How to Manufacture Detergents

(Detergent Manufacturing Business, Cleaning Products, Formulas, Detergent Production Line, Detergent making Ingredients, Formulations of Detergent, Process, Synthetic Detergent Powder)
A detergent is a surfactant or a mixture of surfactants with "cleaning properties in dilute solutions. Detergents, as a constituent of the overall FMCG industry, accounts for a near 12% of the total demand for all FMCG products estimated at over Rs. 530 bn. Detergents, chemically known as alfa olefin sulphonates (AOS) are used as fabric brightening agent, anti-deposition agent, stain remover and as a bleacher. A major input for the production of detergents is a petrochemical, Linear Alkyl Benzene (LAB), while soaps rely more on an inorganic chemical, caustic soda, as a major input.
To cater to this increasing demand of quality washing powders most of the top detergent brands in India are continually introducing better packaged detergents that are offering a host of benefits in a single wash. In India HUL holds a 38 per cent market share in the washing powder segment clearly standing as the winner. The other important players in the detergent industry include Surf Excel, Nirma and Sunlight.
Soaps and detergents are used frequently in our daily life. We use them to wash our hands and clean our clothes without ever really paying attention to how they work. Beneath the plain white surface of a bar of soap lies an intriguing history and a powerful chemistry. It has been said that amount of soap and detergent consumed in a country is a reliable measure of its civilizations. There was a time when these products were luxury; now it is a necessity. A disinfectant or agent that frees from infection is ordinarily a chemical agent which kills disease germs or other harmful microorganisms and is applied to inanimate objects. The specific way in which a disinfectant agent is used is dependent on both the desired objective and the infectious agent present.
The term detergent by itself refers specifically to laundry detergent or dish detergent, as opposed to hand soap or other types of cleaning agents. Detergents are commonly available as powders or concentrated solutions. Detergents work because they are amphiphilic partly hydrophilic (polar) and partly hydrophobic (nonpolar). Their dual nature facilitates the mixture of hydrophobic compounds (like oil and grease) with water. Because air is not hydrophillic, detergents are also foaming agents to varying degrees. Completely non polar solvents known as degreasers can also remove hydrophobic contaminants but may not dissolve in water because of a lack of polar elements.
Soaps are mainly used as surfactants for washing, bathing, and cleaning, but they are also used in textile spinning and are important components of lubricants. Soap is a mixture of sodium salts of various naturally occurring fatty acids. Soaps and detergents are very similar in their chemical properties. However, there is a significant difference between them; soaps are produced from natural products, and detergents are synthetic, or manmade. The market is expected to grow at rates ranging from under 4% to around 4.5%. These are very modest rates considering that the lifestyles not only of urbanites, but even of well off rural folks are changing at a very high pace. The analysts are expecting the industry to continue to grow in both the industrialized as well as developing nations.
Some of the fundamentals of the book are technology of soap making, washing of saponified soap, plant for total soap making operation, construction materials for soap making plants, earth bleaching of oils, chemical bleaching, fatty acids, manufacture of framed soaps, manufacture of chips and flakes, manufacture of milled bars, the mazzoni process, floating soap bars, mixing of soap, chemicals used in soaps & detergents, alkylolamides, alkylolamides in shampoo formulations, chemistry of the alkylolamides, mono alkylolamides, di alkylolamides, pure dialkylolamides, phosphoxylated alkylolamides, sulphated alkylolamides, disinfectants and antiseptics, dry cleaning agents, etc.
The present book contains formulae, processes of different types of soaps, detergents and disinfectants. These products have good demand in domestic as well as in International market. So there is a very good scope for new entrepreneurs to venture into this field. This book is an invaluable resource for entrepreneurs, technocrats and for those who want to diversify in to this field.
<table>
<thead>
<tr>
<th>1. SOAPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Of Soap Making</td>
</tr>
<tr>
<td>Historical</td>
</tr>
<tr>
<td>Soap Boiling</td>
</tr>
<tr>
<td>Equipment for Soap Boiling</td>
</tr>
<tr>
<td>Selection of Fat Charge</td>
</tr>
<tr>
<td>The Saponification Reaction</td>
</tr>
<tr>
<td>Physical Chemistry of the Soap Kettle</td>
</tr>
<tr>
<td>Graining Out and Washing</td>
</tr>
<tr>
<td>Strong Change</td>
</tr>
<tr>
<td>Finishing or Fitting Operation</td>
</tr>
<tr>
<td>Countercurrent Washing</td>
</tr>
<tr>
<td>Soap from Fatty Acids</td>
</tr>
<tr>
<td>Miscellaneous</td>
</tr>
<tr>
<td>Semiboiled And Cold Processes</td>
</tr>
<tr>
<td>Semiboiled Soaps</td>
</tr>
</tbody>
</table>
Cold-Made Soaps
Continuous Saponification
Mills Process
Sharples Process
The De Laval Process
The Monsavon Process
Lye Absorption
Saponification Loop
Saponification of Distilled Fatty Acids
Alfa Laval Continuous Saponification
Washing Of Saponified Soap
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
Fatty Acids
Manufacture from Glycerides
Soap-making With Fatty Acids
Tall Oil
Whole Tall Oil
Tall Oil Refining
Tall Oil Soaps
Glycerin
Crude Glycerin
Purification
Synthetic Glycerin
Classification Of Soap Products
Spray Drying
Manufacture Of Framed Soaps
Manufacture Of Chips And Flakes
Manufacture Of Milled Bars
The Mazzoni Process
Floating Soap Bars
Mixing of Soap
Preservatives
Perfumes
Colours
Opacifiers
Optical Brighteners
Superfatting Agent
Structurants
Bactericides and Germicides
Miscellaneous Additives
Soapmaking
Fat Charge Control
Colour of Soap Base
Free Alkali and Chloride
Unsaponified Fat
Glycerol in Soap
Methods Of Analysis
Sampling Procedures
Separation Identification
Determination Of Soap Composition
Determination Of Inorganic Fillers And Soap Builders
Determination Of Other Additives
Determination Of Impurities
Other Quality Control Tests
Analysis Of Soaps Containing Synthetic Detergents
Analysis Of Metallic Soaps
Soap And Other Surface-active Agents
Theory of Surface Action
Quantitative Relationships
Defoaming
Emulsification
Wetting of Solids
Miscellaneous Effects of Adsorption on Solid Surfaces
Detergency
Physical Chemistry Of Soaps And Related Materials
Phase Behaviour of Aqueous Systems
Phase Behaviour of Solid Soaps
Nature of Dilute Solutions
Structure of Micelles and Solubilization
Surface and Interfacial Tensions
Commercial Soap Products
Raw Materials
Production and Consumption
Characteristics of Soaps Saponified by Different Methods
Effect of Different Factors on Physical Characteristics of Bar Soaps
Types of Commercial Soap
Surface-active Agents Other Than Soap
Classification of Surfactants
List of Surfactants
Production and Consumption
Ampholytic Surfactants
Detergents
Wetting Agents
Emulsifying Agents
2. DETERGENTS
Production Of Detergent Active
Introduction
Choice of Alkylate
Sulphonation
Choice Of Sulphonation Plant
Side Reactions During Sulphonation
Sulphonation Practice
Sulphonation Of Alpha Olefin
Neutralisation/Hydrolysis
Chemithon Technology
Storage and Handling
Derivation Of Fatty Alcohols
General Outline
Process Based On Natural Fats
Process Based On Ethylene Source
Sulphation Of Fatty Alcohols
Continuous Process For Fatty Alcohol Sulphates
Preparation Of Detergent Granules As Finished Product
Procedure
Acid Slurry
Alkali Solution
Additives To Detergent Actives
Inorganic Additives
Phosphates
Zeolites
Silicates
Carbonates
Bleaches
Other inorganic builders and fillers
Organic Additives
Anti-redeposition agents
Optical brighteners (OB)
Foam boosters
Enzymes
Chelating agents
<table>
<thead>
<tr>
<th>Identification Of Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determination Of Surfactants</td>
</tr>
<tr>
<td>Total Organic Active Ingredient</td>
</tr>
<tr>
<td>Anionic Detergents</td>
</tr>
<tr>
<td>Cationic Detergents</td>
</tr>
<tr>
<td>Nonionic Detergents</td>
</tr>
<tr>
<td>Determination Of Components Other Than Surfactants</td>
</tr>
<tr>
<td>Abrasives</td>
</tr>
<tr>
<td>Ammonia</td>
</tr>
<tr>
<td>Carbonates</td>
</tr>
<tr>
<td>Carboxymethylcellulose</td>
</tr>
<tr>
<td>Chlorides and Available Chlorine</td>
</tr>
<tr>
<td>Enzymes</td>
</tr>
<tr>
<td>Ethanol and Isopropyl Alcohol</td>
</tr>
<tr>
<td>Ethylenediaminetetraacetate</td>
</tr>
<tr>
<td>Fatty Acids</td>
</tr>
<tr>
<td>Glycerine</td>
</tr>
<tr>
<td>Hydrotropes</td>
</tr>
<tr>
<td>Metallic Impurities</td>
</tr>
</tbody>
</table>
Neutral Oil (Free Oil) and Free Fatty Alcohol
Perborates
Phosphates
Silicates
Steam-Distillable Maller
Sulfates
Water
DETERMINATION OF PROPERTIES
Performance Tests
3. CHEMICALS USED IN SOAPS & DETERGENTS

Alkylolamides
Introduction
Alkylolamides in Shampoo Formulations
Chemistry Of The Alkylolamides
Mono-alkylolamides
Di-alkylolamides
Pure Di-alkylolamides
Phosph oxylated Alkylolamides
Sulphated Alkylolamides
Foam Stabilization
Manufacture Of Alkylolamides
Coconut Fatty Acid Diethanolamide
Lauric Acid Diethanolamide
Oleic Acid Monoethanolamide
Stearic Acid Monoethanolamide
Formulation Of Shampoos
N-acyl-n-alkyltaurates

www.entrepreneurindia.co
Introduction
Applications of Igepon T Products
Future of Igepons
Manufacture Of Igepon T
Raw Materials
Oleic Acid Chloride
Igepon T Gel
Igepon T Powder
Chemical Control
Utilities
Materials of Construction
Alkyl Sulfates
Introduction
Manufacture of Alcohols
Properties And Performance Characteristics Of Alkyl Sulfates
Krafft Point
Critical Micelle Concentration
Surface and Interfacial Tensions
Wetting Time

www.entrepreneurindia.co
Foam Height
Detergency
Dishwashing Test
Emulsion Stability
Manufacture Of Alkyl Sulfates
Sulfation with Chlorosulfonic Acid
Sulfation with Sulfuric Acid
Sulfation with Sulfur Trioxide
Manufacture of Alkyl Sulfated on Large Scale
Formulated Products From Alkyl Sulfates
Olefin Sulfate & Sulfonates
Introduction
Olefin Sulfates
Introduction
Raw Materials And Product Composition
Olefin Sulfates from Shale Oil
Olefin Sulfate From Wax-cracked Distillates
Sulfation
Neutralization and Hydrolysis

www.entrepreneurindia.co
Evaporation
Finishing
Solvent Recovery
Olefin Sulfonates
Introduction
Products of Sulfonation
Manufacture Of Olefin Sulfonates
Introduction
Batch Sulfonation
Continuous Sulfonation
Sulfonation with Dioxane-SO3
Characteristics & Surface Active Properties Of Olefin Sulfonates
Formulation Of Heavy-duty Detergents With Olefin Sulfonates
Ethoxylation Processes
Introduction
Ethoxylated Alkyl Phenols
Laboratory Method of Preparation
Batch Ethoxylation Unit
Properties of Ethoxylated Alkyl Phenols
Sulfation and Sulfonation
Manufacture Of Alkyl Phenol Ether Sulfates
Sulfamation
Nonylphenol 4-ethoxy Sulfate
Di-(isohexyl/isohexyl) Phenol Ether Sulfate
Dodecylphenol Ether Sulfate
Sulfation with Sulfur Trioxide
Comparison of Sulfation with Sulfur Trioxide and Sulfamic Acid
Properties-and Performance Characteristics Of Alkyl Phenol Ether Sulfates
Alkyl Ether Sulfates
Introduction
Properties & Performance Characteristics Of Alkyl Ether Sulfates
Individual Alkyl Ether Sulfates
Tallow Alcohol Ether Sulfates
Manufacture Of Alkyl Ether Sulfates
Process Development
Manufacture Of Alcohol Ether Sulfates
Formulated Products From Alkyl Ether Sulfates
Fatty Amine Oxides
Introduction
Manufacture Of Fatty Amine Oxides
Routes to Fatty Amines
Amine Oxidation
Commercial Synthesis
Properties And Analysis Of Fatty Amine Oxides
Amine Oxide Properties
Analytical Methods
Formulations And Use Of Fatty Amine Oxides
Light-duty Liquids
Heavyduty Formulations
Bisquaternery And Other Cationic Softeners
Introduction
Preparation Of Bisquaterneries
Performance Evaluation Of Softeners
Multiwash Softeners Evaluation
Softness Evaluation
Rewettability Measurements
Performance Characteristics Of Bisquatreneries And Other Cationics As Softeners
Softener Concentration
Fabric Rewettability Measurements
Other Miscellaneous Surfactants
Alkyl Naphthalene Sulfonates
Introduction
General Method of Manufacture
Nekal BXG
Nekal BX Extra Strong
Dibutyl Naphthalene Sulfonate
Diamyl Naphthalene Sulfonate
SULFATED ALKYLOLAMIDES
Introduction
Igepon B Paste
Igepon C Paste
Sodium B-sulfoethyl Esters Of Fatty Acids

www.entrepreneurindia.co
Introduction
Manufacture of Igepon A
Polyethylene Glycol Fatty Acid Esters
Introduction
Manufacturing Process
Fatty Acid Esters of Sucrose
N-acylsarcosinates
Introduction
Manufacture of Sodium N-oleoylsarcosinate
Sulfated Monoglycerides
Introduction
Manufacture
4. BLEACHING AGENTS

- History
- Mechanism of Bleaching
- Bleaching Strength
- Methods of Analysis
- Identification
- Assay Methods
- Chlorine-Containing Bleaches
- Procedure
- Oxygen-Containing Bleaches
- Determination Of Impurities
- Methods of Evaluation
- Bleached Textile Products
- Bleached Pulp And Paper
- Handsheets for Testing of Pulp
- Physical Testing of Pulp Handsheets
- Brightness of Pulp
- Brightness Reversion
- Disperse Viscosity of Pulp
- Physical Testing of Paper and Paperboard
5. DRY CLEANING AGENTS

Stoddard Solvent
Specification Tests
Perchloroethylene
Specification Tests
Fluorocarbon Solvent
Drycleaning Detergents
Methods of Analysis
Specification Tests
Procedure
Performance Tests
Chemical Fabric Finishes
6. DISINFECTANTS AND ANTISEPTICS

General Evaluation Methods
Alcohols
Phenols
Methods of Analysis
Separation and identification
Procedure
Determination In Mixtures
Bisphenols
Methods of Analysis
Identification
Specification Tests
Determination In Mixtures
Salicylanilides And Carbanilides
Methods of Analysis
Halogens And Halogen Donors
Methods of Analysis
Quaternary Ammonium Compounds
Method of Analysis
Separation and identification
Assay Methods
Determination In Mixtures
Colorimetric Methods
Gravimetric Methods
Titrimetric Methods
MERCURIALS
Inorganic Mercurials
Organic Mercurials
Methods of Analysis
Determination In Mixtures
Aldehydes
Methods of Analysis
Determination In Mixtures
Epoxides
Methods of Analysis
Determination In Mixtures
Guanidine Derivatives
Method of Analysis
Niir Project Consultancy Services (NPCS) can provide Process Technology Book on Soaps, Detergents and Disinfectants

See more

http://goo.gl/TwPiMf
http://goo.gl/WRjquz
http://goo.gl/BxQIZY
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
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

www.entrepreneurindia.co
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.

www.entrepreneurindia.co
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
- Entrepreneur India (An Industrial Monthly Journal)

www.entrepreneurindia.co
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

- Requirement collection
- Thorough analysis of the project
- Economic feasibility study of the Project
- Market potential survey/research
- Report Compilation

www.entrepreneurindia.co
Who do we serve?

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

www.entrepreneurindia.co
Sectors We Cover

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

- 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
Sectors We Cover (cont...)

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

www.entrepreneurindia.co
Sectors We Cover

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

- 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
- Organic Farming, Neem Products Etc.
Sectors We Cover cont...

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

www.entrepreneurindia.co
Sectors We Cover

- 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
Sectors We Cover cont...

- 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
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
THANK YOU!!!

For more information, visit us at:
www.entrepreneurindia.co