Chapter 1 : handbook on tall oil rosin production processing and utilization | Download eBook PDF/EPUB

Handbook on Oleoresin and Pine Chemicals (Rosin, Terpene Derivatives, Tall Oil, Resin & Dimer Acids): Oleoresin and Pine Chemicals, Oleoresin extraction process, Oleoresin Making Small Business Manufacturing, Oleoresin Processing Industry in India, Oleoresin Processing Projects, Oleoresin Science and technology, Oleoresins from Pine: Production and Industrial Uses, Peroxides from Turpentine.

Pinus Introduction The genus Pinus L comprising evergreen trees has been known to mankind from time immemorial. Theophrastus B. Its decorative value has been exploited in old Chinese paintings. The pines have been traced back in geological history to the Jurassic period million years though they reached their climax of distribution only in the Tertiary 60 million years. The plants exhibit an exceptionally long life. Pinus belongs to the family Pinaceae or Abietaceae of the order Coniferales. The other genera included in this family are Abies Mill. Distribution in India In the Indian subcontinent there are six species of Pinus of which four are distributed in the Himalayas. A few trees of P. The altitudinal range of these pines varies considerably. These are listed below along with the areas where they were successfully planted. The long shoots appear on the main stem as lateral buds in the axils of scale leaves. They become visible towards the end of spring or the beginning of summer. In a few species such as P. Only a few species like P. It has also been recorded at as high an altitude as 3 m along the region of Namchebazar and Thengopoche. It is frequently associated with Cedrus deodara Roxb. The young shoots are glaucous green. The female cones are 15 30 cm long with rounded ovuliferous scales. The seeds germinate during rainy season. The tree attains a height of 18 m and a diameter of one metre. The needles are 10 15 cm long. The wingless seeds are 1. The taxonomic status of P. There is a strong possibility that these two names refer to the same species. No significant difference was found between them to justify their separation. The species has been introduced successfully in the Aijal area of the Lushai hills 1 m. In the northern part of Manipur and the Naga hills round about Kohima 1 1 m it appears in isolated patches. The tree is 60 90 m in height and trunk up to 6 m in diameter. The branches are arranged in whorls forming a rounded crown. The male and female cones appear on the new shoots during February March. The mature male cones are light brown and 3 5 cm in diameter. The female cones are approximately 5. They are ovoid and initially light green but turn brown as they mature. The prominent umbo is sharply mucronate in the centre. For artificial regeneration the seeds are sown broadcast. The growth rate is fairly high. Along the eastern Nepal this species is restricted to lower elevations. It either forms a pure forest or occurs as a co dominant species with other plants. The young shoots are grey to pale brown and the winter buds are ovoid and non resinous. The mature female cones are 12 24 cm x 7. The umbo is very prominent and the seeds are about 8 16 mm long with c. Natural regeneration is normally through seeds. The branches are ascending and are either obscurely whorled or not whorled. The shoots are glabrous and greyish green. The winter buds are spindle shaped and nearly 1. The stout short leaves are c. The seed is c. It has been recommended for planting along the eroded hill slopes of the Andaman and Nicobar Islands. The umbo is rhomboid and furrowed. The small seeds are winged. They branch dichotomously and form coralloid masses. Some of these harbour an ectotrophic mycorrhiza and are termed mycorrhizal roots. In a transverse section the epidermal cells appear more or less isodiametric and many of them are filled with tannin as in P. The broad cortex is distinguishable into a peripheral zone of small and an inner zone of large perenchymatous cells. The walls of the peripheral pericyclic cells are slightly thickened while those of the inner cells are thin. Many of them contain tannin. The number of protoxylem elements varies from 8 to The pith cells contain a considerable amount of starch; some of them also contain tannin. Secondary growth sets in when the primary tissues are still in the process of differentiation. A zone of cambium differentiates from the parenchymatous cells beneath the phloem. This by repeated periclinal divisions forms secondary xylem towards the pith and secondary phloem towards the cortex. The secondary xylem is made up of tracheids with bordered pits on their tangential and lateral walls. Many tracheids get blocked with tyloses in older roots. The primary phloem soon gets crushed and is unrecognizable. The secondary phloem consists of radially oriented disposed rows of cells. Many of the parenchymatous phloem ray cells contain tannin. Pine Oleoresin Extraction Methods

Introduction Modern gum naval stores methods have been developed to benefit both the gum producer and the timber owner. The extraction methods and application techniques described here were developed during 15 years of research and testing by scientists at the Forest Research Institute with the cooperation of gum producers and timber owners throughout the gum naval stores belt. Cup the Larger diameter Trees for Increased Yields and Greater Profits A crop of single faced trees 11 inches in diameter will produce 60 barrels more gum per year than 9 inch trees. The costs for installing tins and for chipping are about the same for 9 and 11 inch trees. The number of small diameter trees worked can be the difference between break even and profitable operation. Only one face per tree should be installed on trees smaller than 14 inches in diameter. Simultaneous working of two faces installed on one tree does not mean that gum yields from that particular tree will double. Two faces should be installed on trees 14 inches d. The volume of gum produced is directly related to the width of the face. Good gum yields can be obtained with a face width equal to the diameter of the tree measured at breast height. Gum Yield from Shoulders. Use Correct Tin Lengths. One piece tin assemblies or broadaxe inserted tins will not give full face widths on 12 inch trees and larger. Shave only the area where the tins will be nailed and the cup will sit. Shave a fairly flat seat for the apron and cup; keep the spiral gutter side of the tree round. Remove enough bark to get rid of the deep cracks. Attach the Apron First. Drive the first nail at the middle of the apron. Level the apron and drive the second nail in the left shoulder. Set this nail close to the end of the tin so as to get full face width. Drive all nails near the top edge of the tins; this pulls the edge into the bark to prevent leakage behind the tins. Pound the inner lip of the right hand end of the apron so that it fits snugly against the tree. Do not nail the right hand end at this stage. Use only double headed nails designed specially for attaching and removing naval stores tins. Attaching the Spiral Gutter. Lap the lower end of the spiral gutter over the right hand end of the apron. Drive the first nail in the middle of the spiral. Drive the next nail through both the spiral gutter and the apron at the overlap. Drive the shoulder nail last. Close any gaps between the gutter and the bark by pounding the inner edge of the gutter into the bark. A standard size cup takes a 20d nail. Drive the cup nail at a slight angle so outer edge of cup will snap over nail head.

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Chapter 2 : Books Â» Synthetic Resins, Oleoresins and Pine Chemicals Technology | NPCS

Handbook on Oleoresin and Pine Chemicals (Rosin, Terpene Derivatives, Tall Oil, Resin & Dimer Acids): Oleoresin and Pine Chemicals, Oleoresin extraction process, Oleoresin Making Small Business Manufacturing, Oleoresin Processing Industry in India, Oleoresin Processing Projects, Oleoresin Science and technology, Oleoresins from Pine: Production.

Leave a comment One of the oldest segments of the chemical industry, pine chemicals are a family of renewable, naturally occurring materials derived from the pine tree genus Pinus. Pine trees originate from the northern hemisphere but are now found worldwide. Pine chemicals are derived from the distillation of oleoresin or carbonization of wood. These chemicals are largely obtained from three sources: Most distilled products are made from gum, stumps, logs, and sulfate pulp byproducts. The pine tree, utilized through the centuries as a valuable natural resource, has many applications in our society. In early civilizations the pine tree was used as fuel and shelter. As societies developed, the pitch or sap from the tree found use in caulking seams between the boards of sailing ships and pine lumber could be used for building materials, paper, board and tissue. Pine Chemicals are environmentally friendly products that use natural, renewable resources as primary raw materials originating from sustainable forestry sources. These products include tall oil fatty acids TOFA and tall oil rosin sourced from pine trees, making them renewable and sustainable solutions. The largest producer of pine chemicals: Terpenes constitute the largest group of secondary products with more than 40, different metabolites. Global investments in new forest plantations have focused on fast-growing hardwood plantations over the past 15 years. But there is a growing interest in developing new pine plantations for production of oleoresin. Turpentine is the volatile oil distilled from pine resin, which itself is obtained by tapping trees of the genus Pinus. The solid material left behind after distillation is known as rosin. Both products are used in a wide variety of applications. Turpentine, rosin and derivatives of these which have been obtained via tapping of living pine trees whether natural stands or plantations are known collectively as gum naval stores and the turpentine and rosin as gum turpentine and gum rosin, respectively. This distinguishes them from turpentine and rosin which have been recovered as by-products from chemical pulping of pines and which are referred to as sulphate naval stores; and wood naval stores, which are similar materials obtained from aged pine stumps. Dimer acids, or dimerized fatty acids, are dicarboxylic acids prepared by dimerizing unsaturated fatty acids obtained from tall oil, usually on clay catalysts. Dimer acids are used primarily for synthesis of polyamide resins and polyamide hot melt adhesives. They are also used in alkyd resins, adhesives, surfactants, as fuel oil additives, lubricants, etc. It is a light yellow or yellow viscous transparent liquid. The pine-derived chemicals market is projected to reach USD 5. Some of the fundamentals are pine oleoresin extraction methods, occurrence, formation and exudation of oleoresin in pines, processing of oleoresin, rosin derivatives and its potential, new developments in rosin ester and dimer chemistry, terpene based adhesives, effect of solvent, ozone concentration and temperature on yields were investigated, sylvestrene and some of its derivatives, homopolymers and copolymers of acrylates, polymers and copolymers of vinyl pinolate, base catalysed isomerisations of terpenes, components of pine roots, insecticides based on turpentine, the general characteristics of dimer acids, structure and properties of dimer acids etc. The present book has been published having in views the important uses of pines. The book contains manufacturing process of different products extracted from pines like oleoresin, rosin, turpentine derivatives, tall oil, resins and dimer acids etc. This is the first book of its kind which is very resourceful for all from researchers to professionals.

Chapter 3 : handbook-on-oleoresin-and-pine-chemicals-rosin-terpene-derivatives-tall-oil-resin-am

HomeÂ» Books & DirectoryÂ» Synthetic Resins, Oleoresins and Pine Chemicals TechnologyÂ» Handbook On Oleoresin And Pine Chemicals (rosin, Terpene Derivatives, Tall Oil, Resin & Dimer Acids) Handbook on Oleoresin and Pine Chemicals (Rosin, Terpene Derivatives, Tall Oil, Resin & Dimer Acids).

Privacy Policy handbook on tall oil rosin production processing and utilization Download handbook on tall oil rosin production processing and utilization or read online here in PDF or EPUB. Please click button to get handbook on tall oil rosin production processing and utilization book now. This site is like a library, you could find million book here by using search box in the widget. Tall oil, a by-product of kraft pulping of pine wood, is formed by acidifying black liquor soap skimmings. It consists of resin acids or rosin, fatty acids, and neutrals. Crude tall oil is an excellent source of rosin and tall oil fatty acid, an industrial-grade oleic and linoleic acid blend. The bulk of the neutrals, largely esters of fatty acids, sterols, resin and wax alcohols, and hydrocarbons, boil at either lower or higher temperatures than the boiling range of the fatty and resin acids. Tall oil itself has a variety of uses in industry. It is used as a frothing agent in the flotation process for reclaiming low grade copper- lead- and zinc-bearing ores, and as a solvent or wetting agent in a variety of textile and synthetic fibre manufacturing processes. The distilled fatty acids are used in soaps, detergents and disinfectants and as a base for lubricating greases, textile oils, cutting oils and metal polishes. They are also used as drying agents in paint, although synthetic substances are widely used. The fatty acids are unsaturated and on exposure to air undergo autoxidation and polymerization to form resin-like materials which form a tough protective coating. Resin acids are used in rubber polymerization and compounding, as size to impart water resistance to paper, and in adhesives and printing inks. Resin acids are the major component of a substance known as rosin, which is used by musicians to improve the grip of bows used for string instruments. The book contains production details of different products like recovery of crude tall oil, Composition and properties of crude tall oil, Lab. Scale fractional vacuum distillation, tall oil soap acidulation, purification of sulphate soap, hydrodynamic separation of CTO, dimerization of tall oil fatty acid, black liquor soap recovery methods, tall oil in asphalt products and petroleum uses, tall oil in liquid soaps, tall oil in rubber, paper and printing inks etc. This book is very useful for scientists, scholars, consultants and technical institutions. Can the youth in the states have the opportunities in the form of start-ups, with innovations, whether it be manufacturing, service sector or agriculture? Prime Minister announced that the initiative envisages loans to at least two aspiring entrepreneurs from the Scheduled Castes, Scheduled Tribes, and Women categories. It was also announced that the loan shall be in the ten lakh to one crore rupee range. A startup India hub will be created as a single point of contact for the entire startup ecosystem to enable knowledge exchange and access to funding. Startup India campaign is based on an action plan aimed at promoting bank financing for start-up ventures to boost entrepreneurship and encourage startups with jobs creation. Startup India is a flagship initiative of the Government of India, intended to build a strong ecosystem for nurturing innovation and Startups in the country. This will drive sustainable economic growth and generate large scale employment opportunities. The Government, through this initiative aims to empower Startups to grow through innovation and design. What is Startup India offering to the Entrepreneurs? They have planned to support 2. No tax would be charged on any startup up to three years from the day of its establishment once it has been approved by Incubator. India Government is promoting finance for start-up ventures and providing incentives to further boost entrepreneurship, manufacturing and job creation. This handbook contains few formulations of cosmetic products, properties and manufacturing process with flow diagrams of various products. After gathering the above information of products, the decision of choosing an appropriate one will no longer be a cumbersome process. FMCGs are generally cheap products that are purchased by consumers on a regular basis. FMCG sector is the fourth largest sector in the economy and creates employment for more than three million people in downstream activities. The FMCG market is estimated to treble from its current figure in the coming decade. Fast Moving Consumer Goods Companies have been expanding rapidly. Most of the product categories like jams, toothpaste, skin care, shampoos, etc, have low per capita consumption as well as low

penetration level, but the potential for growth is huge. The industry has developed both in the small scale sector and organized sector. It will be a standard reference book for professionals, entrepreneurs and food technologists.

Chapter 4 : Oleoresin and Pine Chemicals - Handbook On Oleoresin And Pine Chemicals Exporter from N

Handbook on Oleoresin and Pine Chemicals (Rosin, Terpene Derivatives, Tall Oil, Resin & Dimer Acids) Pines are known to mankind from the time immemorial. It offers both direct uses, as well as indirect uses specially soil conservation.

It offers both direct uses, as well as indirect uses specially soil conservation. Initially it was used mainly for fuel; their branches were used for festivals etc. Pines besides being a source of valuable timber, pulpwood, yield pitch, tar, rosin, colophony and turpentine, collectively known as naval stores, a term coined to these owning to their use for construction and maintenance of sailing vessels as sealing compounds for their wooden hulls. The genius pine species tapped for their oleoresin in different countries. A variety of oleoresins are extracted from various plants. Pine oleoresin being the most important one is extracted from pine trees. Turpentine and rosin are two constituent parts of the pine oleoresins. The composition of turpentine varies considerably according to the species of pine exploited. More and more specialised uses are being found for pine resin products, particularly those of high quality. Turpentine derived from pine resin is also used as a source of aroma chemicals in flavour and fragrance industry. Pinewood chemicals are effectively gained from the trees in three principal ways; treatment of exuded gum from living pines, processing the wood stumps and wastes of aged trees and treatment of black liquor obtained as a byproduct in wood pulp industry. There are two steps involved in production of oleoresin; olustee gum cleaning process and recovery of turpentine and rosin: The panorama of base catalysed isomerisations of terpenes is an important part of aroma chemistry. Major contributions in this area are presented here under sections on hydrocarbons, alcohols, aldehydes, ketones, acids, esters and epoxides. Tall oil is a by product of the pine wood use to make sulfate pulp. Tall oil products find use in many product applications because of their economy and ready availability. The principal industrial applications of tall oil products are numerous; adhesives, carbon paper, detergents, driers, drilling fluids, oils, gloss oils, paper size, plasticizers, printing inks, soaps, textile oils etc. Some of the fundamentals are pine oleoresin extraction methods, occurrence, formation and exudation of oleoresin in pines, processing of oleoresin, rosin derivatives and its potential, new developments in rosin ester and dimer chemistry, terpene based adhesives, effect of solvent, ozone concentration and temperature on yields were investigated, sylvestrene and some of its derivatives, homopolymers and copolymers of acrylates, polymers and copolymers of vinyl pinolate, base catalysed isomerisations of terpenes, components of pine roots, insecticides based on turpentine, the general characteristics of dimer acids, structure and properties of dimer acids etc. The present book has been published having in views the important uses of pines. The book contains manufacturing process of different products extracted from pines like oleoresin, rosin, turpentine derivatives, tall oil, resins and dimer acids etc. This is the first book of its kind which is very resourceful for all from researchers to professionals.

Chapter 5 : China Gum Rosin Market Research - Pine Chemicals News - Market - calendrierdelascience.c

However, now pine trees are used as a source of resin which on distillation yields gum rosin and turpentine oil. The genius pine species tapped for their oleoresin in different countries. The present bok has been published having in views the important uses of pines.

Asia Pacific Business Press Inc. It offers both direct uses, as well as indirect uses specially soil conservation. Initially it was used mainly for fuel; their branches were used for festivals etc. Pines besides being a source of valuable timber, pulpwood, yield pitch, tar, rosin, colophony and turpentine, collectively known as naval stores, a term coined to these owning to their use for construction and maintenance of sailing vessels as sealing compounds for their wooden hulls. The genius pine species tapped for their oleoresin in different countries. A variety of oleoresins are extracted from various plants. Pine oleoresin being the most important one is extracted from pine trees. Turpentine and rosin are two constituent parts of the pine oleoresins. The composition of turpentine varies considerably according to the species of pine exploited. More and more specialised uses are being found for pine resin products, particularly those of high quality. Turpentine derived from pine resin is also used as a source of aroma chemicals in flavour and fragrance industry. There are two steps involved in production of oleoresin; olustee gum cleaning process and recovery of turpentine and rosin: The panorama of base catalysed isomerisations of terpenes is an important part of aroma chemistry. Major contributions in this area are presented here under sections on hydrocarbons, alcohols, aldehydes, ketones, acids, esters and epoxides. Tall oil is a by product of the pine wood use to make sulfate pulp. Tall oil products find use in many product applications because of their economy and ready availability. The principal industrial applications of tall oil products are numerous; adhesives, carbon paper, detergents, driers, drilling fluids, oils, gloss oils, paper size, plasticizers, printing inks, soaps, textile oils etc. Some of the fundamentals are pine oleoresin extraction methods, occurrence, formation and exudation of oleoresin in pines, processing of oleoresin, rosin derivatives and its potential, new developments in rosin ester and dimer chemistry, terpene based adhesives, effect of solvent, ozone concentration and temperature on yields were investigated, sylvestrene and some of its derivatives, homopolymers and copolymers of acrylates, polymers and copolymers of vinyl pinolate, base catalysed isomerisations of terpenes, components of pine roots, insecticides based on turpentine, the general characteristics of dimer acids, structure and properties of dimer acids etc. The present book has been published having in views the important uses of pines. The book contains manufacturing process of different products extracted from pines like oleoresin, rosin, turpentine derivatives, tall oil, resins and dimer acids etc. This is the first book of its kind which is very resourceful for all from researchers to professionals.