Manufacturing of Petroleum Products (Petroleum Waxes, Greases and Solid Lubricants, Solid Fuels, Gaseous Fuels, Gasoline, Diesel Fuel Oils, Automotive, Diesel and Aviation Fuels, Lubricating Oils and Lubricating Greases)

Author: - NPCS Board of Consultants &

Engineers

Format: paperback

Code: NI527 Pages: 376

Price: Rs.1675US\$ 150

Publisher: NIIR PROJECT CONSULTANCY

SERVICES

Usually ships within 5 days

The petroleum waxes are semi refined or fully refined products obtained during the processing of crude oil. According to their structure they are divided into macrocrystalline waxes (paraffin waxes) and microcrystalline waxes (ceresine, petrolatum, others). Grease, thick, oily lubricant consisting of inedible lard, the rendered fat of waste animal parts, or a petroleum-derived or synthetic oil containing a thickening agent. Greases of mineral or synthetic origin consist of a thickening agent dispersed in a liquid lubricant such as petroleum oil or a synthetic fluid. Diesel fuel, also called diesel oil, combustible liquid used as fuel for diesel engines, ordinarily obtained from fractions of crude oil that are less volatile than the fractions used in gasoline. Lubricating oil, sometimes simply called lubricant/lube, is a class of oils used to reduce the friction, heat, and wear between mechanical components that are in contact with each other. Lubricating oil is used in motorized vehicles, where it is known specifically as motor oil and transmission fluid.

The global wax market was valued at around USD 9 billion in 2017 and is expected to reach approximately USD 12 billion in 2024, growing at a CAGR of slightly above 3.5% between 2018 and 2024. The India lubricant market is expected to register a CAGR of 4.64%, during the forecast period, 2018-2023. The major factors driving the growth of the market are the increasing vehicular production along with the growing industrial sector. The global market for lubricants is expected to reach USD 70.32 billion by 2020. The global grease market is expected to grow at a CAGR of 2.13% during the forecast period, 2018 - 2023. Aviation fuel market size will grow by over USD 34 billion during 2018-2022

Some of the fundamentals of the book are composition of the petroleum waxes, solvent extraction, greases and solid lubricants, solid fuels, other significant tests or properties, gaseous fuels, properties of waxes, gasoline, diesel fuel oils, automotive, diesel and aviation fuels, special processes for motor-fuel blending components, crude distillation, lubricating oils, lubricating greases, nature of lubricating oils, photographs of machinery with suppliers contact details

A total guide to manufacturing and entrepreneurial success in one of today's most lucrative petroleum industry. This book is one-stop guide to one of the fastest growing sectors of the petroleum industry, where opportunities abound for manufacturers, retailers, and entrepreneurs. This is the only complete handbook on the commercial production of petroleum products. It serves up a feast of how-to information, from concept to purchasing equipment.

1. THE PETROLEUM WAXES

Wax-Production Methods

Paraffin Waxes, Natural And Synthetic

Functional Tests for Paraffin Waxes

Synthetic Paraffin Waxes

Microcrystalline Waxes

Oxidized Microcrystalline Waxes

Petrolatums

Field of Use of Petrolatum

Industrial uses of Petroleum-Wax

Paper Manufacturing

Paper Milk Cartons

Candlemaking

Drugs, Cosmetics, Chemicals, and Matches

Electrical Goods and Metal Casting

Textile Industry

Rubber Compounding

2. SOLVENT EXTRACTION

3. GREASES AND SOLID LUBRICANTS

Definition

Applications for Grease Lubrication

Structure and Properties of Greases

Materials Used in Making Greases

Characteristics of Greases from Various Metallic Soaps

Greases from Nonsoap Thickeners

Pure Petroleum Greases

Grease Additives and Fillers

Laboratory Testing of Greases

Consistency

Apparent Viscosity

Dropping Point

Oxidation Stability

Water Resistance

Extreme Pressure Qualities

Grease Specifications

Solid Lubricants

Introduction

Laminar Solids

Organic Compounds

Radiation Damage to Greases

4. SOLID FUELS

Introduction

Wood

Coal

Heating Value

Proximate Analysis

5. OTHER SIGNIFICANT TESTS OR PROPERTIES

Analyses, Occurrence, and Uses of Coals

Coal Sizes

Calculation of Proximate Analysis and Heating

Value on Various Bases

Coal Coke

Petroleum Coke

Fuel Briquettes

Tests on Coke

6. GASEOUS FUELS

Composition of Gaseous Fuels

Natural Gas

Liquefied Petroleum Gases

Refinery Oil Gas

Producer Gas

Blast Furnace Gas

Water Gas

Carburetted Water Gas

Oil Gas

Coal Gas or Coke Oven Gas

Sewage Gas

Gas Testing

Specific Gravity or Density of Fuel Gases

Direct Weighing

Pressure Balance

Displacement Balance

Bunsen Apparatus

Conversion from Dry to Saturated Basis

Analysis of Fuel Gas

Spectrometry

Gas Chromatography

Distillation

Chemical Absorption

7. PROPERTIES OF WAXES

8. GASOLINE

Introduction

Classification of Fuel Properties

Volatility

General Requirements

Distillation Test of Gasoline

Reid Vapor Pressure Test

Starting Characteristics

Vapor Locking

Acceleration and Warm-up

Fuel Distribution

Volumetric Efficiency

Carburetor Icing

Specifications

Combustion Quality

Knocking

Surface Ignition

Mechanical Octane Number

Fuel Octane Number

Knock Rating

Knock Rating Methods

Knock Intensity Measurement

Significance of Knock Test Results

Fuel Sensitivity

Road-Knock Rating Procedures

Anti-knock Compounds

Tetraethyllead

Effect of Molecular Structure of Fuels upon

Lead Susceptibility

Effect of Sulfur on Lead Susceptibility

TEL Addition to Commercial Blends

Heating Value of Gasoline

Gasoline Dye

Chemical Stability

Gum in Gasoline

Gum Tests

Corrosiveness

Corrosive Impurities

Sulfur Determination

Copper Strip Test

Doctor Test

9. DIESEL FUEL OILS

Diesel Fuel Economics

Composition of Fuel an Important factor

Properties Determining Fuel Performance

Cetane Value an Expression of Ignition Quality

Increased Importance of Ignition Delay

Test Methods for Diesel Fuel Oils

Calculated Cetane Index

Significance of tests on Diesel Fuels

Stationary Diesel-engine Field Highly Competitive

Need of Automotive Diesels for Wide Range of Fuels

Marine Diesel Engines

Many Fields of Use for Diesel Tractors

10. AUTOMOTIVE, DIESEL AND AVIATION FUELS

Gasoline

Aviation Gasoline

Jet Propulsion fuels

Tractor fuel

11. SPECIAL PROCESSES FOR MOTOR-FUEL BLENDING COMPONENTS

Alkylation

Isomerization

Polymerization

Naphtha Reforming

12. CRUDE DISTILLATION

Desalting Crude Oils

Vacuum Distillation

Auxiliary Equipment

Crude distillation unit products

Problems

13. LUBRICATING OILS

Introduction

Hydrodynamic Lubrication

Boundary Lubrication

ZN/P Curves

Viscosity

Dimensions and Units of Viscosity

Theory of Viscosity

Measurement of Viscosity

Viscosity-Temperature-Pressure Relations

Viscosity of Blends

Viscosity Index

Viscosity Temperature Coefficient

Significance of Viscosity and Viscosity Index

Cloud and Pour Point

Significance of Cloud and Pour Point

Additives

Viscosity Index Improvers

Pour Point Depressants

Oil Classification Systems

Oiliness

Oiliness Carriers

Extreme Pressure Lubricants

Sludge and Lacquer Formation

Anti-Oxidants

Corrosion Inhibitors

Detergents

Commercial Additives

Bench Tests for Oxidation Stability

Acidity

Carbon-Forming Tendencies

Work Factor Test

Oil Volatility

Sulfur

Cleanliness

Gravity

Color

Synthetic Lubricating Oils

Dibasic Acid Esters

Organo-Phosphate Esters

Silicate Esters

Silicons

Polyglycol Ether Compounds

Fluorinated and Chlorinated Hydrocarbons

Effect of Radiation

Introduction
The main grease components
Manufacture
Laboratory tests
Grease Structure
Grease rheology
Conclusions

15. NATURE OF LUBRICATING OILS

The nature of crude oil
Production of basic grades of lubricating oils
Laboratory and rig tests and their significance
Lubricating oil additives
SAE classification of lubricating oils
Selection of oils for various duties
Physical properties of lubricating oils
other than viscosity

16. PHOTOGRAPHS OF MACHINERY WITH SUPPLIERS CONTACT DETAILS

About NIIR

NIIR PROJECT CONSULTANCY SERVICES (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

Our various services are: Detailed Project Report, Business Plan for Manufacturing Plant, Start-up Ideas, Business Ideas for Entrepreneurs, Start up Business Opportunities, entrepreneurship projects, Successful Business Plan, Industry Trends, Market Research, Manufacturing Process, Machinery, Raw Materials, project report, Cost and Revenue, Pre-feasibility study for Profitable Manufacturing Business, Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Business Opportunities, Investment Opportunities for Most Profitable Business in India, Manufacturing Business Ideas, Preparation of Project Profile, Pre-Investment and Pre-Feasibility Study, Market Research Study, Preparation of Techno-Economic Feasibility Report, Identification and Section of Plant, Process, Equipment, General Guidance, Startup Help, Technical and Commercial Counseling for setting up new industrial project and Most Profitable Small Scale Business.

NPCS also publishes varies process technology, technical, reference, self employment and startup books, directory, business and industry database, bankable detailed project report, market research report on various industries, small scale industry and profit making business. Besides being used by manufacturers, industrialists and entrepreneurs, our publications are also used by professionals including project engineers, information services bureau, consultants and project consultancy firms as one of the input in their research.

Our Detailed Project report aims at providing all the critical data required by any entrepreneur vying to venture into Project. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line.

NIIR PROJECT CONSULTANCY SERVICES, 106-E, Kamla Nagar, New Delhi-110007, India.

Email: npcs.india@gmail.com Website: NIIR.org

Mon, 11 Aug 2025 05:36:23 +0000