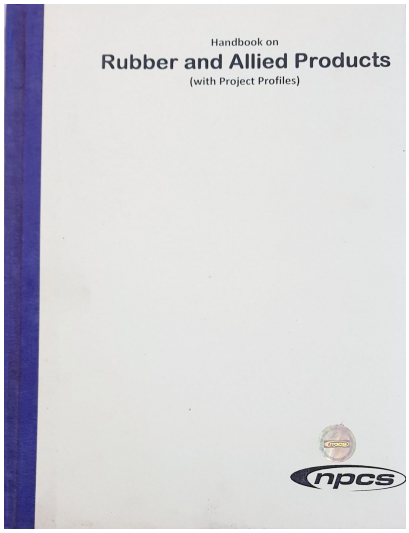
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Handbook on Rubber and Allied Products (with Project Profiles)

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Description

***** Limited Edition (AVAILABLE IN PHOTOSTAT VERSION ONLY) ******

Rubber products industry is an important resource based industry sector in India. Over the last decade the rubber industry has witnesses a steady and strong growth. Rubber exhibits unique physical and chemical properties. Rubber's stress-strain behavior exhibits the Mullins effect and the Payne effect, and is often modeled as hyperelastic. Rubber strain crystallizes. Owing to the presence of a double bond in each repeat unit, rubber is susceptible to vulcanisation and sensitive to ozone cracking.

The two main solvents for rubber are turpentine and naphtha (petroleum). The former has been in use since 1764 when François Fresnau made the discovery. Giovanni Fabbroni is credited with the discovery of naphtha as a rubber solvent in 1779. Because rubber does not dissolve easily, the material is finely divided by shredding prior to its immersion.

Rubber particles are formed in the cytoplasm of specialized latex-producing cells called laticifers within rubber plants. Rubber particles are surrounded by a single phospholipid membrane with hydrophobic tails pointed inward. The membrane allows biosynthetic proteins to be sequestered at the Surface of the growing rubber particle, which allows new monomeric units to be added from outside the biomembrane, but within the lacticifer. The rubber particle is an enzymatically active entity that contains three layers of material, the rubber particle, a biomembrane, and free monomeric units.

The monomer adds to the pyrophosphate end of the growing polymer. The process displaces the terminal high-energy pyrophosphate. The reaction produces a cis polymer. The initiation step is catalyzed by prenyltransferase, which converts three monomers of isopentenyl pyrophosphate into farnesyl pyrophosphate. The farnesyl pyrophosphate can bind to rubber transferase to elongate a new rubber polymer.

The major contents of this book are project profiles of projects like Processing of Crude Rubber, Latex Rubber Foam Products, Rubber Floor Mats, Latex Rubber Threads, Rubber Compounding for Automotive Industry, Rubber Gaskets, Reclaim Rubber, Rubber Powder from Waste Tyre, Carbon Black from Waste Tyre Pyrolysis, Equipments used in Rubber Industry.

Project profile contains information like; Introduction, Uses and Applications, Properties, Manufacturing Process, Plant Economics, Rated Plant Capacity, Plant & Machinery, Fixed Capital, Raw Material, Total Working Capital, Cost of Project, Total Capital Investment, Turn Over/ Annum, Profit Sales Ratio, Rate of Return, Break Even Point (B.E.P).

This book is very useful for new entrepreneurs, technical institutions, existing units and technocrats etc.

Content

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About Niir

NIIR Project Consultancy Services (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. Its various services are: Pre-feasibility study, New Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Preparation of Project Profiles and Pre-Investment and Pre-Feasibility Studies, Market Surveys and Studies, Preparation of Techno-Economic Feasibility Reports, Identification and Selection of Plant and Machinery, Manufacturing Process and/or Equipment required, General Guidance, Technical and Commercial Counseling for setting up new industrial projects and industry. NPCS also publishes various technology books, directories, databases, detailed project reports, market survey reports on various industries and profit making business. Besides being used by manufacturers, industrialists, and entrepreneurs, our publications are also used by Indian and overseas professionals including project engineers, information services bureaus, consultants and consultancy firms as one of the inputs in their research.