The Complete Technology Book on Synthetic Resins with Formulae & Processes

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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.

Applications

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Synthesis of water soluble alkyd resin from phthalic anhydride and maleopimaric acid (A3).
Synthesis of water soluble alkyd resin from maleopimaric acid (A4).
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Characterisation of water soluble anodic electrodepositive pigmented coating compositions.
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Inks and Printing
Leather Processing
Lubricants and Hydraulic Fluids
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Metal Fabricating
Packaging Materials
Paints and Coatings
Paper Products
Petroleum Recovery and Processing
Pharmaceuticals

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Oxidative Degradation
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Manufacture
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Spatter Finish
Thickener for Paint and Varnish Remover
Pharmaceuticals
Dispersant for Calamine Lotion
Rubbing Alcohol
Printing Products
Microencapsulated Inks

Lithographic Press Dampening Fluid
Soap, Detergents, and Personal Care Products
Detergents
Toothpastes
Denture Fixative
Shaving Stick
Ophthalmic Solution
Absorbent Pads
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Fugitive Textile Weft
Thickening / Rheology Control
Antimist Additive
Drift Control Additive
Oil Recovery Fluids
Water Retention
Asbestos Cement Extrusion Aid
Soil Amendment

About NIIR

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