

# Moisturizing Cream

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**Abstract:** A cream is a preparation usually for application to the skin. Creams are defined as "a semisolid dosage form containing one or more drug substances dissolved or dispersed in a suitable base."

**Keywords:** cream.

## I. INTRODUCTION

- A cream is a preparation usually for application to the skin.
- Creams are defined as "a semisolid dosage form containing one or more drug substances dissolved or dispersed in a suitable base"
- Creams are semi-solid emulsions of oil and water.
- They are of a softer consistency & lighter body than true ointment.
- semisolid emulsions of either O/W or W/O type.



## MOISTURIZING CREAM

Moisturizer is a cosmetic preparation used for protecting, moisturizing, and lubricating the skin.

- These are creams which restore water (moisture) to the stratum corneum.
- Water contained in the cream is lost by evaporation when the cream is applied to the body.
- Moisturizers are complex mixtures of chemical agents often occlusive help hold water in the skin after application, humectants attract moisture and emollients help smooth the skin.

## CLASSIFICATION

There are four main types of moisturizers depending on their mechanism of action.

- 1) Emollients
- 2) Humectants
- 3) Occlusives

### Emollients:

- They are mainly lipids and oils, which hydrate and improve the skin softness flexibility, and smoothness.
- Eg: Cholesterol, pseudoceramides squalene, fatty acids, fatty alcohols,

**Humectants:**

- They are basically hygroscopic compounds which mean they attract water two sources, from the dermis into the epidermis and in humid conditions fro the environment.
- Eg: Glycerol, propylene glycol, panthenol sorbitol, urea, alpha hydroxy acids, hyaluronic acid

**Occlusives:**

- Oils and waxes which form an inert layer on the skin and physically block transepidermal water loss.

**ROLE OF MOISTURIZERS**

**Moisturizing action:**

- This is the most vital action by which they increase the water content of the SC. Hydration smoothens the skin surface by flattening the "valleys" between the skin contour ridges. It also makes the skin surface soft, more extensible, and pliable.

**Anti-inflammatory action:**

Many moisturizers inhibit the production of pro-inflammatory prostanoids by blocking cyclooxygenase activity thus have a soothing effect on inflamed regions.

**Antimicrobial action:**

Act against skin surface microbes. Gulabari



**Antimitotic action:**

Moisturizers containing mineral oils have low-grade anti-mitotic action on the epidermis and thus are useful in inflammatory dermatitis, where there is increased epidermal mitotic.

**Antipruritic action:**

This reducing the itching. Further more, cooling effect evaporation of wate from the skin surface after using water based moisturizers has antipruritic effect.

**Protective action:**

These days sunscreens with variable sun protection factor are incorporated in the moisturizers providing additional sun protection

**MECHANISIM OF ACTION**

In the human body, water constantly evaporates from the deeper layers of the skin through an effect known as transepidermal water loss.

By regulating its water content, human skin naturally maintains a dry, easily shed surface as a barrier against pathogens, dirt, or damage, while protecting itself from drying out and becoming brittle and rigid. The ability to retain moisture depends on the lipid bilayer

### **IDEAL CHARACTERISTICS OF MOISTURIZING CREAM**

Reduce and prevent further TEWL.

Restore lipid barrier, i.e., duplicating and enhancing the skin's moisturizing retention mechanisms.

Hypo-allergenic, non-sensitizing, fragrance free. Absorbed immediately, providing immediate hydration. Cosmetically acceptable.

### **SPECIAL ADDITIVES IN MOISTURIZERS**

1. Botanical substances: Herbal products are being used in topical preparations since time immemorial. Natural ingredients on the skin like Aloe(Aloe barbadensis Miller leaf extract), Allantoin (comfrey root) are use in moisturizing cream.

2. Antioxidants: Are the agents which inhibit oxidation of ingredients by reacting with free radicals and blocking the chain reaction. Typical antioxidants are tocopherols (Vitamin E), butylated hydroxytoluene, and alkyl gallates.

3. Chelating agents: Citric acid, tartaric acid ethylenediaminetetraacetic acid, and its salts have limited antioxidant

### **ADVANTAGES**

1. Moisturizing reduces the chances of skin problems.
2. Moisturizing can reduce the appearance of other blemishes.
3. Moisturizing helps your skin stay young.
4. Moisturizing fights wrinkles.
5. It's the perfect end to a hot shower.
6. Non-irritating when applied to the skin.
7. Easily water washable.

### **DISADVANTAGES**

1. Stability is not as good as ointment.
2. They are less hydrophobic than other semi- solid preparation, so risk of contamination is high than the others.
3. Skin irritation of contact dermatitis may occur due to the drug and / excipients.
4. Poor permeability of some drugs through the skin Possibility of allergic reactions.
5. Can be used only for drugs which require very small plasma concentration for action.

### **PREPARATION OF MOISTURIZING CREAM**

Moisturizing cream formulation extemporaneously that showed no visible signs of physical instability such as cracking, creaming, phase inversion and/or bleeding of the cream base from the container. Physical instability was evaluated immediately after manufacture and then twenty-four (24) hours after manufacture and storage at room temperature (25 °C).

Initial formulation development was undertaken on batches of only 25 g and any formulation that showed signs of physical instability immediately and/or after twenty-four (24) hours of storage at room temperature (25 °C) was considered unsuitable and therefore not considered for further investigation.

### **Moisturizing cream**

#### **EVALUATION**

##### **1. pH measurement:**

→ The pH of the 10% w/v cream suspension was determined at 25 ° C using a pH meter, standardized using pH 4.0 and 7.0 standard buffers before use and average of triplicates were determined.

##### **2. Spreadability:**

The spreadability of test samples was determined using the following technique: 0.5 g test formulation was placed within a circle of 1 cm diameter pre-marked on a glass plate over which a second glass plate was placed. A weight of 500 g was allowed to rest on the upper glass plate for 5 min.

### **3. Viscosity:**

→ Brookfield Synchro-Lectric Viscometer (Model RVT) with helipath stand was used for rheological studies. The sample (50 g) was placed in a beaker

## **II. CONCLUSION**

Till date choosing, the right moisturizer is still a matter of trial and error. As the population ages and we turn into an urbanized makeover worldwide, the need of Moisturizers will be ever increasing. The key to future moisturizer therapy will be to tailor specific agents to specific dermatological needs.

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