

Dyes and Dye Intermediates, Textile Dyes & Pigments, Textile Auxiliaries, Natural, Synthetic Dyes and Pigments

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

Author: Dr. H. Panda

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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.



[The Complete Technology Book on Dyes & Dye Intermediates](#)

Author: NIIR Board

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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.

[The Complete book on Natural Dyes & Pigments](#)

Author: NIIR Board of Consultants & Engineers

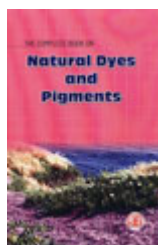
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Natural dyes are dyes or colorants derived from plants, invertebrates, or minerals. The majority of natural dyes are vegetable dyes from plant sources. Dyeing is the process of imparting colors to a textile material. Different classes of dyes are used 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.

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

Author: Dr. Padma S Vankar

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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\$** 150.00



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.

[**Directory / Database of Indian Corporate/Leading Companies in Textile, Wool, Cotton, Jute, Apparels, Carpets \(with Financial**](#)

Figures) 4th Edition

Format: CD-Rom

Book Code: NID170

Price: Rs. 5,074.00 **US\$** 200.00

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Directory / Database of Corporate/Leading Companies/ Industries in Indian Chemicals & Allied Products (with Financial Figures) 4th Edition

Format: CD-Rom

Book Code: NID171

Price: Rs. 6,490.00 **US\$** 225.00

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

Author: Dr. H. Panda

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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 Azoic 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.

About NIIR

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