



Entrepreneur India

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

Tel: 91-11-23843955, +91 9097075054

Mobile: +91-9097075054

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

Website: www.entrepreneurIndia.co



The Complete Technology Book on Soaps (2nd Revised Edition)

Code	NI110
Format	hardcover
Indian Price	₹1425
US Price	\$150
Pages	496
ISBN	9788178331676
Publisher	None

Description

Soap is the traditional washing compound made from oil fats and caustic alkali. It is an item of daily necessity as cleaning agent. There are few specialty soaps like the washing soaps, castile soaps, sandal soap, specially flavored soaps, medicated soaps, toilet soaps and baby soaps. Population growth, especially households with children has a proportional impact on the growth of the manufacturing sector of the industry. The soap industry is vivacious, varied, creative and tricky, and has the prospective to provide a gratifying career. With increasing popularity there has been increase in potential competitors but it still has the opportunity of further exploitation.

Today with increase in disposable incomes all around the world, demand for these products expected to increase because consumers are moving up towards premium products. With increasing awareness of hygienic standards, the market for the Soap is growing at a rate higher than 8% annually. People have become more creative in trying to find new ways in which they can make soap either for domestic use or commercial purposes. This book will provide all the basic facts and information you need to get started. You will be able to slowly build your way up to completely master the art of soap making.

The book contains processes formulae, Photographs of Plant & Machinery with Supplier's Contact Details, Addresses of Raw Material Suppliers and providing information regarding manufacturing method of different washing and toilet soaps. Some of the fundamentals of the book are raw material oil and fats, fatty acids, manufacture of soap products, technology of soap manufacturing, various formulations of soaps, soap perfumery, management of soap factories, analytical methods.

This book will be a mile stone for its readers who are new to this sector, will also find useful for professionals, entrepreneurs, those studying and researching in this important area.

Content

1. Introduction

Definition

Uses

Cleansing Mechanism

Characteristics of Soap

Saponification of Fats - The Basic Chemical

Reaction Making Soap

2. Raw Materials Oil and Fats

(The Main Raw Materials for Soaps)

Classification of Fats/Oils

Some of the Most Useful Fats and Oils

Tallow

Coconut Oil

Palm Oil

Palm Kernel Oil

Cottonseed Oil

Castor Oil

Chinese Vegetable Tallow

Corn Oil

Rice Bran Oil

Linseed Oil

Olive Oil

Groundnut Oil

Tall Oil

Mahua Oil

Babassu Oil

Neat's-Foot Oil

Lard

Greases

Fish Oil

Hydrogenated Oils

Purification of Soap Fats

Acid Washing

Alkali Refining

Bleaching

Absorbent Bleaching

Bleaching By Using Oxidizing Agents

Testing Of Soap Fats

Properties

Non Fatty Raw Materials For Soap

The Alkalis

Soap Builders

Filler

Stabilizers, Anti-oxidants

Other Additives (Foam Producers)

Foaming Agents Used in Soap

Solvents

Medicaments/Deodorants/Bacteriostatic Agents

Clarifiers

Colouring Matters
Preparation of Colours
Water Soluble
Oil Soluble
Alcohol Soluble
Milled Soaps
Full-boiled/Semi-boiled/cold-made Soaps
Soap Bases and Liquid Soaps
Washing/Laundry Soaps
Medicated Soaps
Perfumes
Comprehensive Details
Essential Oils
Isolates
Synthetic Chemicals

3. Fatty Acids

Types of fatty acids and their physical properties

Physical properties of fatty acids

Melting point

Boiling point

Viscosity

Density

Solubilities

Refractive Index

Heat of crystallisation

Polymorphism

Fatty acids of oils and fats

Raw materials of fatty acids

Animal fats

Tall oil

Vegetable oils and soap stocks

Manufacture of fatty acids

Pretreatment of feed stock

Fat splitting

High pressure catalytic splitting

High pressure steam splitting

Continuous fat splitting

Refining of crude fatty acids

Distillation of fatty acids
Mazzoni fat splitting and distillation process
Distillation of crude fatty acid
Splitting
Distillation
Splitting plant using thermic fluid instead
of steams
Fractional distillation of fatty acids
Development trends in fatty acid distillation
Panning & pressing process
Solvent crystallisation process
Lurgi Wetting Method
Recovery of glycerine
Pre-treatment and evaporation of spent-lye
Pre-treatment and evaporation of sweet water
Distillation of crude glycerine
Synthesis of fatty acids

4. Manufacture of Soap Products

Health and safety Factors
Classification of Soap Products
Methods of Manufacture
Various Finishing Methods
Production
Full Boiling Process (Description)
The Process
First Stage
Second Stage
Third Stage
Fourth Stage
Fifth Stage
Washing Bar/Cake Soap From Neat Soap
Jet Saponification Process
Glycerine Recovery
Semi-Boiling Process and Cold-Made Process
General Description
Production of Washing Bar/Cake Soap
by Semi-Boiling/Cold-Made Process
Equipments
Process Operations
Examination of Cold-Made Products

Formulations for Washing Soaps
Washing Soap Using Soap Stock as Main
Fatty Raw Material
A Typical Batch
Toilet Soap
Milling Process
Floating Toilet Soap Cake
Manufacture of Toilet Soap by Semi-Boiled/
Cold-Made Process
Procedure
Alkali
Milled Finished Soap
A Typical Batch For Toilet Soap
Mottled Soap
Carbolic Acid Soap
Suggested Formulation
Procedure
Medicated Soaps
Castile Soap
Castile Soap by Boiling Process
Some Suggested Formulations for Castile Soap
Deodorant Soaps
Various Industrial Soaps
Textile Soaps
Laundry Washing Aids
A Fabric Cleaning Compound
Cotton Scouring Soap
Dry Cleaner's Soap
Water Softener
Jelly Soap/Soft Soap
Automobile Soap
Wire Drawing Soap
Scouring Soap
Preparation of Washing Soap Powder
Simplified Method
Powdered By Pulverising Method
Washing Powder by Spray-Crystallization
Soap Beads or Granules by Spray-Drying
Soap Flakes
Shaving Soaps
Procedure

Shaving Cream
Other Formulation
Brushless/Latherless Shaving Cream
Liquid Shaving Cream
Basic Combination
Thicker Cream
Aerosol Package
Liquid Soaps/Shampoos
Process of Manufacture
Equipments
Liquid Toilet Soap Concentrates
Liquid Washing Soap Concentrate
Shampoos
Classification
Physical States
Characteristics
Various Additives of Shampoos Imparting
Special Properties
Solubilizer
Opacifiers
Thickeners for Body or Viscosity
Foam Stabilizers
Conditioning Agents
Agents for Resistance of Hard-Water
Germicidal Agents
Preservatives
Soap Shampoos
Older Methods
Modern Methods
Some Typical Formulations
Shampoos Based on Synthetic Surfactants
General Formulations
Liquid Cream Shampoos and Paste Cream
Foamless Oil Shampoos
Baby Shampoos
Medicated Dandruff Shampoos
Other Miscellaneous Shampoos
Aerosol Shampoos (Pressure Dispersed)
Method of Continuous Saponification of Fats
by Alkali Solution
Method of Continuous Splitting of fats into

fatty Acids and Glycerol with Simultaneous
Neutralization of free fatty Acids with Alkali
Yielding Soap
Continuous Neutralization Process
Description of A Process
Advantages
Disadvantages
Continuous Neutralization Process using Fatty
Acids Instead of fats
Batch Methods of Splitting fats into fatty
Acids and Glycerol
Purification of Fatty Acids

5 Technology of Soap Manufacturing
Manufacturing Soap
Techniques
Saponification Equipments used by the
Small-scale sector
Equipment for batch soapmaking
Improved methods of saponification
Lye Absorption
Saponification Loop
Saponification of Distilled Fatty Acids
Alfa Laval Continuous Saponification
Washing of saponified soap
Staight washes
Counter current washes using a set of pans
Counter current washes in a single
divided pan
Rotating disc contactor (RDC)
Fitting of Soap
Method of Expressing Free Alkali, Chloride
and TFM
Plant for Total Soapmaking Operation
Construction Materials for Soapmaking Plants
Earth bleaching of oils
Chemical bleaching
Fatty acids
Lye treatment
Storage of raw lye
Output of Soap and Glycerine

Analysis of oils
Ester value of oils
Glycerine Recovery
Introduction
Glycerine Recovery Procedure
Purpose of Lye Treatment
Method of Lye Treatment
Treatment of Sweet Water
First treatment
Second treatment
Evaporation
Continuous Finisher
Refining of Crude Glycerine
Production of Laundry and Toilet Soaps
Introduction
Frame Cooling of Soap
Production of Filled Soaps on the Mazzoni
Billeting
Technology of Toilet Soaps
Introduction
Oil blend
Production of toilet soap
Mixing of soap
Preservatives
Perfumes
Colours
Opacifiers
Optical brighteners
Super-fatting agent
Structurants
Bactericides and germicides
Miscellaneous additives
Design of mixers
Refiners vs. Mills
Plodding
Stamping
Wrapping
Packing
Carbolic Soap
Transparent Soaps
Introduction

Manufacturing methods
Manufacturing method
Translucent Soaps
Oil blend
Floating Soap
Marbled Soap
Process Control
Introduction
Pre-treatment of Raw Materials
Soapmaking
Fat charge control
Colour of soap base
Free alkali and chloride
Unsaponified fat
Glycerol in soap
Process Controls Beyond Pan Room:
Domestic Soap
Toilet Soap
Other Soaps
Soap Chips
Soap Noodles
Soap Flakes
Soap Powder for Laundries
Shaving Cream
Soft Soap
Medicated Soap
Shaving Soap

6 Various Formulations of Soaps

Toilet Soap of Inferior Quality
Process
Toilet Soap of Lux Type
Process
Khas Soap
Amla Soap
Rose Soap
Sandal Soap
Musk Soap
Almond Soap
Transparent Soaps
Process

Medicated Soaps
Stock Soap
Formulae and Process Description for
Various Medicated Soaps
Process
Carbolic Soap
Process
Procedure
Neem Soap
Process
Camphor Soap
Procedure
Chaulmogra Soap
Procedure
Shaving Soaps and Creams
Shaving Soaps
Solid Shaving Preparation
Lather Shaving Cream
Liquid Soaps and Shampoos
Process of Manufacture
Liquid Shampoos
Egg Shampoos
Herbal Shampoos
Washing Soap (Various Types)
Precautions regarding Manufacture of Soap
Nerol Washing Soap
Process
Soap Removal Procedure
Formulae for Nerol Soap

7 Soap perfumery
Soap compounds
Brown Windsor
Carnation
Chypre
Cologne
Cyclamen
Fougere
Heliotrope
Hyacinth
Jasmin

Lavender

Lilac

Lily

8 Management of Soap factories

Technical Efficiency

Introduction

Yield

Fatty acid yield

Glycerol yield

Active detergent yield

Over/under usage of materials

Packing loss/gain

Oil usage pattern

Scrap and downgrading losses

Productivity

Steam, water, electricity

Financial Summary

Pollution Control

Introduction

Source of Pollution

Oil spills

Chemical spills

Bleaching

Chemical treatment

Soap-making

Glycerine Recovery

Laundry Soaps

Toilet Soap

Synthetic Detergents

Sulphonation

Detergent powder manufacture

Boiler House

Coal spillages

Water treatment Section

Boiler Blow Down

Chimney exhaust

Boiler ash

Effluent Treatment

Space and location

Effluent characteristics

The requirements of treated effluent
Effluent treatment methodology
Treatment of Gaseous Effluents
Chemical bleaching
Saponification of oils
Toilet soap mixer
Refrigeration system
Oleum handling in the sulphonation plant
Oleum still furnace
Exhaust from spray drying tower and air lift
NSD bar mixer exhaust
Boiler exhaust
Analytical Support
Introduction
Oils
Chemicals
Packaging Materials
In-process Materials
Finished Products
Microbiological Controls
Analytical Equipments
General Comments
Quality Control
Introduction
Organisation
Facilities
Specifications
Chemicals
Packaging materials
Finished Product
Manufacturing Method
Fat Charge
Chemicals for soap-making
Sampling
Sampling of Raw Materials
Packing materials
Finished Products
Vendor education and rating
Process audit
Reporting
Micro-biological Controls

Bureau of Indian Standards Specifications

Quality Assurance

Introduction

Conventional Approach to Quality

Recommended Approach to Quality

Implementation of Quality Assurance

Quality Control

Quality Audit

Summary

Total Quality Management (TQM)

ISO 9000 Series Standards

Common Quality Problems of Soaps

Introduction

Laundry Soaps

Lather

Cracking

Detergency

Toilet Soaps

Base odour

Rancidity

Discoloration of soap

Cracking

Blisters

Sandiness

Mushiness

Wear

Hardness

Lather

Efflorescence

Storage and Product Assessment Tests

Storage

Product Assessment

Assessment in laundry soaps

Detergency

Lather

Perfume Impact

Wear

Cracking

Assessment of toilet soaps

Feel of soap in use

Mush

Common Quality Problems of Detergents

Detergent Powder

Solubility

Skin irritation

Poor lather/detergency

Detergent Cake

Sogginess

Roughness

Whitish deposit

Poor colour

Poor lather and detergency

Stain Removal

Introduction

Type of stains

Removal of Stains

Lime soap

Protein stains

Iron compounds

Stains due to dyes

Mildew stains

Physical methods of stain removal

Assessment of stain removal

9 Analytical Methods

Determination of Soap Composition

For Nature of Fatty acids in soap

For Anhydrous soap and total alkali content

Procedure

Isolation of Fatty Acids and Rosin Acid

From Soap

Acid Value

Saponification Value

The Saponification

Iodine Value

Wijs Solution (Iodine monochloride solution)

Determination

Titer Test

Procedure

Rosin Value

Procedure

Determination of Total Anhydrous Soap and

Combined Alkali Content
Procedure
Unsaponified and Unsaponifiable Matter
Determination
Testing of Fatty Oils used for Soap
Moisture and Volatile Matter
Insoluble Impurities
Soluble Mineral Matter
Determination of Total Fatty Acids of soap
stock and acidulated soap stock
Acid value
Ester value
Determination of rancidity
Rosin Test
Colour Test
Bleach Test
Smoke Point
Flash Point
Turbidity Point
Cloud Point

10 Plant and Machinery
Four Blades Chipping Machine
Other Chipping Machines
Packing Machine
Spray Drier for making Detergent Powder
Portal Stirrer (Mechanical Agitator)
High Speed Dissolver
Planetary Mixer
Centrifuge
Emulsifier
Edge Runners
Ball and Pebble Mills
Automatic Liquid Filling and Weighing Machine
Automatic Paste Filling and Crimping Machine
Automatic Power Filling Machine
Marking and Printing Machine
Marking and Printing Machine
Bottle Washing Machine
Ribbon Blender
Batch Mixer

Plodders
Cutters
Soap Press

11 Addresses of Raw Material Suppliers

12 Photographs of Plant & Machinery with Supplier's Contact Details

About Niir

NIIR Project Consultancy Services (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. Its various services are: Pre-feasibility study, New Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Preparation of Project Profiles and Pre-Investment and Pre-Feasibility Studies, Market Surveys and Studies, Preparation of Techno-Economic Feasibility Reports, Identification and Selection of Plant and Machinery, Manufacturing Process and/or Equipment required, General Guidance, Technical and Commercial Counseling for setting up new industrial projects and industry. NPCS also publishes various technology books, directories, databases, detailed project reports, market survey reports on various industries and profit making business. Besides being used by manufacturers, industrialists, and entrepreneurs, our publications are also used by Indian and overseas professionals including project engineers, information services bureaus, consultants and consultancy firms as one of the inputs in their research.