AN ISO 9001 : 2015 CERTIFIED COMPANY

# The Complete Book on Distillation and Refining of Petroleum Products (Lubricants, Waxes and Petrochemicals)

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## About the Book

The most dynamic industry of the century is the petroleum and petrochemicals industry. It has taken the fundamental knowledge of chemistry and chemical engineering and transformed itself from a simple processing industry for fuel and lubricants to an extremely complex chemical process industry which has branched out into synthetic rubber, plastics, fertilizers and many other fields. Petroleum (crude oil) is a mixture of different hydrocarbons. Many useful products can be made from these hydrocarbons. The fractions are separated from one another using a process called fractional distillation. This process is based on the principle that different substances boil at different temperatures. The applications of distillation in petroleum industry are quite varied. The assaying of crude oils and the evaluation many petroleum products depend on distillation. Petroleum products obtained from processes such as distillation often need supplementary purification. Refining is a process of purification of products by means of chemical process. Chemical engineering and petroleum processing have in a very real sense grown up together. Studies on fluid flow, heat transfer, distillation, absorption, and the like were undertaken and applied to wide variety of materials because of need in the petroleum processing field. The largest share of oil products is used as energy carriers: various grades of fuel oil and gasoline. Heavier (less volatile) fractions can also be used to produce asphalt, tar, paraffin wax, lubricating and other heavy oils. Refineries also produce other chemicals, some of which are used in chemical processes to produce plastics and other useful materials. Hydrogen and carbon in the form of petroleum coke may also be produced as petroleum products. Petrochemicals have a vast variety of uses. The use of petroleum hydrocarbons to make synthesis gas has made petroleum and natural gas the world main source of ammonia, the source of almost all nitrogen fertilizers. While petroleum product demand in the western world is relatively stagnant, for developing countries, particularly those in Asia, demand is booming. It is all about growing populations and their escalating need for energy.
Some of the fundamental of the book are the nature of petroleum, crude oil processing, distillation in the petroleum industry, refining of lubricating oils, petrolatum, and waxes, residue fluidized catalytic cracking, chemical thermodynamics of petroleum , benefits of biodiesel produced from vegetable oil, petroleum products used as fuel oils, manufacture of asphalt from petroleum, petroleum waxes, chlorinated waxes, synthesis gas etc.
The book presents information and data which will help oil companies, large scale users of commercial petroleum products in efficient storage, handling and utilization of these products. Different formulae, processes for the production of petroleum products are given in this book. This will be very useful book for new

entrepreneurs, existing units, technocrats, researchers, institutional libraries etc.

## Contents

1. Introduction
Historical
The Nature of Petroleum
Largest Energy Supplier
Origin
Constituents of Petroleum
Aliphatics, or open chain Hydrocarbons
Ring Compounds
Lesser Components

2 Crude Oil Processing
Fundamentals
Ideal Solutions
Real Solutions
Critical Phenomena
Chemical Dissimilarity
Azeotropism
Immiscibility
Ordinary Distillation
Steam Distillation
Extractive Distillation
Absorption
Process Equipment
Single Stage
Plate Columns
Differential Columns
Wetted Wall
Rotary
Packed
Distillation in the Petroleum Industry
Analytical Applications
Single stage Processes
Multistage Processes
Manufacturing Applications
Primary Distillation
Process feed Preparation
Product Fractionation
Combination Processing.

3. Refining
Refining by Chemical Methods
Sulfuric Acid Treating
Reactions with Hydrocarbons
Paraffinic and Naphthenic Hydrocarbons

Aromatics
Olefins
Manner and Effects of Treating
Refining by Physical Methods
Bauxite.
Fullers Earth (Attapulgite, Floridin, Florida Earth)
Acid activated Bentonite
Magnesol
Florisil
Silica Gel
Carbon
Alumina
Commercial Applications
Separation of Classes of Hydrocarbons
Refining of Lubricating Oils, Petrolatums, and Waxes
Stabilizing Gasolines
Regeneration of Adsorbents
Solvent Refining Processes
Aromatics Recovery
Refining Lubricating Oil Stocks.
Separation of Wax
Propane Deasphalting

4. Cracking
Introduction
Catalytic Cracking
Residue Fluidized Catalytic Cracking (RFCC or RCC)
Hydrocracking
FCC versus HCU
Reforming
Thermal Reforming
Catalytic Reforming
Isomerization
Hydrocracking
Operating Variables

5. Chemical Thermodynamics of Petroleum
Hydrocarbons
Introduction
Fundamental Relationships
The Standard Free Energy and Equilibrium
Status of Thermodynamic Data
Applications to Petroleum Processing
General Considerations
Aromatization of Paraffins and Naphthenes
Isomerization of n Butane

6. Gasoline

Introduction
Composition, Manufacture, and use of Gasoline
Volatility of Gasoline
Air Fuel Mixtures and Combustion
Phenomena of Knocking
Ethyl Alcohol as an IC Engine Fuel
Alcohols as auto fuels
Issues not in favour of Alcohol
Blending Alcohol and Gasoline

7. Diesel Fuels
Diesel Combustion
Ignition Quality

8. Bio Diesel
Introduction
Disadvantages of Vegetable Oil as Diesel Fuel
Benefits of Biodiesel Produced from Vegetable Oil
Disadvantages of Biodiesel produced from Vegetable Oil
Biodiesel Production from various vegetable oils on
Different Countries
Country Source of biodiesel
Economics of Biodiesel Project
Tax Incentives in Developed Countries
World Production Level of Biodiesel
Price in USA
Projected Indian Demand Scenario For Biodiesel
Average annual CAGR for High Speed Diesel
Demand for Biodiesel
Potential Indian Demand for Biodiesel
Choice of Jatropha
Cultivation Practices of Jatropha Plant
Soil Condition:
Conditions for growth:
Cultivation practices and yield
Jatropha Oil Content
Eco Friendly Biodiesel
Rich Resources
Vigorous Pursuit
Fulfilling basic criteria
Advantages
Feed stock

9. Kerosene, Absorbent, Oils, and Fuels Oils
Kerosene
Chemical Properties
Physical Properties
Manufacture

Testing Methods
Miscellaneous Uses
Absorbent Oils
Fuel Oils
Combustion of Fuel Oils
Petroleum Products Used as Fuel Oils
Certain Unusual Crude Oils
Crude Oil Residua
Gas Oils, Distillate Fuel Oils.

10. Lubrication and Lubricants
Friction and Lubrication

11. Waxes
Beeswax
Carnauba Wax
Spermaceti
Ozocerite
Paraffin Wax
Montan Wax
Candelilla Wax
Synthetic Waxes
Petroleum Waxes
Chemical Properties and Composition
Crystallization of Wax
Dewaxing of Heavy Oils

12. Petroleum Asphalts
Chemical and Physical Composition
Chemical composition
Mineral Oil
Resins
Asphaltenes
Carbenes and Carboids
Possible Structures of the Nuclei in Resins, and Asphaltenes
Physical Constitution
Physical Properties and Tests
Manufacture of Asphalt from Petroleum
Residual or Straight run Asphalts
Air blown Asphalts
Uses of Asphalts
Road Oils
Asphalt Emulsions
Solid Asphalts.

13. Miscellaneous Petroleum Products and Derived Products
Miscellaneous Petroleum Products

White Oils
Industrial Naphtha Solvents
Paints, Varnishes and Lacquers
Dry Cleaning
Cutback Asphalt
Rubber
Miscellaneous
Petroleum Insecticides
By Products
Petroleum Coke
Sulfuric Acid Sludge
Petroleum Sulfonic Acids
Chemicals Derived from Petroleum
Acetylene
Chemicals Derived from Olefinic Hydrocarbons.
Alcohols
Ethyl Alcohol
Isopropyl Alcohol
Secondary Butyl Alcohol
Tertiary Alcohols
Higher Alcohols
Glycols And Glycerol
Addition of Halogenes
Polymers
Oxidation Products
Miscellaneous Products
Chemicals Derived from Paraffinic Hydrocarbons
Chlorination Products
Nitration Products
Oxidation Products.
Chemicals Derived from Aromatic Hydro carbons
Hydrogen
Carbon Blacks
Fischer Tropsch Process and Products

14. Propylene
Introduction
Polypropylene
Propylene Trimer and Tetramer
Acrylonitrile
Acrylic Fibers
Acrylamide
Other Acrylonitrile Derivatives
Acetonitrile
Allyl Chloride
Epichlorohydrin
Epoxy Resins
Other Epichlorohydrin Derivatives
Allyl A lcohol Derivatives
Diallyl Amine

1,2 Dibromo 3 Chloropropane
Dichloropropanes, Dichloropropenes
Acrolein
Methionine
1,2,6 Hexane Triol
Glutaraldehyde
Propylene Oxide
Propylene Glycol
Polyethers
Dipropylene Glycol
Higher Propylene Glycols
Isopropanolamines
Propylene Carbonate
1,3 Propylene Diamine
Polypropylene Oxide Elastomers
Isopropanol
Acetone
Diacetone Alcohol (DAA)
Methyl Isobutyl Ketone (MIBK)
Hexylene Glycol
Methyl Isobutyl Carbinol (MIBC)
Isopropylamines
Isoprene

15. Synthesis Gas
Introduction
Mettiane reforming
Naphtha reforming
Fuel oil partial oxidation
Reformer off gas purification by low temperature fractionation
Topsfe SEA autothermal process using naphtha
Ammonia
Nitrogen Fertilizers
Mixed Fertilizers
Urea
Urea formaldehyde resins
Sulfamic acid
Melamine
Nitric Acid
Ammonium nitrate
Potassium nitrate
Nitroparaffins
Ammonium Phosphates
Ammonium Sulfate
Ammonium Chloride
Hydrazine
Carbon Dioxide
Methanol
Formaldehyde
Hexamethylene tetramine

Pentaerythritol
Polyacetals
Glycolic acid
Textile finishes
Methylamines
Monomethylamine
Dimethylamine
Trimethylamine
Methyl Chloride
Silicones
Methyl cellulose
Arsenicals
Tetramethyl lead
Dimethylsulfate
Methyl Glucoside
Methyl Bromide
OXO CHEMICALS
n Butyraldehyde
Ethyl 1, 3 hexanediol
Trimethylolpropane
Butyric acid
Butyraldehyde
Isobutanol
Isobutyric acid
Neopentyl glycol
Pantothenic acid
Octanols
Octoic acid
Propionic acid
n Propanol
Heavy Oxo Chemicals
PHOSGENE
Diisocyanates
Polycarbonates
Chlorinated Isocyanurics
Substituted Urea, Carbamate and Thiocarbamate  Pesticides
Other Phosgene Derivatives
FORMIC ACID
Oxalic Acid
NEO ACIDS
PURE HYDROGEN
Hydrogenated Fats and Oils
Tetrahydrofuran
Sorbitol
Hydrogen Peroxide
Organic Peroxides
Other hydrogen peroxide derivatives
Furfuryl Alcohol
Fatty Alcohols
Fatty Nitriles and Amines

16. Other Petrochemicals
Petroleum Waxes
Chlorinated Waxes
n Paraffins
Detergent Raw Materials
Carbon Black
Cresols
Synthetic p Cresol
Synthetic o Cresol
Tricresyl Phosphate
Cyclopentadiene
Petroleum Resins
Naphthenic Acids
Hydrogen Sulfide
Sulfur
Phosphorus Pentasulfide
Mercaptans
Thioglycolic Acid
Thiourea
Dimethyl Sulfoxide

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