals, entrepreneurs, those studying and researching in this important area. About Author The Author Dr. Padma S Vankar, works as Principal Research Scientist, in Facility for Ecological and Analytical Testing (FEAT) at Indian Institute of Technology, Kanpur. She has been engaged in the screening and characterization of newer natural dyes for the past 10 years. She also works in the area of designing synthetic strategies for Eco-friendly dyes using microwave heating system. Using innovative technology for natural dyeing has been her main emphasis. The author has conducted several workshops throughout India in order to popularize natural dyeing.

# Handbook on Textile Auxiliaries, Dyes and Dye Intermediates Technology

**Author:** NPCS Board of Consultants & Engineers

**Format:** Paperback

**Book Code:** NI221

**Pages:** 736

**ISBN:** 9788178331225

**Price:** Rs. 1,575.00 US\$ 42.56

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 dye 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.

# [A Concise Guide on Textile Dyes, Pigments and Dye Intermediates with Textile Printing Technology](#)

**Author:** Dr. H. Panda

**Format:** Paperback

**Book Code:** NI249

**Pages:** 512

**ISBN:** 9789381039205

**Price:** Rs. 1,675.00 US\$ 44.95

In the past, only organic matter was available for making dyes. Today, there are numerous options and methods for the colorization of textiles. While today's methods capitalize on efficiency, there is question as to whether the use of chemicals is harmful to the environment. A reputation for harming the earth could be detrimental to a company in a society becoming more and more focused on the environment and its preservation. Today, with the invention of synthetic materials used in textiles, many new types of dyes have been developed and put into regular use. There are two basic ways to color textiles: dyes and pigments. Pigments are not a dye but rather resins mechanically bound to fibers. Dyes are divided into classes according to the types of fibers they are most compatible with. Textile printing is related to dyeing but, whereas in dyeing proper the whole fabric is uniformly covered with one color, in printing one or more colors are applied to it in certain parts only, and in sharply defined patterns. Dyes will yield the softest hand (the "hand" is the feel of the fabric) and maintain the fabric's luster but the process is expensive. Pigments are much more economical to use. Pigments are generally more lightfast, more colorfast, and give greater color control. Pigment technology has developed tremendously in the past 15 years. 85% of the textile printing in the World is pigment printing. This book contains manufacturing process and other related details about Azine dyes, Azoic dyes, Azo dyes, Thiazole dyes, Triphenylmethane dyes, scientific classification of Vat dyes, fluorination of dyes, different types of pigments, applications, usages of dyes and pigments, quality control and evaluation of pigments and many more. This book will serve as a guide to Textile Technologists, Scientists and existing as well as upcoming industries.

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## About NIIR

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Our Detailed Project report aims at providing all the critical data required by any entrepreneur vying to venture into Project. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line.

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