

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

**Author:** Dr. H. Panda

**Format:** Paperback

**ISBN:** 9789381039717

**Code:** NI67

**Pages:** 512

**Price:** Rs. 1,675.00 US\$ 150.00

**Publisher:** NIIR PROJECT CONSULTANCY SERVICES

Usually ships within 3 days

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.

## Contents

1. Metal Pigments
  - Aluminium Powder and Paste
  - Zinc Powder Pigments
  - Lead Powder and Paste

## 2. Black Pigments

Carbon Black

## 3. Inorganic Colour Pigments

Colour in Pigments

Crystal Form and Shape

Hiding Power and Opacity

Tinting Strength

General Characteristics

Manufacture of Colour Pigments

## 4. Organic Colour Pigments

Toners and Lakes

General Characteristics

Colour in Organic Materials

Manufacture of Organic Pigments

Spot Tests for Colour Pigments

Commercial Pigments

Lightfastness in Tints

## 5. Extender Pigments

Type of Extenders

## 6. White Pigments

General Comparison of White Pigments

White lead Pigments

## 7. Photocatalytic Activity of Titanium Dioxide Pigment

Experimental

Pigment Samples

Florida Exposure Series

Statistical Procedures

Results & Discussion

Acrylic Paints

Alkyd Paints

Summary

## 8. Use of Flocculation Gradient in Determining the Efficiency of Titanium Dioxide Utilisation in Paint

States of dispersion

Flocculation

Assessment of degree of flocculation

Conclusion

## 9. Titanium Dioxide Pigments in Water-reducible and Water soluble vehicles

Procedure of the evaluation

Preliminary tests

Results of the investigation

Optical properties of TiO<sub>2</sub> pigments

Conclusions

## 10. Azo Pigments

Red Pigments

Permanent Reds  
The Pyrazolone Red  
Yellow Pigments  
Manufacture of azo pigments  
Coupling Component  
Coupling preparation  
Diazotization  
Preparation of Coupling component

11. Bisazo Pyridone Pigments  
Experimental

12. Novel Gold Colours and Effects with Environmentally Safe-to-use Mica Pigments  
New Golden Pearl Lustre Pigment  
Gold Colours and Effects  
Other Colours Shades

13. Fluorescent Pigments  
Pigment Manufacture  
Photostability of Fluorescent Pigments  
Fluorescent Application  
Phosphorescent Luminous Pigments  
Properties and Characteristics  
Pearl Luster Pigments

14. High Grade Organic Pigments  
Azo Condensation  
Vat Pigments and Related Compounds  
Thioindigo Pigments  
Immersion Processes  
Perylene-Perinone pigments  
Toning White Enamels  
Phthalocyanine

15. Phthalocyanines  
Methods for formation of pigments from crude  
Acid pasting  
Concentration of the sulfuric acid  
Amounts of the sulfuric acid  
Production of b-form pigment by salt grinding  
Manufacture of metal free phthalocyanine  
Phthalocyanine complexes from metals other than copper  
Flocculation, flotation and flooding  
Flotation  
Application of phthalocyanine pigments  
Phthalocyanine dyes of Textile materials  
Phthalocyanine reactive dyes

16 High Temperature Stable Inorganic Pigments

17. New Metal Complex Pigments  
Experimental  
Metal complex formation

## Results and Discussion

### 18. Latest Developments in Organic Pigments for Automotive Finishes

Violet

Advantages of using Mica Pearl

### 19. Preparation of Iron Oxide Pigment from Industrial Waste

Preparation of the pigment

### 20. Anti Corrosive Pigments

Electrochemical theory of Corrosion

Anticorrosive Pigments

Anti corrosive properties of Zinc Dust

Zinc Dust Pigmented coating

Corrosion mechanism

Corrosion mechanism

Good Inter coat Adhesion

Mechanism of Corrosion

Corrosion Control

Preparation of Anti corrosive Pigment Strontium Chromate

Synthetic Lamellar Iron Oxide: a New Pigment for

Anti-corrosive Primers

The need for an improved barrier pigment

Comparisons with traditional iron oxides

Summary and general conclusions

### 21. An Overview of Aluminium Pigment Technologies

Colour and Sparkle

Distinctness of Image—DOI

Tint strength

Particle size distribution

### 22. Metals and Metal Ions in Pigmentary Systems

### 23 Control of Organic Pigment Dispersion Properties

Experimental

Results and Discussion

### 24 Advances in the Science and Technology of Pigments

Arylamide Azo Yellows

Azo Red Pigments

Heterocyclic Pigments

Metal Complex Pigments

Surfaces treatment

Environmentally safe chemistry

Novelty and profitability pressures

### 25 Pigments for Plastics, Rubber and Cosmetics

Selection of pigment

Colouring Techniques

Colouring Thermoplastics

Polyethylene

Vulcan Fast and Vulcan Pigments

## 26. Pigments for Printing Inks

Fastness to Light

Organic pigment for printing ink should offer

## 27. Vat Dyes

Indigoid Dyes

Indigo

Thioindigoid Dyes

Anthraquinone Vat Dyes

Chemical Constitution of Quinone Vat Dyes

The Reduction of Quinone Vat Dyes

Vat Dye Dispersions

Reducing Vat Dyes with Hydros

Scheme 1

Scheme 2

Manufacture of Common Vat Dyes

CI Vat Brown 1 CAS 2475-33-4

CI Vat Yellow 2 CAS No. 129-09-9

CI Vat Yellow 4 CAS No. 128-66-5

CI Vat Orange 1 CAS No. 1324-11-4

CI Vat Orange 15 CAS No. 128-70-1 6

CI Vat Blue 20 CAS No. 116-71-2

CI Vat Green 1 CAS No. 128-58-5

Waste Streams of Vat Dye Manufacture

## 28. Reactive Dyes

Nucleophilic Substitution Systems

Trichloropyrimidine Dyes

The Chloropyridazine Systems

Quinoxaline Derivatives

Chloroacetyl and Bromoacetyl Derivatives

Vinylsulphone Dyes

Acrylamide Dyes

Evidence for Chemical Combination Cellulose

Properties of Reactive Dyes

Types of Reactive Dyes

Reactive Dye Structure

Properties

## 29. Disperse Dyes

Azo Dyes

Anthraquinone Disperse Dyes

Miscellaneous Disperse Dyes

Methine or Styryl Dyes

Coumarm Dyes

Formazine Dyes

Chemical Constitutions of Disperse Dyes

Disperse Dye Dispersions

Fastness Properties of Disperse Dyes

Manufacturing Process

## 30. Direct Dyes

Chemical Constitution of Direct Dyes  
Major Types of Direct Dyes  
Cationic Direct Dyes  
Anionic Direct Dyes  
Classification According to Dyeing Behaviour  
Class A  
Class B  
Class C

31. Sulphur Dyes  
Introduction  
Properties of Sulphur Dyes  
Sulphurised Vat Dyes  
Ready-reduced and Solubilised Sulphur Dyes

32. Photographs of Plant & Machinery with Supplier's Contact Details

## 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.

Our various services are: Detailed Project Report, Business Plan for Manufacturing Plant, Start-up Ideas, Business Ideas for Entrepreneurs, Start up Business Opportunities, entrepreneurship projects, Successful Business Plan, Industry Trends, Market Research, Manufacturing Process, Machinery, Raw Materials, project report, Cost and Revenue, Pre-feasibility study for Profitable Manufacturing Business, Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Business Opportunities, Investment Opportunities for Most Profitable Business in India, Manufacturing Business Ideas, Preparation of Project Profile, Pre-Investment and Pre-Feasibility Study, Market Research Study, Preparation of Techno-Economic Feasibility Report, Identification and Section of Plant, Process, Equipment, General Guidance, Startup Help, Technical and Commercial Counseling for setting up new industrial project and Most Profitable Small Scale Business.

NPCS also publishes various 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.

---

**NIIR PROJECT CONSULTANCY SERVICES** , 106-E, Kamla Nagar, New Delhi-110007, India. **Email:** [npcs.india@gmail.com](mailto:npcs.india@gmail.com) **Website:** [NIIR.org](http://NIIR.org)

Mon, 19 Nov 2018 17:11:02 +0530