# Production and Processing of

Wax

(Vegetable Waxes, Synthetic Mineral Waxes, Bayberry Wax, Candelilla Wax, Carnauba Wax, Cotton Wax, Esparto Wax, Esparto Wax, Japan Wax, Ouricury Wax, Palm Waxes, Rice-oil Wax, Sugar Cane Wax, Ucuhuba Wax, Paraffin Wax, Synthetic Mineral Wax, Ozocerite Wax, Montan Wax, Durmont Wax)

#### Introduction

This growth in demand is driven by a number of new uses for the material. Markets for wax are truly diverse, ranging from simple fuel in manufactured fire logs and candles, to practical applications such as adhesives, anti-oxidation agents in tires, and sizing in construction materials, to even more exotic uses in cosmetics and foods. Although, the largest single consumer of wax in North America remains the packaging area, followed by candles, and then building materials.



On the demand side of the equation, waxes are used in thousands of applications around the world, with candles being the predominant application on a global basis. Candles are estimated to account for 43% of the waxes consumed.

Wax is used as high value product for energy reserve in the world. It not only provides various good products for general public, but increases petrochemical plant revenue also. Renewable alternatives to wax are enjoying new opportunities as a result of a raft of factors.



Among these are a dwindling supply of petroleum-based waxes, skyrocketing paraffin wax prices, and a growing consumer preference for greener products. Growing paraffin wax consumption for cardboard and paper coating mainly in food industry owing to the excellent protection and water barrier properties is expected to stimulate demand over the forecast period. Rising demand for paper in food packaging owing to its biodegradability is likely to fuel demand.



Increasing application in manufacturing hot melt adhesives, industrial & surface protection coatings, rubber & plastic processing aids, pharmaceuticals, electrical insulation, metal castings and fabric proofing & impregnation is expected to fuel demand over the forecast period.

Growing use of alternatives including soy wax, polyethylene wax and beeswax is expected to restrict market penetration. However, the introduction of deoiling technology to produce paraffin wax from slack wax is further expected to open new opportunities over the upcoming years.



This book basically deals with microcrystalline waxes in floor polishes, properties of braxilian grades of carnauba wax, compatibility of paraffin waxes with other substances, synthetic mineral waxes, miscellaneous synthetic waxes, additives for raising melting point of candles, wax coating for fruits, shribs, and plants, effect of paraffin on esparto montan mixtures, water proofing of kraft papers, production of montan wax, polish, abrasives, metal cleaners, nickel silver castings, cleaning, polishing metals for metallographic analysis, paste for wax calf leather, burnishing polishes for automobile maintenance, etc.

The purpose of this book is to present comprehensive information of different types of wax and polishes like their processing, properties and uses. This book is very useful for new entrepreneurs, technocrats, professionals and researchers.



## **Table of Contents**

#### **CHAPTER I**

#### **COMPOSITIONS WITH RESINS AND RUBBER**

Resin-wax compositions

Compatibility of varnish resins with waxes

Wax-rosin compositions

Cumar (cumarone-indene resins) and wax compositions

Methacrylate resin hot-melt blends

Pliolite S-7 wax compositions

Microcrystalline wax-resin blends

Microcrystalline Waxes in Floor polishes

Wax-rubber compositions

Wax-Vistanex Blends

Viscosity of Vistanex-Wax Mixtures

Water Vapor Transmission

**Flexibility** 



Sealing Strength

Paper Coatings (wax-Vinyl Copolymer)

## **CHAPTER 2 VEGETABLE WAXES**

Bayberry wax

Source

Candelilla wax

Compatibility

**Specifications** 

Scope

Carnauba Wax

**Production** 

Composition

Properties of Braxilian Grades of Carnauba Wax

Flower wax

First wax

Medium wax



Sandy wax

Fat wax

**Specifications** 

Colour

Adulterations of Carnauba Wax

Cotton wax

Esparto wax

Fir Eax

Propertries of Fir wax

Flax wax

Japan wax

Composition

**Grades Available** 

Ouricury wax

Preparation

Composition

Grade available



**Specifications** 

Palm waxes

Grade available

Cuban Palm wax

**Compatibility** 

Rice-oil wax

Sugar cane wax

Source

Constituents of Sugar Cane Wax

Ucuhuba Wax

Cocoa Butter

#### **CHAPTER 3**

#### **PARAFFIN WAX COMPOUNDS**

Compatibility of paraffin Waxes with Other Substances

Paraffin wax with Bitumen



## **CHAPTER 4**SYNTHETIC MINERAL WAXES

Fischer-Tropsch (F-T) Waxes

FT-200 and FT-300 Wax

**Specifications** 

Hardening Fischer-Tropsch Wax

**Duroxon waxes** 

Duroxen Waxes-Group C

Douroxon Waxes- Group E

Duroxon Waxes- Group H

Duroxon Waxes- Group J

**Duroxon Waxes- Group R** 

**Paraflint** 

Paraflint as Modifier

Polymekon



#### **CHAPTER 5**

#### **MISCELLANEOUS SYNTHETIC WAXES**

Albacer

Atlasene Waxes

**BASF** waxes

Cardis waxes

Ceramid

Diolin (Octadecanediol)

Glyco Waxes

Flexo Wax C

Oxazoline waxes

**Toxicity** 

**Experimental Synthetic waxes** 

## **CHAPTER 6**INDUSTRIAL USES OF WAX

Adhesives

**Candles** 

Wicks



Winding

Size of Candles

**Machinery** 

Wax Candles

**Paraffin Candles** 

Temperature Control

Colors, Sizes, Shapes

**Standard Candle** 

Additives for Raising Melting Point of Candles

Melting point of Wax mixtures

**Congealing Point of Candles** 

**Coatings** 

Foil Coatings

Hot-melt coatings

**Protective and Decorative Coatings** 

Wax Coating for Fruits, Shribs, and Plants

**Cosmetics** 

Cold creams



Vanishing creams

Cleaning creams

**Emollient Creams** 

**Protective or Barrier Creams** 

Sun Screen Creams

Lipsticks

**Cream Rouge** 

Eyebrow pencils

**Shaving Cream** 

**Antiperspirants** 

Lotions

**Hand Cleaners** 

Hair Straighteners

**Embalming Preparations** 

**Dental Waxes** 

Carving Wax

Method of producing Base-Plate wax

**Electrolytic Condensers** 



**Inks** 

**Printing Inks** 

Carbon Paper Inks

Effect of paraffin on Esparto-Montan Mixtures

**Leather Goods** 

**Finishes** 

Saponified Shoe Cream

Manufacture of Saponified Creams

**Paper Products** 

**Practial Evaluations** 

**Additives** 

Improved Compositions for wax Coatings

Polyethylene-Paraffin Wax Paper Coatings

Paper Finishes

**Stencils** 

Water proofing of Kraft Papers

Effects of a Wax Sixing on Insulating Board

Pliolite-paraffin wax Compositions



Pharamaceutical preparations

**Photomechanics** 

**Plastics** 

**Polishes** 

Floor Polishes

**Rubless Emulsion Polishes** 

No-Rub Resin - Wax Emulsion Polish

**Pyrotechnics** 

Rubber

Textile processing

**Sizing** 

**Printing** 

**Finishing** 

**Yard Finishes** 

Water Poofing



#### **CHAPTER 7**

#### **OTHER MINERAL WAXES**

Montan wax

Sources

Production of Montan Wax

Composition

Properties of Montan Wax

**Durmont Waxes** 

Uses of Montan Wax

**Modified Montan Waxes** 

Lignite wax

Oxocerite wax

Occurrence

Manufacture of Ozocerite

Composition

Properties of Ozocerite

Compatibility



Adulterations

Ceresin

Utah wax

Peat wax

#### **CHAPTER 8**

**POLISH, ABRASIVES, METAL CLEANERS** 

**Abrasive Compound** 

Brass, Refinishing Corroded

**Cellulose-Friction Polishes** 

Flatting Paste Emulsions

Finishing Floor Wax

Liquid Floor wax (Rubbing Type)

Wood Floor Finish

Furniture polishes

Leather Belt Polish

**Leather Dressings** 

**Leather Finish** 



Metal Polish

Tank A

Tank B

Pipe Oil Metal Polish

Nickel Silver Castings, cleaning

**Non-Caking Shoe Dressings** 

Dyeing "Shoe" Plush Brown

**Shoe Polish** 

Synthetic Spinel

Sand Papers and Emery Papers

**Abrasive Wheels** 

Automobile Polish

Furniture Polish

**Polishing Cloth** 

Oil Polish for Furniture

**Furniture Polish** 

Removing Scratches from Furnishes



Non-slippery Floor wax

Floor Polish

Floor sweeping Compound for Polished Floors

Wood-Preserving and Finishing

"Italian" Powder for Polishing Marble

Colored Burnishing Clay

**Sharpening Compositions** 

**Aluminium Polish** 

Directions for use

Non Scouring Copper Polish

Automobile Polish (Tumbler's)

High Luser Polish for Shoes

Sporting Shoe dressings, paste

Notes on Cleaning White Shoes

Shoe White (Water Type)

Shoe White (Waterproof Type)

Cleansing and Polishing compositions



**Auto-Polishes** 

Automobile Polishes(oils)

Automobile-Polishes (Pastes)

**Automobile Polishes** 

Metal Polish Pastes

**Metal Polishing Cloths** 

Polishing Metals for Metallographic Analysis

**Aluminum Polish Powders** 

Liquid Polishes for Iron or Steel

Polish for Silver, Nickel, Brass, Chromium, etc.

Silver Polishes

**Liquid Silver Polishes** 

Removing Silver Polish

Silver Polishing Cloths

Wax Paste Stove Polish

**Quick Drying Stove Polish** 

Water-Resistant Floor Emulsion Polish



Rubless Bright Drying Water Wax Polishes

Semi Bright Drying Wax Emulsion Polishes

Floor Polish Powders

Floor Mop Oil

French Polishing

Cleaning and Polishing Table

Ski wax

Paste for Wax Calf Leather

Leather Cleaning and Polishing stick

Types of Cleaners

White Shoe Polish

White Leatehr polish

**Shoe Polishes** 

Polishing, Lapping and Tumbling

**Abrasives** 

**Poolishing Wheels** 

Metal Polish

Liquid metal polishes



Paste Metal Polish

Wax Polish for varnished metals

Fine instrument scale polish

Polishing by barrel Toumbling

**Barrel Tumbling material** 

**Stove Polishes** 

Sodium silicate Solutions

**Artrificial Graphite** 

**Stove Polishes** 

**Dance Floor Polishes** 

**Bright Drying Floor Polishes** 

**Emulsified Floor waxes** 

Wax for polishes

White Shoe Polishes

Oil Polish

**Burnishing Polishes for Automobile Maintenance** 

Silver Polish

Jewelry Polish



**Bright Drying Floor Polish** 

Floor Treatments

**Wood Floors** 

Floor Waxes or Polishes

Cement (Concrete)Floors

Vitreous Tile or Ceramic and Terrazzo Floors

Marble and Travertine Floors

**Linoleum Floorings** 

**Rubber Floors** 

Cork Tile and Cork Carpet Floorings

Asphalt Tile and mastic Floors

Plastic magnesia Cement Floors

Slate Tile Floors

**Bonded Abrasive Wheels** 

Removing Scratches from Glass



## **CHAPTER 9**POLISHES

Heavy Duty Floor Polish

Carnauba Base Floor Polish

Silicon Furniture Polish

Liquid Floor polish

**Bright Drying Floor Wax** 

Silicone Polishing Cloth

Mineral Oil Emulsion Polish

Aesrosol Polish

Aerosol waxeless Polish

**Auto Cleaner Polish** 

**Ball Bearing Polish** 

Metal Polish

Silver Polish (Dip)

**Antislaking Buffing Composition** 

Abrasive Vehicle (Oil)



**Insectidal Floor Wax** 

Opaque-White Norrubbing Floor Wax

Floor-Wax Emulsion

Non-Rubbing Floor Wax

Water Emulsion paste Waxes

Liquid Solvent Waxes

Solvent-Type paste Waxes and Shoe Polishes

Stable Wax-Solvent Floor Polish

Liquid Solvent Floor wax

**Buffing Compound** 

**Metal Abrasive** 

Paste Wax Polish (Auto wax)

(Floor and Furniture wax)

Liquid Wax Polish

Auto Polish

Glass Polish

Oven polish

Silver Polish



Metal Polishing Cloth

**Chromium Polish** 

Leather Polish

Liquid Leather Polish

Paste Leather Polish

Shoe Polish Paste (for Tubing)

**Shoe Creams** 

**Furniture Polish** 

Floor Wax Remover

Bright Drying Floor Polish (Emulsion) (rubber)

Floor wax

Diamond abrasive

Synthetic Abrasive

Auto Rubbing compounds

**Buffing Compounds** 

Cream Buffing Wax

Automobile polish



Metal Cleaning and Polishing Cloth

Metal Polish

Furniture Polish

Furniture Cleaner and Polish

Floor Polish

**Dance Floor Wax** 

Oil Polishes

Wax Polishes

Wax Paste Polish

**Rubber Polishes** 

Rubber Wax Floor Polish

Method 1

Method 2

Variation

Triethanolamine Water-Resistant Rubless Polish

Morpholine Water-Resistant Rubless Polish

Method 1

Method 2



Resin, Shellac, Casein Dispersions

**Natural Resin Dispersions** 

Preparation of Formula No.1.

Preparation of Formula No. 2

**Shellac Dispersion** 

**Casein Dispersion** 

**Polishing Paste** 

**Diamond Dust Abrasive** 

**Abrasive Cleaner** 

Lens Polishing Powder

**Polishing Powder** 

Smoothing Compound for Lucite and Plexiglas

Tumbling Barrel Polish

French Polish Base

Black Paste Shoe Polish

Soft Leather Polish

Rubber Foot wear Polish



Rubless Floor Wax

**Bright-Drying Floor Wax Emulsion** 

**Durez Wax Base** 

Floor Polish

Dance-floor Wax

Furniture Polish

Perfume for Furniture Polish

Paste Waxes

**Black Shoe Polish** 

Leather Polish

Polish for Edging Leather Straps

Automobile Polish

Automobile Polish and Cleaner

Automobile Finish Haze Remover

Automobile Hand-Rubbing Compound

Stone and Porcelain Polish

Glass Wax Polish



Optical-glass Polish

Rough Diamond-Polish Substitute

**Lapping Compound** 

Stove Polishing Stick

Gold Polish

Silver Polish

General Metal Polish

**Brass Polish** 

Brass and Bronze Cleaner and Polish

Brass, Nickel, and Chrome Polish

**Brass-Buffing Soil Cleaner** 

Tripoli-buffing Composition for Brass

Tripoli-cut-and-color Composition for Brass

White-Lime- cut-and-color Composition for Brass

**Red Oxide Color Composition for Brass** 

**Metal-Buffing Compound** 

**Polishes** 

Metal Polish



**Rust-Preventing Metal Polish** 

Chemical Nickel Polish

Glass and Metal Polish

**Electric Shaver Sharpening Paste** 

**Glass-Grinding Fluid** 

**Abrasive Diamond Paste** 

Silicone Furniture Polish

Silicone Auto Polish

Silicone Cleaner Polish

Silicone Wax Polish

Furniture Polish

Solvent-type Paste Floor Polish

Solvent-Type paste Wax Polishes

Liquid Type wax Polishes

Floor-Polish Paste

**Buiffing Paste Polish** 

Oil Polish

Paste Shoe Polish

Liquid White shoe dressing



#### **CHAPTER 10**

#### **MICROCRYSTALLINE WAXES**

Differences between microcrystalline and paraffin waxes

Fractional crystallization of petroleum waxes

Properties of Microcorystalline waxes

Melting point

Compatibility

Laminating properties of Microcrystalline waxes

Miscibility with additives

**Solubility** 

Specific Gravity at various Temperatures

Thermal Expansion and Melting point of waxes

Oxidized microcroystalline waxes

Emulsifiable Microcrystalline waxes

Petrolatum wax

Uses of Microcrystalline waxes

**Drum Linings** 



Vat Linings

Miscellaneous data

Properties of some commercial Microcrystalline waxe

Amsco waxes

Aristo Waxes

Bareco waxes

Bareco Hard Wax

Bareco Plastic waxes

Bareco Emulsifiable waxes

Bareco Synthetic waxes

Electrical Properties of Bareco waxes

Be Square Waxes

Mobile Waxes

Milti Waxes

**Pearl Waxes** 

Sova Waxes

Super Flex Waxes

WarWick Waxes



## Niir Project Consultancy Services (NPCS) can provide Process Technology Book on Wax and Polishes

See more

http://goo.gl/5nls7W

http://goo.gl/Ev2USy



## VISIT US AT

www.entrepreneurindia.co



## TAKE A LOOK AT NIIR PROJECT CONSULTANCY SERVICES ON #STREETVIEW

https://goo.gl/VstWkd



# Locate us on Google Maps

https://goo.gl/maps/BKkUtq9gevT2



#### Contact us:

**Niir Project Consultancy Services** 

106-E, Kamla Nagar, New Delhi-110007, India.

Email: npcs.ei@gmail.com, info@entrepreneurindia.co

Tel: +91-11-23843955, 23845654, 23845886, 8800733955

Mobile: +91-9811043595

Fax: +91-11-23841561

Website:

www.niir.org

www.entrepreneurindia.co

Take a look at NIIR PROJECT CONSULTANCY SERVICES on #StreetView

https://goo.gl/VstWkd



# NIIR PROJECT CONSULTANCY SERVICES

**AN ISO 9001:2008 COMPANY** 



#### Who are we?

- One of the leading reliable names in industrial world for providing the most comprehensive technical consulting services
- We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad



#### What do we offer?

- Project Identification
- Detailed Project Reports/Pre-feasibility Reports
- Business Plan
- Industry Trends
- Market Research Reports
- Technology Books and Directory
- Databases on CD-ROM
- Laboratory Testing Services
- Turnkey Project Consultancy/Solutions
- O Entrepreneur India (An Industrial Monthly Journal)

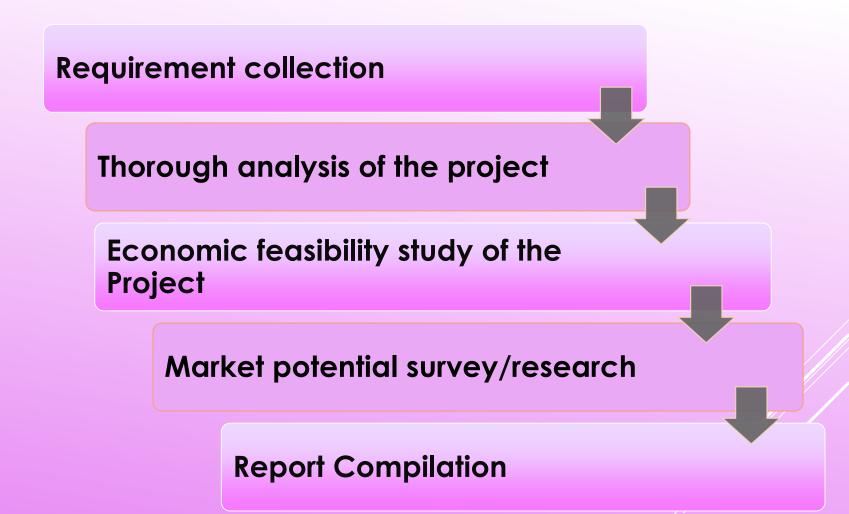


#### How are we different?

- We have two decades long experience in project consultancy and market research field
- We empower our customers with the prerequisite know-how to take sound business decisions
- We help catalyze business growth by providing distinctive and profound market analysis
- We serve a wide array of customers, from individual entrepreneurs to Corporations and Foreign Investors
- We use authentic & reliable sources to ensure business precision



### Our Approach





#### Who do we serve?

- Public-sector Companies
- Corporates
- Government Undertakings
- Individual Entrepreneurs
- O NRI's
- Foreign Investors
- Non-profit Organizations, NBFC's
- Educational Institutions
- Embassies & Consulates
- Consultancies
- Industry / trade associations



#### **Sectors We Cover**

- O Ayurvedic And Herbal Medicines, Herbal Cosmetics
- O Alcoholic And Non Alcoholic Beverages, Drinks
- O Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin
- Activated Carbon & Activated Charcoal
- Aluminium And Aluminium Extrusion Profiles & Sections,
- O Bio-fertilizers And Biotechnology
- Breakfast Snacks And Cereal Food
- O Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling



- Bamboo And Cane Based Projects
- Building Materials And Construction Projects
- Biodegradable & Bioplastic Based Projects
- Chemicals (Organic And Inorganic)
- Confectionery, Bakery/Baking And Other Food
- Cereal Processing
- Coconut And Coconut Based Products
- Cold Storage For Fruits & Vegetables
- Coal & Coal Byproduct



- Copper & Copper Based Projects
- Dairy/Milk Processing
- O Disinfectants, Pesticides, Insecticides, Mosquito Repellents,
- Electrical, Electronic And Computer based Projects
- O Essential Oils, Oils & Fats And Allied
- Engineering Goods
- Fibre Glass & Float Glass
- Fast Moving Consumer Goods
- O Food, Bakery, Agro Processing



- Fruits & Vegetables Processing
- Ferro Alloys Based Projects
- Fertilizers & Biofertilizers
- Ginger & Ginger Based Projects
- Herbs And Medicinal Cultivation And Jatropha (Biofuel)
- Hotel & Hospitability Projects
- Hospital Based Projects
- Herbal Based Projects
- O Inks, Stationery And Export Industries



- Infrastructure Projects
- Jute & Jute Based Products
- Leather And Leather Based Projects
- Leisure & Entertainment Based Projects
- Livestock Farming Of Birds & Animals
- Minerals And Minerals
- Maize Processing(Wet Milling) & Maize Based Projects
- Medical Plastics, Disposables Plastic Syringe, Blood Bags
- O Organic Farming, Neem Products Etc.



- O Paints, Pigments, Varnish & Lacquer
- O Paper And Paper Board, Paper Recycling Projects
- Printing Inks
- Packaging Based Projects
- O Perfumes, Cosmetics And Flavours
- O Power Generation Based Projects & Renewable Energy Based Projects
- Pharmaceuticals And Drugs
- O Plantations, Farming And Cultivations
- O Plastic Film, Plastic Waste And Plastic Compounds
- O Plastic, PVC, PET, HDPE, LDPE Etc.



- Potato And Potato Based Projects
- Printing And Packaging
- Real Estate, Leisure And Hospitality
- Rubber And Rubber Products
- Soaps And Detergents
- Stationary Products
- Spices And Snacks Food
- Steel & Steel Products
- Textile Auxiliary And Chemicals



- Township & Residential Complex
- Textiles And Readymade Garments
- Waste Management & Recycling
- Wood & Wood Products
- Water Industry(Packaged Drinking Water & Mineral

Water)

Wire & Cable



#### Contact us:

**Niir Project Consultancy Services** 

106-E, Kamla Nagar, New Delhi-110007, India.

Email: npcs.ei@gmail.com, info@entrepreneurindia.co

Tel: +91-11-23843955, 23845654, 23845886, 8800733955

Mobile: +91-9811043595

Fax: +91-11-23841561

Website:

www.niir.org

www.entrepreneurindia.co

Take a look at NIIR PROJECT CONSULTANCY SERVICES on #StreetView

https://goo.gl/VstWkd



#### Follow Us













- <u>https://www.facebook.com/NIIR.ORG</u>
- <u>https://www.youtube.com/user/NIIRproject</u>
- https://plus.google.com/+EntrepreneurIndiaNewDelhi
- <u>https://twitter.com/npcs\_in</u>
- https://www.pinterest.com/npcsindia/





## THANK YOU!!!

For more information, visit us at:

www.entrepreneurindia.co

