

Skin care products

Principles of Formulation in Skin Care Products

- The formulation of skincare products is based on both pharmaceutical and cosmetic science principles.
- The aim is to deliver active ingredients effectively, ensure product stability, offer sensory appeal, and most importantly, be safe and effective for human skin.

Key Principles:

- **Safety:** Products must be non-toxic, non-irritant, and suitable for specific skin types (e.g., sensitive, oily).
- **Efficacy:** Active ingredients should be present in appropriate concentrations and be able to reach their target site.
- **Stability:** The formulation should remain stable under normal conditions of storage and use (physical, chemical, and microbiological stability).
- **Aesthetic appeal:** Texture, color, fragrance, and spreadability matter a lot in user compliance.
- **Delivery system:** The vehicle (e.g., emulsion, gel, cream) should enhance absorption or control release of actives.
- **Regulatory compliance:** Must follow regulatory guidelines (FDA, EMA, CDSCO etc.) regarding ingredient usage, labeling, and claims.

Building Blocks of Skin Care Products

- Each skincare product is made up of various functional components, often referred to as "building blocks".

These include:

A. Base / Vehicle:

- **Water:** Main solvent and hydration agent.
- **Oils and butters:** Provide emolliency (e.g., mineral oil, coconut oil, shea butter).
- **Emulsifiers:** Stabilize oil-water mixtures (e.g., polysorbates, lecithin, cetyl alcohol).
- **Thickeners/gelling agents:** Modify viscosity (e.g., carbomers, xanthan gum).
- **Humectants:** Attract moisture (e.g., glycerin, propylene glycol, hyaluronic acid).

B. Active Ingredients:

- Target skin concerns like acne, pigmentation, dryness, aging.
- **Examples:** Niacinamide, Salicylic acid, Retinoids, Vitamin C, Ceramides, Peptides, Antioxidants

C. Preservatives:

- Prevent microbial contamination (e.g., parabens, phenoxyethanol, benzyl alcohol).

D. Fragrance and Colorants:

- Improve sensory appeal (can cause irritation in sensitive skin).

Face Wash

Definition:

- Face washes are cleansing agents formulated to remove dirt, oil, makeup, pollutants, and microbial residues from the skin surface.

Types:

- **Foaming cleansers:** For oily/acne-prone skin.
- **Cream-based/milky cleansers:** For dry/sensitive skin.
- **Gel-based cleansers:** Light, refreshing for normal to combination skin.
- **Exfoliating cleansers:** Contain scrubs or AHA/BHA for dead skin removal.

Formulation Components:

Component	Function
Surfactants (e.g., SLS, SLES, Cocamidopropyl Betaine)	Cleansing, foaming
Humectants (e.g., Glycerin, Propylene Glycol)	Prevent over-drying
pH Adjusters (e.g., Citric Acid)	Maintain skin-friendly pH (4.5–6.5)
Conditioning Agents	Improve skin feel
Preservatives (e.g., parabens, phenoxyethanol)	Prevent microbial growth
Fragrance & Color	Aesthetic appeal

Sample Formula (100 g batch)

Ingredient	Function	% w/w
Sodium Lauryl Ether Sulfate (SLES)	Main surfactant	15.0
Cocamidopropyl Betaine	Co-surfactant, foam booster	5.0
Glycerin	Humectant	4.0
Sodium Chloride	Viscosity enhancer	2.0
Citric Acid	pH adjuster (4.5–6.0)	q.s.
Preservative (e.g., Phenoxyethanol)	Antimicrobial	0.5

Fragrance	Sensory	0.3
Purified Water	Vehicle	q.s. to 100

Formulation Procedure

1. Heat water to about 70°C.
2. Dissolve humectants (like glycerin) in water.
3. Add surfactants (SLES, betaine) slowly with gentle stirring.
4. Adjust viscosity using sodium chloride.
5. Cool to room temperature, then add fragrance, preservative, and pH adjuster (citric acid).
6. Mix until uniform. Fill into tubes or bottles.

Advantages:

- Removes oil and dirt effectively.
- Can be tailored for various skin types.
- Quick and easy to use.

Disadvantages:

- Can strip natural oils if harsh surfactants are used.
- Some may cause irritation or dryness.
- Over-washing may damage skin barrier.

Cosmeceutical Application:

- Face washes are often used as vehicles for therapeutic agents:
 - **Anti-acne** face wash with salicylic acid, tea tree oil, benzoyl peroxide.
 - **Brightening** face wash with vitamin C, niacinamide.
 - **Anti-aging** face wash with AHA/BHA for mild exfoliation.

Moisturizing Cream

Definition:

- Moisturizing creams are emulsions (O/W or W/O) that **hydrate the skin**, restore skin barrier function, and reduce transepidermal water loss (TEWL).

Formulation Components:

Component	Function
-----------	----------



FREE PREVIEW

[Click here to visit our website](#)

PHARMACY PREMIUM NOTES

Complete subject
and semesters are
available on
FirstHope app only.



[Scan or click here](#)

Click here to get the app



Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram



[Scan or click here](#)

@FirstHopeNotes

Instagram

@firsthope.official

[Click here to follow >](#)

YouTube channel

FirstHope-Pharmacy / Live streams

[Click here to watch >](#)

WhatsApp channel

Follow FirstHope on WhatsApp

[Click here to join >](#)

FirstHope website

firsthopenotes.com

[Click here to visit >](#)

B.Pharm / D.Pharm / M.Pharm / Pharm.D

Preview notes. Complete subjects and semesters in the FirstHope app.