

The Complete book on Natural Dyes & Pigments

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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.

1. Ommochromes

Distribution

A. Ommatins

B. Ommins

Isolation and Purification

A. Ommatins

B. Ommins

Structure of the Ommochromes*

Xanthommatin

Ommatin D

Rhodommatin

Ommin A X

Biogenesis

2. Bidehydrocanthaxanthin

3. Carotenoids Field

Carotenoid Biogenesis

Carotenoid Total Syntheses

The use of Carotenoids as Food Colours

4. Black pigments

Animal Pigments

Melanins

Sclerotization

Plant Pigments

Humic acids

1,8-Dihydroxynaphthalene polymers

5. Anthraquinone

Plant Pigments

Insect Pigments

6. Coprosma genus

7. Anthraquinones and related compounds

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Oxyskyrin

Skyrinol

Iridoskyrin

Rugulosin

Luteoskyrin and Rubroskyrin

Lumiluteoskyrin

Flavoskyrin

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The First Investigations

The Work of Nakazawa on Ginkgetin

The Work of the Bristol Group

On Ginkgetin and Isoginkgetin

The Work of Kariyone and Kawano on

Sciadopitysin, 1956

Further Work of Bristol Group on

Ginkgetin and Sciadopitysin

The Work of Kawano on Sciadopitysin and GINKGETIN, 1959

The Synthesis of Ginkgetin Tetramethyl ether, Nakazawa, 1959

The Structure of Ginkgetin

The Structure of Isoginkgetin

The Structure of Kayafyavone

The Structure of Sotetsuflavone Summary of Biflavonyl Structures

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2. Reactions

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2. Dyestuffs containing nuclear sulphonic and carboxylic acid groups

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Gas Fastness

Sublimation Fastness

Wash Fastness

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Chemistry of Chloranil (II)

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2. Textile applications

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Novel Sources of Natural Colourants

Microbial Sources

Animal Sources

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Gardenia Extracts

Other Sources

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Stability of Natural Colourants in Foods Effect of Additives

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Effect of Neutral Salts

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Combination of Units in the Order C16 + C8 + C16

Combination of units in the Order C14 + C12 + C14

Combination of Units in the Order C10 + C20 + C10

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The substituted position of amino group and chain length of amino compound
Kind of amino compound
Results and Discussion
Effect of acidz
Effect of the substituted position of amino group and chain length of amino compound
Kind of amino compound

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