Soaps, Detergents and Disinfectants Technology Handbook

(3rd Revised Edition)

(Washing Soap, Laundry Soap, Handmade Soap, Detergent Soap, Liquid Soap, Hand Wash, Liquid Detergent, Detergent Powder, Bar, Phenyl, Floor Cleaner, Toilet Cleaner, Mosquito Coils, Naphthalene Balls, Air Freshener, Hand Sanitizer and Aerosols Insecticide)
Introduction

Soaps are cleaning agents that are usually made by reacting alkali (e.g., sodium hydroxide) with naturally occurring fat or fatty acids. A soap is a salt of a compound known as a fatty acid. A soap molecule consists of a long hydrocarbon chain (composed of carbons and hydrogen’s) with a carboxylic acid group on one end which is ionic bonded to a medallion, usually a sodium or potassium. The hydrocarbon end is nonpolar and is soluble in nonpolar substances (such as fats and oils), and the ionic end (the salt of a carboxylic acid) is soluble in water. Soap is made by combining tallow (or other hard animal fat) or vegetable or fish oil with an alkaline solution. The two most important alkalis in use are caustic soda and caustic potash.

Related Projects: - Soap, Detergents, Surfactants, Cleaners, Cleaning Powder, Laundry Care, fabric care and wash
Soaps are potassium or sodium salts of a carboxylic acid having a long aliphatic chain attached to it. They are surfactants (compounds that reduce the surface tension between a liquid and another substance) and therefore help in the emulsification of oils in water. Soaps are generally prepared via the saponification of fats and oils. The carboxylate end of the soap molecule is hydrophilic whereas the hydrocarbon tail is hydrophobic.

Related Books:-  Soaps, Detergents, Acid Slurry, Cleaners, Toiletries, Washing Powder, Cake (Bar), Laundry Care
A detergent is an effective cleaning product because it contains one or more surfactants. Because of their chemical makeup, the surfactants used in detergents can be engineered to perform well under a variety of conditions. Such surfactants are less sensitive than soap to the hardness minerals in water and most will not form a film. Soaps and Detergents are chemical compound or mixture of compounds used as a cleansing agent. Soap is a sodium salt or potassium salt of many combinations of fatty acids having cleansing action in water whereas Detergent surfactants are much better solutions for the cleaning purpose as the hardness of water does not affect them.

Related Videos:- Soap, Detergents, Surfactants, Cleaners, Cleaning Powder, Laundry Care, fabric care and wash, Household and Industrial Detergents
Types of Soaps

**Toilet Soaps:** Toilet soaps use a higher quality of oils and fatty acids to give them better quality. Sometimes perfumes and colours are added for cosmetic purposes.

**Medicated Soaps:** In these types of soaps we add antiseptics to the soap as an ingredient. The antiseptic is to help kill germs from the surface along with the dirt and dust.

**Floating Soaps:** as the name suggests, these soaps float in the water instead of sinking like normal soaps. This is done by whipping air into the soap in the soap mixture before they set in their moulds.

**Related Book:-** Soaps, Detergents and Disinfectants Technology Handbook (3rd Revised Edition)
**Shaving Soaps:** These soaps must not dry too fast. So glycerol is added to it to keep it from drying. Also, we add a substance known as rosin to help the soap lather.

**Soap Chips:** These are leftover pieces of soap that are left over in soap production. They can also be made by the scrapping of small pieces of soap from a thin sheet of soap.

**Market Research:** - [Market Research Report](#)
Types of Detergents

Anionic Detergents

These are anion active synthetic detergents. There are sulphate salts of long chains of hydrocarbons. The anion active part is the cleansing agent. One common example is sodium alkyl sulphate. The preparation involves treating a long chain alcohol with a concentrated sulphuric acid. Then it is neutralized by Sodium hydroxide.

Anion detergents are the most common type of detergents. They are used in household work mostly, like washing clothes, mopping floors etc. We even use anionic detergents in toothpaste.

Projects: - Project Reports & Profiles
Cationic Detergents

Cationic detergents are ammonia salts, usually of chlorides or acetates. They have a long chained molecular structure of hydrocarbons. And the active part of the molecule is a positive ion. I.e. action. This explains the name caption detergents. A popular example is cetyltrimethylammonium bromide.

Cationic detergents also have bactericidal properties. One common use for them is in hair conditioners. Cationic detergents tend to be expensive and so they do not have many industrial uses.

Books:- BOOKS & DATABASES
Non-ionic Detergents

As the name suggests they do not have any ions in their molecules, so they are uncharged. To produce nonionic detergents we react polyethene glycol with stearic acid. There are two main types of nonionic detergent polyoxyethylene and glycosidic.

Related Book:- Soaps, Detergents and Disinfectants Technology Handbook (3rd Revised Edition)
Manufacturing Process

Soap

Saponification processes are chemical soap manufacturing processes that produce soap from fatty acid derivatives. Saponification process for soap manufacturing involves hydrolysis of esters under basic conditions to form an alcohol and the salt of a carboxylic acid (carboxylates). Saponifiable substances are the soaps and detergent ingredients that can be converted into soap.

Related Book: Modern Technology of Soaps, Detergents & Toiletries (with Formulae & Project Profiles) 4th Revised Edition
In Saponification soap manufacturing processes, vegetable oils and animal fats are used for making soaps. Trimesters or Triglycerides are the greasy materials derived from these diverse fatty acids. Soap manufacturing is done in a one-step or a two-step process. In the one-step soap manufacturing process, the triglyceride is treated with a strong base, for example, lye, that accelerates cleavage of the ester bond and releases the fatty acid salt and glycerol. This one step soap manufacturing process is the key industrial method for producing glycerol.

Related Book:-  **Handbook on Soaps, Detergents & Acid Slurry (3rd Revised Edition)**
Sometimes soaps may be precipitated by salting it out with saturated sodium chloride. For soap manufacturing, triglycerides are highly purified but saponification process includes other base hydrolysis of unpurified triglycerides. For example the conversion of the fat of a corpse into adipocerous, sometimes known as "grave wax." This soap manufacturing process is more common where the amount of fatty tissue is high, the agents of decomposition are absent or are negligibly present, and the burial ground is particularly alkaline.

Related Book: - Herbal Soaps & Detergents Handbook
Detergents Manufacturing Process

Detergents are manufactured using a synthetic surfactant in place of the metal fatty acid salts that are used in soaps. Made in powder detergents, these detergents are sold as laundry powders, hard surface cleansers, dishwashing detergents, fabric conditioners etc. Most of the powder detergents have soap in their mixture of ingredients, however it generally functions more as a foam depressant than as a surfactant.

Related Book:- The Complete Technology Book on Detergents (2nd Revised Edition)
Chemical Processes

Powder detergents are manufactured using various processes, such as spray drying, agglomeration, dry mixing or a combination of these. A brief description of these different processes is given below –

Spray Drying Process

The different stages / operations performed in a spray drying process, are –

Dry and liquid ingredients are first combined into a slurry, or thick suspension, in a tank known as cruncher. The slurry is heated and then pumped to the top of a tower where it is sprayed through nozzles (under high pressure) to create small forming hollow granules as they dry.

Droplets. The droplets fall through a current of hot air, thereby

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

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Collected from the bottom of the spray tower, the dried granules are screened to obtain a relatively standard size. After the granules have been cooled, heat sensitive ingredients, which are not compatible with the spray drying temperatures (like bleach, enzymes and fragrance) are added.

Traditional spray drying process produces relatively low-density detergent powders. Advancements in technology have enabled the soap and detergent manufacturers to reduce the air inside the granules during spray drying to obtain higher densities. The high-density detergent powders can be packed in much smaller packages than those needed previously.

Related Book:- Soaps, Detergents and Disinfectants Technology Handbook (3rd Revised Edition)
Agglomeration

Agglomeration is detergent powder manufacturing chemical technique that results in high-density powders. The process involves blending of dry raw materials with liquid ingredients. The technique involves machines, such as a liquid binder, rolling or shear mixing that causes the ingredients to collide and adhere to each other, producing larger particles.

Dry Mixing

Dry mixing is a detergent powder manufacturing technique, which is used to blend dry raw materials. The technique may also involve the addition of small quantities of a liquid.

Related Book:- Soaps, Detergents and Disinfectants Technology Handbook (3rd Revised Edition)
Application

**Laundry Cleaning Products:**
- Detergent Powder
- Detergent Cake
- Fabric Softener
- Laundry Liquid
- Stain and Odor Eliminator

**Household Cleaning Products**
- Floor Cleaners
- Glass Cleaners
- Toilet Bowl Cleaners
- Wood Cleaners

**Market Research:** - [Market Research Report](www.entrepreneurindia.co)
Dishwashing Products

Dishwasher Liquid
Dishwasher Powder
Dishwasher Gel
Dishwasher Tablets

Fuel Additives

Biological Reagent

Other Applications

Projects: - Project Reports & Profiles
Soap and Detergent Market

The rising disposable income and rapid urbanization in developing countries are expected to increase the demand for soaps and detergents. The manufacturers are continuously focusing on innovative product development to cater the unmet needs of their customers. For instance, anti-allergy soaps and natural ingredients containing detergents are heavily adopted by consumers with delicate skin. The market is witnessing globalization in the sector, as more and more global vendors are branching out in the market to increase their market share. With rising globalization, vendors of the market are facing new challenges to sustain their growth and compliant as per the laws and regulations directed by various government agencies. The potential opportunities in the developing economies are expected to provide ample of demand for the product over the forecast period.
The **detergents** market is expected to grow during the forecast period owing to the increasing demand for laundry cleaning products segment. Liquid laundry detergent is primarily used in cleaning laundry and has two main end-user segments, such as residential and commercial. The commercial applications are in textile industry, hospitality industry, laundry services, and other industries, whereas residential applications include its use in household cleaning. The demand for liquid laundry detergent is growing, owing to the comfort and ease of application and lesser wastage, compared to detergent powders.

**Projects:** - [Project Reports & Profiles](http://www.niir.org)
Soap is defined as a chemical compound or mixture of compounds used mainly as a cleaning agent. Soaps are prepared when animal fats or vegetable oils are treated with an alkaline solution. The fats and oils used in soap-making are derived from animal or plant sources. Every fat or oil is made up of a distinctive mixture of several different triglycerides. Similarly, detergent is also a cleaning agent, prepared from synthetic or man-made materials. Both soap and detergent are used for cleaning purposes but in some scenarios detergent can perform better cleaning jobs than soap. Detergents are frequently used in products for personal hygiene, dish washing, and laundry. They are also used as ingredients in antiseptic agents, dry-cleaning solutions, lubricating oils, and gasoline.

Books:- BOOKS & DATABASES
Detergents are the potassium or sodium salts of a long alkyl chain ending with a sulfonate group. They are soluble in hard water. This solubility is attributed to the fact that the sulfonate group does not attach itself to the ions present in hard water. Commonly, anionic detergents such as alkyl benzene sulfonate are used for domestic purposes.

Disinfectants are chemical agents applied to non-living objects in order to destroy bacteria, viruses, fungi, mold or mildews living on the objects. Disinfectants are chemical substances used to destroy viruses and microbes (germs), such as bacteria and fungi, as opposed to an antiseptic which can prevent the growth and reproduction of various microorganisms, but does not destroy them. The ideal disinfectant would offer complete sterilization, without harming other forms of life, be inexpensive, and non-corrosive.

Related Book:- Modern Technology of Soaps, Detergents & Toiletries (with Formulae & Project Profiles) 4th Revised Edition
The global soap and detergent market is expected to reach USD 207.56 billion by 2025. The industrial soaps & detergents are extensively used by the commercial laundries, hotels, restaurants, and healthcare providers. Increasing demand from healthcare and food industries will continue to drive the market. Aerosol and liquid products are the common disinfectants used in hospitals, although growing number of healthcare facilities are implementing ultraviolet disinfection systems as further measure. Increasing demand for disinfectants from water treatment and healthcare industries is fuelling growth of the global disinfectants market.

Related Book:- Handbook on Soaps, Detergents & Acid Slurry (3rd Revised Edition)

Related Book:- Herbal Soaps & Detergents Handbook
This book will be a milestone for its readers who are new to this sector, will also find useful for professionals, entrepreneurs, those studying and researching in this important area.

Related Book:- Soaps, Detergents and Disinfectants Technology Handbook (3rd Revised Edition)
1. **INTRODUCTION**

2. **LIQUID SOAPS AND HAND WASH**
   - Method of Manufacture
   - Raw Material Required

3. **LIQUID SOAP AND DETERGENTS**
   - Product Introduction
   - Method of Manufacture
   - Liquid Detergents
   - Weight Equivalents of DDBSA
   - Molecular Weights
   - Special Procedures for Compounding
4. **WASHING SOAP : LAUNDRY SOAP FORMULATION**

Manufacture of Laundry Neat Soap from Oil, Blend

Harding of RBD

Acid Wash for RBHT

Salt Wash for Neem Oil

Blending

Neem Soap Manufacture

Manufacture of Laundry Soap

Step 1: Mixing of Sodium Silicate, China Clay and Salt
Step 2: Cratcher Mixing Operation

Step 3: Spray Drying

Step 4: Cutting

Step 5: Stamping

Step 6: Wrapping

Step 7: Packing

Theory

Process and Raw Material

Product Profile

Washing Soaps

Brand Name

Process
5. **ANTISEPTIC AND GERMICIDAL LIQUID SOAP**

Hexachlorophene Soaps

Control of Clarity

Filtration

Bottling and Packaging

6. **MANUFACTURING PROCESS AND FORMULATIONS OF VARIOUS SOAPS**

(A) Washing Soaps

1. Washing Soap with Soap Stone (by Cold Process)

Process
2. Washing Soap with Soda Silicate (by Cold Process) Process
3. Washing Soap Process
4. Sunlight Type Washing Soap Process
5. Sunlight Type Washing Soap (Other Formula) Process
6. Washing Soap Made of Groundnut Oil Residue Process
7. Washing Soap (from Linseed Oil) Process
8. Washing Soap (made of Cottonseed Oil) Process
Nerol Shop

Process of Manufacturing

9. Other Selected Formulas of Washing Soaps

Process

(B) Nerol Washing Soap

Process of Manufacturing

(C) Toilet Soaps

Selected Formulas for Toilet Soaps

For Toilet Soap Perfumes

(D) Carbolic Soaps

Process

2. +-Lifeboy Type Soap Process
3. Transparent Soap (Pears Types) Process

   Transparent Soap (Another Formula) Process

   (E) Shaving Soaps Process

   Process

   (F) Special Soaps

   1. Borax Soap (For Pimples) Process

   2. Borax Soft Soap Process

   3. Soft Soap (Other Formula) Process

   4. Rug Cleaning Soap Process

   5. Dry-Cleaning Soap (Liquid) Process

   6. Soap used in the Bleaching of Jute Process
7. Built Soaps for Cottons and Linens Process

8. Sandle Soap Process

(G) Vaseline Soap Process

(H) Liquid Soap Process

(I) Girt Soaps Process

2. Hand Soap Paste with Mineral Abrasive Process

3. Powdered Hand Soap with Vegetable Abrasive and Lanolin Process

(J) Depilatory Soaps Process

(K) Metallic Soaps in protective coating industry Metals

Method of Precipitation
(L) Liquid Dental Soap
(M) Medicated Soap
Neem Soap
Formulation

7. **HANDMADE SOAP**
   Properties
   Benefits of Handmade Soap
   Types of Handmade Soap
   Cold Process Soap
   Hot Process Soap
   Liquid Soap
   Transparent Soap
   Glycerin Soap
   Ready-Made Soap Bases
Basic Ingredients in Handmade Soap

Tools and Equipments

Temperature Chart

Handmade Soap Formulae

Lavender Soap

Sweet Almond Oil Soap

Seagrass Soap

Cocoa and Shea Butter Soap

Column Swirl Soap

Spoon Swirl Handmade Soap

Cocoa Butter Soap

Coffee Soap
Creamy Coconut Milk Soap
   Rose Milk Soap
   Sweet Citrus Honey
   White Camellia Oil Soap
   Basic Soap-Making Processes
   Cold Process
   Hot Processes
   Moulds
   Purification and Finishing

8. **DETERGENT SOAP**
   Properties
   Uses & Applications
   Detergent Cake Formulation
   Manufacturing Process
   Process Flow Diagram
9. **PACKAGING OF SOAPS**

Soap Packaging Benefits

Factors to Consider

Types of Soap Packaging

Soap Packaging Machines

10. **LIQUID DETERGENT**

Uses of Liquid Detergent

Liquid Detergent Formulations

1. Heavy Duty Liquid Detergent

2. Light Duty Liquid Detergent

Manufacturing Process

Process Flow Diagram

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11. **DETERGENT POWDER**

Properties of Detergent Powder

Uses & Application

Manufacturing Process

Process Flow Diagram

12. **APPLICATION AND FORMULAE OF DETERGENTS**

Foam

Household Cleaning

Heavy-Duty Laundering

Formula 9

Spray-dried Heavy-duty Household Hand-washing Powder

Foam Control

Formula 10

Heavy-duty Fully Automatic Washing Machine Powder

Formula 11
Low-foaming Machine Powder for Soft-water Areas
Formula 12
Low-foaming Machine Powder for Soft-water Areas Using Formulae 13-14
Spray-dried Household Low-foaming Laundry Powders
Formulae 15, 16, 17, 18
Heavy-duty Liquid Detergents
Formula 19
Heavy-duty Liquid Detergent with ‘Controlled Foam’
Formula 20
Heavy-duty Liquid Detergent and Bleach
Formula 21
Light-duty Household Liquid Detergent
Formula 22
Lotion-type Light-duty Liquid Detergent
Formulae 23-27
Light-duty Liquid Detergents

Formula 28
Household Fine-wash Spray-dried Powder

Formula 29
40 per cent Detergent Paste

Formula 30
Spray-dried General-purpose Powder

Formula 31
General-purpose Powder

Formula 32
General-purpose Powder
Choice of Non-Ionic

Concentrated Powders
Mix Together
Cold Water Washing
Hard-Surface Cleaners
Formula 33
Hard-surface Cleaner
Formula 34
Hard-surface Cleaner
Formula 35
Aerosol Oven Cleaner
Machine Dishwashing
Formula 36
Machine Dish-washing Powder for Soft-water Areas
Formula 37
Machine Dish-washing Powder for Moderately Hard-water Areas

Formula 38

Machine Dish-washing Powder for Hard-Water Areas

Abrasive-Type Cleaners

Formula 39

Household Scouring Powder

Formula 40

Formula 41

Household Scouring Liquid

Miscellaneous Household Cleaners

Formula 42

Household Window-cleaning Liquid

Formula 43

Floor Cleaner

Commercial Laundering

Formula 44
Spray-dried Industrial Laundry Powder

Formula 45

Industrial Laundry Powder not Spray-dried

Solvent Detergents

Formula 46

Detergent-solvent Combination

Formula 47

Detergent-solvent Combination

Formula 48

Kerosene Water Solution

Formula 49

Solvent detergent Combination

Formula 50

Solvent-detergents based on 100 per cent ABS (So3 produced)

Formula 51
Dry-cleaning Detergent

Carpet and Upholstery Cleaners

Textile Dressing

Formula 52

Textile Scouring Paste

Formula 53

Textile Degumming Detergent Paste

Mercerizing

Food and Dairy Industries

Formulae 54-56

Food and Dairy Alkaline Detergent Cleaner

Formula 57
Bottle-washing Compound

Detergent Sanitizers

Formula 58 and Formula 59

Metal Cleaners

Formula 60

Acid Cleaner for Water-cooling Systems

Miscellaneous Cleaners

Lavatory Cleaner

Hand Cleaners

Formula 75

Hand Cleanser
Formula 76

Detergent Hand Cleanser

Formula 77

Hand Cleanser in Powder Form

Waterless Hand Cleansers

Formula 78

Waterless Hand Cleanser

Formula 79

Waterless Hand Cleanser

Formula 80

Waterless Hand Cleanser
13. **DETERGENT BAR**
   - Formulation
   - Sequence of Additions
   - Type of Defects
   - Manufacturing Process of Detergent Bar

14. **DETERGENTS OF VARIOUS TYPES**
   (A) Detergent Powder
   - Method
   - Other Formulae
   - Process
   - List of Plant and Machinery
   - Raw Materials Used per day
Dairy Equipment Cleaners

Bottle Cleaners

Preparation of Caustic Gluconate Solution

Dairy Equipment Cleaners

Dish Washing Detergents

(a) For China Dishes by Soft Water
(b) In Soft as well as Moderately Hard Water
(c) For China Dishes by Hard Water
(d) For Plasticware/Chinaware

Other Dish-Washing Compounds (Vim Type Cleaning-Powder)

1. For Aluminium Ware
2. For Glass, China and Silverware
3. Washing Powder (For Cottons)
4. Washing compounds (For Woollens)
5. Washing Compound (For Wool)
6. Rug Cleaners

7. Floor Cleaners (Building Surface)
8. Wall Cleaner
9. Floor Cleaner (Light Duty Powder)
10. Heavy Duty Cleaner
11. Various Head Cleaning Compounds
12. Cleaner for Artificial Teak
13. Stoneware Glaze
14. Paint Brush Cleaner
15. Auto Polish

Process
Direction for Use
Process
Direction for Use
Process
Direction for Use

Scouring Powders

Floor Cleaners
1. Common Wall Cleaner
2. Light Duty Cleaner (Powder)
3. Heavy Duty Cleaner
4. Cleaner for Building Surface

Sanitary Cleaner

List of Plants and Machinery

Raw Material
Metal cleaners
Aluminium Cleaner
Steel Cleaner
Cleaner for Iron Applied Prior to Galvanishing

Liquid Pine Scrub Soap for General Floor Scrubbing
Wax Removing Cleaner (Liquid)

- Sweeping Compound (Oil Base)
- Painted Surface Cleaner (Powder)
- (B) Liquid Detergents
- All Purpose Liquid Cleaners
- Dish Washing Liquid Detergents
- Formulations for Mechanical Dishwasher
- Hand Washing Liquid Detergent
- Miscellaneous Cleaners
- Textile Scouring Paste
- Degumming Paste for Wool
- Liquid Cleaners for Hard Surface
- Window Panes Cleaning Liquid
- Dry Cleaning Detergent Process
(C) Detergent (Nirma Type)
Formulations for the Nirma Type Detergent Powder

List of Plant and Machinery

Raw Materials Required/Month

(D) Detergent Cake

Manufacturing Process for Detergent Cake Basis 1 TPD

1. Sulfonation of Alkyl Benzene
2. Separation Step
3. Neutralization Stop
4. Mixing of Ingredients
5. Concentration of Slurry
6. Making of Cake
7. Packing
8. Despatching

List of Plant and Machinery

Raw Materials Required per day
15. **FORMULATING LIQUID DETERGENTS**

Requisites of Surfactants for Formulating Liquid Detergents

Surfactants Most Commonly Used

Builders

Viscosity Controllers

Other Ingredients

Household Liquid Detergents For Laundering

Heavy Duty

Typical Formulations

Process

Light Duty: (for Silk, Wool etc.)

Shampoos

Rug Cleaning Liquid Detergent Formulations

A Recommended Formulation
16. **PHENYL**
   - Uses
   - Properties
   - Manufacturing Process

17. **FLOOR CLEANER**
   - Composition of Floor Cleaner
   - Uses of Floor Cleaner
   - Raw Material Required for Floor Cleaner
   - Manufacturing Process of Floor Cleaner
   - Process Flow Diagram of Floor Cleaner
## 18. TOILET CLEANER
- Properties
- Features
- Formulations of Toilet Cleaner
- Manufacturing Process of Toilet Cleaner
- Process Flow Diagram of Toilet Cleaner

## 19. MOSQUITO COILS
- Uses and Application
- Properties
- Basic Raw Material
- Manufacturing Process
- Process Flow Diagram
20. NAPHTHALENE BALLS
Uses & Application
Properties
Manufacturing Process
Process Flow Diagram

21. AIR FRESHENER (ODONIL TYPE)
Properties
Uses and Applications
Formulation for Preparing Odonil Type Solid Deodorant Cake
Manufacturing Process
Process Flow Diagram

22. LIQUID HAND WASH AND SOAPS
Method of Manufacture
Raw Material Required
23. HAND SANITIZER
Physical and Chemical Properties
Ingredients
Uses
Formulation of Herbal Hand Sanitizer
Manufacturing Process

24. AEROSOLS–WATER AND OIL BASED INSECTICIDE (Flies, Mosquitoes Insect and Cockroach Killer Spray)

Aerosol Container
Formulation of Insecticide Aerosols
Oil-Based Aerosol (OBA)
Water-Based Aerosols (WBA)
Alcohol-Based Aerosol
Filling Process of Oil-based Insecticide Aerosols (U-t-C)
The Production Process of Oil-Based Insecticide Aerosol
The Preparation of Concentrate
The Preparation of Diluent Solution
Filtration

Filling Process of Water-Based Insecticide Aerosols (T-t-V method)
Filling Process of Water-Based Insecticide Aerosols (U-t-C)

Instruction of Process
A. Procedures of Water-Based Aerosols
B. Procedures of Oil-Based Aerosols
C. Aerosol Production Line

Water-Based Aerosol Insecticide Formulation
The Biological Efficacy of Typical Formulation
FE Insecticide Aerosols
A. Features
B. Composition and the Physical Feature
C. Comparison of Efficacy to Insects Between FE and Other Knock Down Agent

Insecticide Aerosols for Special Uses
25. **ECOMARK CRITERIA FOR SOAPS & DETERGENTS**

A. Toilet Soaps
   1. General Requirements
   2. Product Specific Requirements

B. Detergents
   1. General Requirements
   2. Product Specific Requirements
   3. General Requirements

26. **PLANT LAYOUT**

27. **PROCESS FLOW CHART AND DIAGRAM**

28. **RAW MATERIAL SUPPLIERS LIST**
29. PHOTOCOPYS OF MACHINERY WITH SUPPLIER’S CONTACT DETAILS

Liquid Soap Making Machine
Three Roll Mill
Blender
Heat Exchanger
Plodder
Centrifuge
Flash Tank
Water Strainer
Cyclone Separator
Vacuum Pump
Hammer Mill
Jacketed Kettle
Condenser
Storage Tank

Steam Heater
Agitator
Soap Packing Machine
Transfer Pump
Hopper
Spray Dryer
Pulverizer Machine
Washing Powder Making Machinery
Bath Soap Making Machine
Soaps Wrapping Machine
Detergent Cake Making Machine
Manual Soap Cutter
Soap Extruders
Soap Mixer
Soap Presses

Soap Crutcher
Soap Flaker
Detergent Making Machine
Hand Wash Liquid Soap Making Machine
Ribbon Blender
Cage Mill
Automatic Production Line for High Laundry Detergent Filling and Capping

Soap Finishing Line
Canned Fresh Air Filling Machine Assembly Line 2800E
Air Filling Machine 1600D1
Aerosol Filling Machines Automatic Single Platform 2800A
Aerosol Filling Machines
Aerosol Contract Filling Machine
Aerosol Filling Plant
Aerosol Filling Equipment With 5 in 1 Function 1600C

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Toilet Soap Line

Laundry Soap Making Process Chart

Soap Production Line Machine

Soap Production Line Plant

Soap Making Line Machinery Soap Production Line
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- Export-Import Market Potential
- Raw Material & Manpower Availability
- Project Costs and Payback Period

The detailed project report covers all aspect of business, from analyzing the market, confirming availability of various necessities such as Manufacturing Plant, Detailed Project Report, Profile, Business Plan, Industry Trends, Market Research, Survey, Manufacturing Process, Machinery, Raw Materials, Feasibility Study, Investment Opportunities, Cost and Revenue, Plant Economics, Production Schedule.
Working Capital Requirement, uses and applications, Plant Layout, Project Financials, Process Flow Sheet, Cost of Project, Projected Balance Sheets, Profitability Ratios, Break Even Analysis. The DPR (Detailed Project Report) is formulated by highly accomplished and experienced consultants and the market research and analysis are supported by a panel of experts and digitalized data bank.

We at NPCS, through our reliable expertise in the project consultancy and market research field, have demystified the situation by putting forward the emerging business opportunity in India along with its business prospects......Read more
Contact us

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

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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
We at NPCS want to grow with you by providing solutions scaled to suit your new operations and help you reduce risk and give a high return on application investments. We have successfully achieved top-notch quality standards with a high level of customer appreciation resulting in long-lasting relation and large amount of referral work through technological breakthrough and innovative concepts. A large number of our Indian, Overseas and NRI Clients have appreciated our expertise for excellence which speaks volumes about our commitment and dedication to every client's success.
We bring deep, functional expertise, but are known for our holistic perspective: we capture value across boundaries and between the silos of any organization. We have proven a multiplier effect from optimizing the sum of the parts, not just the individual pieces. We actively encourage a culture of innovation, which facilitates the development of new technologies and ensures a high quality product.
What do we offer?

- Project Identification
- Detailed Project Reports/Pre-feasibility Reports
- Market Research Reports
- Business Plan
- Technology Books and Directory
- Industry Trend
- Databases on CD-ROM
- Laboratory Testing Services
- Turnkey Project Consultancy/Solutions
- 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

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

- 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
- 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  

- 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.
Sectors We Cover  Cont...

- 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
Objective

- To get a detailed scenario of the industry along with its structure and classification
- To provide a comprehensive analysis of the industry by covering aspects like:
  - Growth drivers of the industry
  - Latest market trends
  - Insights on regulatory framework
  - SWOT Analysis
  - Demand-Supply Situation
  - Foreign Trade
  - Porters 5 Forces Analysis
Objective

To provide forecasts of key parameters which helps to anticipate the industry performance
To help chart growth trajectory of a business by detailing the factors that affect the industry growth
To help an entrepreneur/manager in keeping abreast with the changes in the industry
To evaluate the competitive landscape of the industry by detailing:
  ➜ Key players with their market shares
  ➜ Financial comparison of present players
Venturist/Capitalists
Entrepreneur/Companies
Industry Researchers
Investment Funds
Foreign Investors, NRI’s
Project Consultants/Chartered Accountants
Banks
Corporates

Click here for list
Data Sources

Secondary Research
- Surveys
- One-on-one Interactions
- Databases

Online Research
- Industry Journals

Primary Research
- Industry Experts
- Industry Associations
- Companies

Industry Sources

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www.niir.org
Scope & Coverage

Present Status
(Indian & Global)

Outlook & Forecasts
(5Years)

Macro Environment

Indian Market

Demand Assessment

SWOT & Porters Analysis

Internal Market Analysis
Our research team comprises of experts from various financial fields:

- MBA’s
- Industry Researchers
- Financial Planners
- Research veterans with decades of experience
Structure of the Report

1. Overview
2. Market Analysis
   - 2.1 Growth Drivers
   - 2.2 Emerging Trends in the Industry
   - 2.3 Regulatory Framework
   - 2.4 SWOT Analysis
   - 2.5 Herfindahl–Hirschman Index (HHI)
3. Market Forecasts
4. Key Players
5. Key Financials and Analysis
  5.1 Contact Information
  5.2 Key Financials
  5.3 Financial comparison
6. Industry Size & Outlook
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