

Alkyd Resins Technology Handbook (2nd Edition)

Author:- H.Panda

Format: paperback

Code: NI230

Pages: 488

Price: Rs.1995US\$ 200

Publisher: NIIR PROJECT CONSULTANCY SERVICES

Usually ships within **5** days

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.

Table of Contents:

1. Introduction
2. Alkyd Resins Production from Bio-Based Resources
3. Alkyd Resin Manufacturing with Formulation
4. Importance of Alkyds
5. The Basic Chemistry of Unsaturated Polyesters
6. Factors Affecting Alkyd Production
7. Monitoring the Alkyd Reactions
8. Alkyd Calculations
9. Alkyd Formulations
10. Practical Alkyd Formulations
11. Assessment of the Performance of Single and Multicoat Red Iron Oxide-Alkyd Paint Systems
12. Styrenated Alkyd Resins based on maleopimaric acid
13. Mechanical Properties of Alkyds Resin Varnish Films and the effect of different weathering conditions on them
14. Modification of Alkyds
15. Copolymerization of Alkyd Silicons for Coatings
16. Styrene Copolymers in Alkyd Resins
17. Blends of Polystyrene Glycol and Alkyds in Surface Coatings
18. Mechanical Properties of Modified Alkyd Resins
19. Polyblends of Polystyrene Glycol and Alkyd in Surface Coatings
20. Calculation of Alkyd Properties
21. Alkyd Nomograms
22. Gas Chromatographic Analysis of the Carboxylic Acid Components of Alkyd Resins
23. Methods of Analysis of Alkyd Resins
24. How to Start Alkyd Resin Manufacturing Business
25. Plant Layout Description for Alkyd Resin Manufacturing
26. BIS Standards
27. Plant Layout and Process Flow Chart & Diagram
28. Photographs of Plant and Machinery with Suppliers 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.

Our Detailed Project report aims at providing all the critical data required by any entrepreneur vying to venture into Project. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line.

NIIR PROJECT CONSULTANCY SERVICES, 106-E, Kamla Nagar, New Delhi-110007, India.
Email: npcs.india@gmail.com **Website:** NIIR.org

Sat, 23 Aug 2025 01:35:21 +0000