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Alkyd Resins Technology Handbook (2nd Edition)

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About the Book

Alkyd resin is a low molecular weight Ester, formed when polymeric alcohols react with mono- or polymeric acids. An alkyd is a polyester modified by the addition of fatty acids and other components. Alkyds are derived from polyols and a dicarboxylic acid or carboxylic acid anhydride. The inclusion of the fatty acid confers a tendency to form a flexible coating.

Alkyd resins are versatile synthetic polymers widely used in paints, coatings, varnishes, and inks due to their excellent adhesive, durability, and drying properties. This handbook provides guidance on the production of alkyd resins, right from raw materials to the final product formulation, making it an indispensable resource for those in the chemical and coatings industries.

The **global alkyd resin market size was estimated at USD 4.79 billion** and is expected to grow at a **CAGR of 4.2%**. Increasing demand from paints & coatings in automobile and architecture industry is anticipated to significantly drive the market growth during the forecast period. According to the International Organization of Motor Vehicle Manufacturers, the global production of automotive vehicles increased by 10% reaching 93.5 million units. In the automotive sector, these resins are highly valued for their durability, excellent gloss retention, and strong adhesion properties. As automobile manufacturers seek high-quality coatings that can withstand harsh environmental conditions and provide a sleek finish, alkyd resins offer an effective solution. This increasing adoption in automotive coatings is anticipated to contribute significantly to market growth.

This book contains in-depth information about alkyd resin, covering Alkyd resins production from bio-based resources, formulation, Importance, The basic chemistry of unsaturated polyesters, Factors affecting alkyd production, Monitoring the alkyd reactions, Alkyd calculations, Alkyd formulations, Practical alkyd formulations, Assessment of the performance of single and multicoat red iron oxide-alkyd paint systems, Styrenated alkyd resins based on maleopimaric acid, Mechanical properties of alkyds resin varnish, Modification of alkyds, Copolymerization of alkyd silicons for coatings, Styrene copolymers in alkyd resins, Blends of polystyrene glycol and alkyds in surface coatings, Mechanical properties of modified alkyd resins, Polyblends of polystyrene glycol and alkyd in surface coatings, Calculation of alkyd properties, Alkyd nomograms, Gas chromatographic analysis of the carboxylic acid components of alkyd resins, Methods of analysis of alkyd resins. The Manufacturing Process, Machinery, Equipment Details and Photographs with Suppliers Contact

Details are also given.

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