

# Handbook on Cosmetics (Processes, Formulae with Testing Methods)

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**Format:** paperback

**Code:** NI224

**Pages:** 688

**Price:** Rs.1675US\$ 150

**Publisher:** NIIR PROJECT CONSULTANCY SERVICES

Usually ships within 5 days

Cosmetics products are created for application on the body for the purpose of cleansing, beautifying or altering appearance and enhancing attractive features. It is not similar like medicines in addition to it cannot be used to modify the physique function or performance. The cosmetic Industry has witnessed rapid growth over the last couple of decades. Now a day the range of cosmetic and beauty products has widened tremendously. The use of cosmetics has increased exponentially not only among in females but the male population also indulges in their use. A wide range of chemical and natural materials is used in the formulation of cosmetic and toiletry preparations. Cosmetics like creams, gels, face powder, eye makeup, shaving cream, and colognes are used on a daily basis by both women and men. The Indian cosmetic Industry has witnessed rapid growth over the last couple of decades. In that time the range of cosmetic and beauty products in India has widened tremendously. Beauty products manufacturers in India mostly cater to the great demand for cosmetics and toiletries that fall into the low or medium price categories as the greatest demand in India has always been for these economically priced products. Bearing a long glowing heritage of cosmetic and beauty, aesthetic makeup products is being used since olden days and nowadays it appear like a booming economy in India which would be the largest cosmetic consuming country in a next few decades. While the demand of beautifying substances are growing day by day, a large number of local as well as international manufacturers gradually extend their ranges and products in different provinces of India. Industry sources estimate a rapid growth rate of 20% per annum. Some of the fundamentals of the book are regulation of cosmetic products, the relationship of cosmetic products to drugs, preservation of cosmetics, factors affecting preservation, organisms found in cosmetics, antiperspirants and deodorants, cleansing creams and lotions, baby toiletries, face powder manufacturing process, aerosol cosmetics, shaving preparations: soaps, creams, oils, and lotions, advantages and disadvantages of natural dyes, packaging cosmetic preparations, etc.

The book covers formulae, manufacturing processes of various types of cosmetics like antiperspirants and deodorants, cleaning creams, lotions, emollient creams, baby toiletries, face powder, eye makeup and many more along with testing methods. This book will be great asset to new entrepreneurs, existing units, technocrats and technical institutions.

## 1. Regulation of Cosmetic Products

Historical Development

Self-regulation

Regulation in the United States

1. Federal Regulation of Cosmetics
2. Cosmetic Composition
3. Cosmetic Labeling
4. The Relationship of Cosmetic Products to Drugs
5. Regulation of Cosmetics by Other Federal Agencies
6. Cosmetics and the Consumer Product Safety Commission
7. Regulation of Cosmetics by the States
8. Conclusion

## 2. Sensitivity Testing

Diagnostic Sensitivity Testing

Technique of Diagnostic Patch Testing

The Interpretation of Patch Test Reactions

â€œUncoveredâ€• versus â€œCoveredâ€• Patch-Test Technique

Features of Patch Testing with Paraphenylenediamine

Uncovered Patch-Test Method for PPDA Sensitivity

Covered Patch-Test Technique for PPDA Sensitivity

Evaluation of Patch-Test Reactions to PPDA

Features of Patch Testing with Nail Polish

Patch Testing with Lipstick

Testing with Permanent Wave Solutions

Testing for Sensitivity to Perfumes

Testing for Lanolin Sensitivity

Diagnostic Photosensitivity Testing

Light Sources for Photosensitivity Testing

Testing Cosmetics for Photosensitization

Testing Antimicrobial Agents in Soaps and Cosmetics

Patch Test Table for Specific Ingredients in Cosmetics

Patch Tests with Unlisted Cosmetic Ingredients

Prophetic or Predictive Sensitivity Testing

Predictive Testing for Allergic Contact Sensitization

Predictive Testing for Photosensitizing Capacity

## 3. Quality Assurance

Quality Control

Raw Material Inspection

Inspection of the Finished Product

Inspection of Containers and Packaging Materials

In-Process Control

Finished Goods Control

Good Laboratory Practice (GLP)

Good Manufacturing Practice (GMP)

Environmental Protection

Quality Promotion

Works Proposal System

Quality Teams

## 4. Raw Materials

Introduction

Basic Surfactants

Alkyl Ether Sulfates

Alkyl Sulfates

a-Olefin Sulfonates

Other Basic Surfactants  
Mild Anionic Surfactants  
Sulfosuccinates  
Cocoyl Isethionates  
Acyl Amides  
Alkyl Ether Carboxylates  
Magnesium Surfactants  
Alkyl Ether Carboxylates  
Magnesium Surfactants  
Alkyl Phosphates  
Amphoteric Surfactants  
Alkyl Betaines  
Alkylamido Betaines  
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Non-ionic Surfactants  
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Alkyl Polyglycosides  
Cationic Surfactants  
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Trialkyl Quaternaries  
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Ester Quaternaries  
Ethoxylated Quaternaries  
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Pearlescent Agents  
Conditioning Agents  
Emollients  
Sequestering Agents  
Oil Components  
Mineral Oil  
Natural Oils  
Triglycerides  
Jojoba Oil  
Synthetic Oils  
Isopropyl Esters  
Ethylhexyl Esters  
Oleic Acid Esters  
Caprylic / Capric Acid Esters  
Isocetyl Stearate  
Octyldodecanal  
N-Butyl Stearate  
Diisopropyl Adipate  
Pentaerythritol Tetraisostearate  
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Natural Waxes  
Synthetic Waxes  
Silicone Oils  
Cream Bases  
Fatty Alcohols

Polyol Esters  
Fatty Acids  
Oil-in-Water (O/W) Emulsifiers  
Water-in-oil (W/O) Emulsifiers

## 5. Preservation of Cosmetics

Factors Affecting Preservation

Organisms Found in Cosmetics

Molds

Yeasts

Bacteria

Factors Influencing the Growth of Microorganisms

Minerals

Growth Factors

Moisture Content

pH

Temperature

Oxygen

Other Ingredients

Factors Affecting the Action of Preservatives in Cosmetics

Concentration

Solubility Relationships

pH

Surface-Active Agents

The Interference of Nonionic Emulsifiers with Preservatives

Suitability of Substrate for Growth of Organisms

Amount of Inoculum

Synergism or Antagonism with Other Compounds

Evaluation of Preservatives for Cosmetics

Methods of Testing Antimicrobial Agents

Choice of Organism

Practical Tests

Preservatives

Organic Acids

Alcohols

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Essential Oils

Phenolic Compounds

Esters of p-Hydroxybenzoic Acid

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Mercury Compounds

Surface-Active Agents

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Miscellaneous Antimicrobials

Mechanism of Preservative Action

Allergic Response to Preservatives and Antimicrobials

Photosensitization

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Prevention of Microbial Contamination

Deionizer Contamination

Filter Contamination

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Microbial Corrosion  
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Chelation  
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Mechanism of Action  
Classification of Antioxidants  
Considerations for Use of Antioxidants

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Mechanism of Sweating  
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Performance  
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Odor Control  
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Detergent Cleansing Creams  
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## 8. Emollient Creams And Lotions

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- Concentrate
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Sat, 17 May 2025 07:05:13 +0000