Handbook on Coal, Lignin, Wood and Rosin Processing

Author:- Dr. H. Panda
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Coal is one of the world's most plentiful energy resources. Coal is one of the fastest growing forms of energy after renewable sources and its share in the global primary energy consumption increasing rapidly. Lignin is the most abundant natural raw material available on Earth in terms of solar energy storage. Lignin is a complex chemical compound, cross linked polymer that forms a large molecular structure. Lignin can be used as a green alternative to many petroleum-derived substances, such as fuels, resins, rubber additives, thermoplastic blends and pharmaceuticals. Rosin is a complex mixture of mainly resin acids and small amount of non-acidic components.

Energy markets are evolving with technological advancements supporting rapid growth in renewable energy capacity. The coal market is set to witness great boost in near future because of the rising government initiatives.

Coal is one of the main power generation sources all over the world. The factors that are favoring the market growth include rising electricity demand and rapid industrialization. Presently the global coal industry market is valued at $9.4 with CAGR of 11.21 % is poised to reach $22 billion in coming years. Asia Pacific has the larger demand and emerging as a larger supplier of Coal. The present global lignin market demand is estimated at $ 4,222.1 million and is expected to reach $6,190.5 million in future.

The Major contents of the book are coal, analysis of coal and coke, cotton, lignin and hemicelluloses, degradation of wood, CCA-treated wood, wood-polymer composites, lignocellulosic-plastic composites from recycled materials, chemical modification of wood fiber, delignification of wood with pernitric acid, rosin and rosin derivatives, polymerizable half esters of rosin. It describes the manufacturing processes and photographs of plant & machinery with supplier’s contact details.

It will be a standard reference book for professionals, entrepreneurs, those studying and researching in this important area and others interested in the field of these industries.

Polymerisation
Analysis
Compatibility
Solubility
Instrumental analysis
Gas chromatography analysis
Infrared Spectroscope
Nuclear magnetic resonance
Ultraviolet spectroscopy
X-Ray Analysis
Mass Spectroscopy
Phenolic modification
Salt formation
With metals
With unsaturated cyclic and acyclic hydrocarbons
Example-2
Rosin-isoprene condensate (Example-3)
Rosin-isobutene condensate (Example-4)
Example –5
Rosin-styrene condensalt (Example-6)
Rosin-cyclopentadiene condensate (Example-7)
Rosin-coumarone-indene condensate (Example-8)
Rosin-divynylbenzene condensate (Example-9)
Example-10
Esterification
With Glycerol
With pentaerythritol and other polyhydric alcohols
With monoydric alcohols
Hydrogenolysis
Polyesterification
Copolyesters
Ammonolysis
Preparations
Dehydroabietylamine acetate
Dehydroabietylamine
Typical Uses
Asphalt additives
Chemical Intermediates
Corrosion Inhibitors
Flotation Reagents
Preservatives
Resolving agent
Chemical and physical properties of
Amine D acetate
Stability to heat and storage
Stability to heat and storage
Surface Activity
Chemical Reactivity
Chemical and Physical Properties of
Amine D acetate
Solubility
Note
Stability to Heat and Storage

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

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