

Handbook on Tall Oil Rosin Production, Processing and Utilization

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Format: paperback

Code: NI247

Pages: 480

Price: Rs 1575 | US\$ 150

Publisher: NIIR PROJECT CONSULTANCY SERVICES

Shipping: 5 days

About the Book

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.

Contents

1. INTRODUCTION

Introduction to Tall Oil

History of Tall Oil

Production Process for Tall Oil

Recovery of Tall Oil

Composition and Properties of Tall Oil

Crude Tall Oil

Analysis and Testing of Tall Oil Products

Applications of Tall Oil

2. RECOVERY OF TALL OIL

The Chemistry of Tall Oil Fatty and Rosin Acids

Chemical Composition of Tall Oil Fatty Acids

General Reactions of Tall Oil Fatty Acids

Reactions Involving the Carboxyl Group

Chemical Composition of Tall Oil Rosin
Dimer Acids Manufacture and Feedstock
3. COMPOSITION AND PROPERTIES OF CRUDE
TALL OIL
Tall Oil Production and Laboratory Analyses at the Factories
Studies on the Precursors of Indian Tall Oil
Analytical Studies on the Composition of Crude Tall Oil
Experimental
Testing of Tall Oil with Standard Methods
Fractionation of Samples
Crude Tall Oil Recovery from Sulfate Soap
Separation of Free Acids and Neutrals
Preferential Esterification
Saponification
Methylation and Silylation
Thin-Layer Chromatography (TLC)
Preparative Argentation TLC
Gas Chromatography (GC)
Gas Chromatography—Mass Spectrometry (GC-MS)
Results and Discussion
Testing of Tall Oil with Standard Methods
Group Fractionations
Studies on the Composition and Component Distribution
Fatty Acids
Saturated Fatty Acids
Monoenoic Fatty Acids
Dienoic Fatty Acids
Trienoic Fatty Acids
Tetraenoic Fatty Acids
Conjugated Fatty Acids
Esterified Acids
Resin Acids
Neutral Components
Gr. 1 Phytosterols
Gr. 2 Monoterpene alcohols
Diterpene Abietic and Pimaric Type Alcohols
Fatty Alcohols
Triterpene Alcohols
Gr. 3
Gr. 4
Gr. 5
Gr. 6 Oxosteroids
Gr. 7 Dimethoxy Stilbenes
Gr. 8 Resin Acid Methyl Esters
Gr. 9 Diterpene Aldehydes
Gr. 10 Esters of Fatty Acids with Diterpene Alcohols
Gr. 11 Esters of Fatty Acids with Fatty Alcohols
Gr. 12 Esters of Fatty Acids with Sterols and Triterpene Alcohols
Gr. 13 Hydrocarbons
Sesquiterpene Hydrocarbons
Diterpene Hydrocarbons

Typical Features of Indian Tall Oil

General Properties

Component Distribution

Factors Influencing the Properties and Composition of Crude Tall Oil

Wood Species

Geographical Location (Climate)

Roundwood and Chip Storage

Other Factors

4. CHEMICAL CHANGES DURING STORAGE OF
CRUDE TALL OIL

Experimental

Results and Discussion

Drop in Acid Number

Esterification

Thermal and Acid Isomerization of Resin Acids

General

Results from Laboratory Storage

Crystallization

Changes in the Composition of Conjugated Fatty Acids

Aspects of the Storage of Turkish Crude Tall Oil

5. LABORATORY-SCALE FRACTIONAL VACUUM
DISTILLATION

Experimental

Still

Charges

Procedure

Analytical Procedures

Results and Discussion

Composition of the Distillates

Distribution of Tall Oil Constituents in the Distillates

Fatty Acids

Esterified Acids

Resin Acids

Neutrals

Sesquiterpene Hydrocarbons

Diterpene Hydrocarbons

Hydrocarbons from Decarboxylation of Resin Acids

Diterpene Aldehydes

Pinosylvin Dimethyl Ether

Diterpene Alcohols

Resin Acid Methyl Esters

Fatty Alcohols

Dehydrated Sterols

Sterols

Triterpene Alcohols

Esters

Unidentified Components

Composition of the Pitches

Components Not Eluted on GC

Volatilities of Tall Oil Constituents with Special Reference to Fatty and Resin Acids

General

Observations on the Laboratory Distillation

Brief Critique on the Laboratory Distillation

Conclusions

6. OZONOLYSIS AND EPOXIDATION OF METHYL MALEOPIMARATE

Results and Discussion

Ozonolysis and Epoxidation of Methyl Maleopimarate (Ib) and Other Related Compounds

Structural Assignment to 4a

Absolute Configuration of 4b

Structure of the Anhydride 6

Structure of the Epoxy Anhydride 5

Reaction of Peroxytrifluoroacetic with Bicyclo[2.2.2]oct-5-ene-endo-cis-2,3-dicarboxylic Anhydride (8)

Structural Assignment to 9

Structure of the Hydroxy Lactone 10

Experimental

Ozonolysis of Methyl Maleopimarate (Ib). Isolation of 4b, 5, and 6

Preparation of the Tetramethyl Ester of 6

Preparation of 5 by Direct Epoxidation of Ib

Preparation of 20

Reaction of 21 with Peroxytrifluoroacetic Acid. Preparation of 22

Reaction of Peroxytrifluoroacetic Acid with Olefin 8. Preparation of 5,6-Endo-epoxy-bicyclo[2.2.2]octane-cis-2,3-dicarboxylic Anhydride 9

Epoxidation of Olefin 8 with m-Chloroperbenzoic Acid. Preparation of Hydroxy Lactone 10

Preparation of 35 and 36 from 10

Preparation of 37 and 38

Preparation of Bromo Lactonic Acid 39 from the Olefinic Anhydride 8

Preparation of the Bromohydrin 41 of Dimethyl Ester 37

Preparation of 40, the C2 Epimer of 39

Discussion of Results

The Benzogulnone Adduct of Levopimaric Acid (XXVIII)

The Dimethyl Acetylenedicarboxylate Adduct of Levopimaric Acid

Other Adducts of Levopimaric Acid

7. TALL OIL SOAP ACIDULATION

Batch Process

Semi-Batch Process

Continuous Decanting Process

Centrifuge Process

8. RETROFITTING A TALL OIL ACIDULATION PLANT

9. PURIFICATION OF SULPHATE SOAP

10. HYDRODYNAMIC SEPARATION OF CTO

11. REFINING OF TALL OIL BY COLUMN LIQUID- LIQUID EXTRACTION

Introduction

The Pilot Plant at the Technical Research Centre of Finland

Trials with Mixed Pine-Birch Soap

Trials with Other Tall Oil Products

Conclusions

12. DIMERIZATION OF TALL OIL FATTY ACID

13. TALL OIL SOAP ACIDULATION AND SULFUR

BALANCE PROBLEMS IN KRAFT MILLS

Soap Acidulation
Spent Acid Disposal
Sulfur Losses
Soda Losses
Sulfur Balance
Replace H₂SO₄ with DGE
Sewering DGE
Modified C102 Production Technology
Concluding Remarks
14. BLACK LIQUOR SOAP RECOVERY METHODS
Woodstorage
Digestion and Washing
Soap Recovery in the Weak Liquor System
Soak Skimmer Design and Operation
Air Injection to Improve Recovery
Influence of Hardwood Liquor on Soap Recovery
Heavy Liquor Soap Recovery
Soap Decanter Design and Operation
Monitoring Soap Recovery Efficiency
Summary
15. CONTROLLING POLLUTION IN A LUWA TALL
OIL DISTILLATION PLANT
Sources of Effluents from CTO Facilities
Processes for the Distillation of Crude Tall Oil
The Luwa CTO Distillation Process
Effluents from the Luwa CTO Distillation Process
Minimizing Effluents in CTO Distillation Plants
16. ADVANCED POLLUTION CONTROL TECHNOLOGY
IN THE STEAM DISTILLATION OF TALL OIL
Corrosion & Materials of Construction
Reboiler Design
Tower Internals
Stability
Conclusion
17. NEW SEPARATION TECHNOLOGY FOR
DISTILLED TALL OIL
Introduction
Sorbex Process Outline
Simulated Moving Bed
Experimental Results
Conclusions
18. CARBON DIOXIDE PROCESS
Introduction
Discussion
19. FINNISH EXPERIENCE IN TALL OIL PITCH AS
ASPHALT SUBSTITUTE
Background
Tall Oil Pitch - Renewable Natural Resource
Pitches in Asphalt and Pavement Characteristics
Mixing and Laying of the Pavements in Field Experiments
Wear Tests in Laboratory and On Field Show Improved Tendency

Asphalt Paving Contracts in 1988
Prejudices Disappear -The Future Is Open
20. USES OF TALL OIL
Tall Oil Products in Surface Coatings
Tall Oil in Alkyd Resins
Tall Oil Formulations in Alkyd Resins
Short Oil Baking Alkyd - Solvent Process
Properties
Short Oil Baking Alkyd - Fusion Process
Medium Oil Alkyd-Fusion Process
Long Oil Alkyd - Fusion Process
Rosin Modified Alkyd-Fusion Process
Glycerine Ester
Maleic Modified Ester
Distilled Tall Oil Epoxy Ester
Other Uses for Tall Oil Products
Tall Oil in the Plasticizer Field
Tall Oil Plasticizers
Esterification of Tall Oil for Plasticizers
Tall Oil in Adhesives and Linoleum Cement
Tall Oil in Rubber Based Adhesives
Tall Oil in Hot-Melt Adhesives
Tall Oil Products in Linoleum Cements
21. TALL OIL IN ASPHALT PRODUCTS AND
PETROLEUM USES
Tall Oil in Asphalt
Roads
Soil Treatments
Roofing
Adhesives
Antistripping Agents
Plasticizers
Miscellaneous
Tall Oil in Petroleum Applications
Oil and Gas Well Fracturing
Drilling Muds
Demulsification Agents
Corrosion Inhibitors
Catalyst
Lubricating Oil Additives
22. TALL OIL IN LIQUID SOAPS
Tall Oil in Disinfectants
Tall Oil in Synthetic Detergents and Wetting Agents
Syndet Types
Syndet Products
Tall Oil in Biodegradable Detergents
23. TALL OIL IN FLOTATION COLLECTORS AND
CORE OILS
Tall Oil in Flotation Collectors
Flotation Collectors
Flotation Applications

Tall Oil in Core Oils

24. TALL OIL IN RUBBER

Styrene-Butadiene Rubber

Cold SBR Formulation (SBR 1500 Series)

Hot SBR Formulation (SBR 1000 Series)

Cold High Solids SBR 2105 Latex Formulation (SBR 2100 Series)

Hot SBR Latex Formulation (SBR 2000 Series Type II)

Foam Rubber

25. TALL OIL IN PAPER SIZE

Papermaking Process

Rosin Sizing Materials

Forms of Size Available

Paste Size

Dry Size

Methods of Preparing Liquid Size

Cooking Process

Emulsion Process

Bewoid Process

Delthirna Process

Internal and External Sizing

Effect of Wet Strength Resins and Paper Coating Resins on Sizing

Sizing of Nonconventional Paper

Testing of Sizing

Water Resistance of Paper and Paperboard—T433 M-44 (Dry Indicator Method)

Water Immersion Test of Paperboard—T491 SU-63

Water Absorption of Paperboard—T492 SM-60

Water Absorptiveness of Nonbibulous Paper and Paperboard— T441M-60 (Cobb Test)

Degree of Curl and Sizing of Paper—T466 M-52

Ink Penetration Test

Fotosize Penetration Test—Lactic Acid Test

26. TALL OIL IN PRINTING INK

Typographic Printing and Typographic Inks

Heat-Set Inks

Steam-Set Inks

Newsprint Inks

Lithographic Printing and Lithographic Inks

Intaglio or Gravure Printing and Gravure Inks

Silk-Screen Printing Inks

Overprint Varnishes

Bag Inks

27. MISCELLANEOUS APPLICATIONS OF TALL OIL

Tall Oil Fatty Acids for Chemical Intermediates

Polymerized Fatty Acids

Azelaic and Pelargonic Acids

Tall Oil in Coprecipitated Barium Salts

Tall Oil in Defoamers

TALL OIL IN PIGMENT DISPERSANTS

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