

# Semi Solid Dosage from Ointments

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**Abstract:** *Ointment are semisolid formulation commonly used topic administration active pharmaceutical ingredient And therapeutic uses of ointment in treating various Dermatological and systematic condition ointment are primarily composed base (such as petroleum lanolin or emulsifying wax ) the skin barrier for localized or systemic effect..*

**Keywords:** Ointment

## I. INTRODUCTION

Pharmaceutical semisolid dosage preparations include : ointments, pastes, cream, plasters, gels and rigid foams. They contain one or more active ingredients dissolved or uniformly dispersed in a suitable base and any suitable excipients such as emulsifiers, viscosity increasing agents, anti microbial agents, antioxidants, or stabilizing agents etc..

## DEFINITION

These are meant for external application to the skin or mucous membrane usually contain a medicament or medicaments dissolved, suspended or emulsified in an ointment base.

They contain a suitable antimicrobial preservative

## Types of Ointments

The various types of ointment are

- Unmedicated ointments
- Medicated ointments

## Unmedicated ointments

These ointments do not contain any drugs. They are useful as emollients, protectants. Example: Petroleum jelly

## Medicated ointments

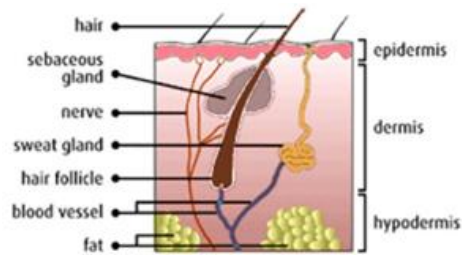
These ointments contain drugs which show local or systemic effects.

These are of several sub-types:

- Dermatologic ointments
- Ophthalmic ointments
- Rectal ointments
- Vaginal ointments
- Nasal ointments

## CLASSIFICATION OF OINTMENTS

1. On the basis of penetration
2. On the basis of therapeutic use



## 1. ON THE BASIS OF PENETRATION

### 1. Epidermic ointments-

These ointments are intended to produce their action on the surface of the skin and produce local effect, they are not absorbed. They acts as protectives, antiseptics and parasiticides.

### 2. Endodermic ointments-

These ointments are intended to release the medicaments that penetrate into the skin. They are partially absorbed and acts as emollients, stimulants and local irritants.

### 3. Diadermic ointments-

These ointments are intended to release the medicaments that pass through the skin and produce systemic effects.

## 2. ON THE BASIS OF THERAPEUTIC USE

1. Antibiotic Ointments- e.g Bacitracin
2. Antifungal Ointments- e.g Benzoic acid
3. Anti- inflammatory Ointments- e . g Fluocinolone acetonide
4. Antipruritic Ointments- e.g Benzocaine
5. Astringent ointments- e.g Zinc oxide and calamine
6. Protective ointments- e.g. Calamine Zinc oxide.
7. Antidandruff Ointments- e.g. Salicylic acid
8. Counter- irritant Ointments- e.g Methyl salicylate



### Ointment Bases

- The ointments bases is that substance or part of an ointment which serve as carrier or vehicle for the medicament
- Serve as carrier or vehicle.
- Factors to be consider while selecting ointment bases are-
- Desired action
- Nature of medicament to be incorporated
- Stability of ointment

**Properties of ideal ointment bases**

1. Inert, odourless, non-irritating and non-sensitizing.
2. Compatible with skin pH and with the incorporated drug.
3. Good solvent and/or emulsifying agent.
4. Pharmaceutically elegant and possess good stability.
5. Not produce irritation
6. Inert, odourless and smooth

**CLASSIFICATION OF OINTMENT BASES**

| BASES                   | PROPERTIES   | EXAMPLE                                  |
|-------------------------|--|--|
| Oleagenous bases        | Occlusive, hydrophobic, greasy, non-washable         | White petroleum, white ointment          |
| Absorption bases        | Occlusive, water absorbent, anhydrous, greasy        | Anhydrous lanolin, hydrophilic petroleum |
| w/o type emulsion bases | Occlusive, hydrous, greasy, hydrophilic              | Lanolin, cold cream                      |
| o/w type emulsion bases | Washable, non-greasy, can be diluted with water, non | Hydrophilic ointment                     |

**Preparation of ointments**

Ointments are prepared by two general method

- Incorporation
- Fusion
- Emulsification method
- Mixing method

By the incorporation method, the components are mixed until a uniform preparation is attained.

**FUSION METHOD**

When ointment contains a number of solid ingredients with different melting points, it is necessary to melt them in decreasing order to their melting

All the components are melted accordingly.

The medicaments are slowly added to melted mass stirred thoroughly until mass cools down and gives a homogenous product

**EMULSIFICATION METHOD**

All the components are taken required quantity

The fats, oils and waxes are melted together on water bath at a temperature of 70C.

The solution is slowly added to melted bases with continuous stirring until cool down and semi-solid mass known as ointment is prepared.

**MIXING METHOD**

The best result is obtained by mixing small amounts of base with the powder to form a very smooth nucleus, which eventually mixed with the remainder of the base. The ingredients can also be levigated with the levigating agent(mineral oil or glycerol) to form a smooth paste.

The paste is then mixed with the remainder of the base.

### **SELECTION OF DERMATOLOGICAL VEHICAL**

There are large number of ointment bases which are available in the market. These have already been discussed.

1. Dermatological
2. P harmacutical Factor

#### **Dermatological factors**

Absorption and penetration. Effect on skin function

Miscibility with skin secretions and serum. Compatibility with skin secretions.

Freedom to irritant effect.

Emollient properties. Ease of application

Pharmaceutical factors

Stability

Solvent properties. Emulsifying properties Consistency

### **ADDITIVES AND STORAGE**

- Preservative
- Antioxidants.
- Chelating agents.
- Perfumes.
- Humectant.

#### **STORAGE:**

- Dispensed in plastic or glass jars having screw caps with impermeable liners.
- Amber coloured glass containers are used for light sensitive ointment.
- Should be kept at cool and dry place protecting high temperature and direct sunlight.

## **II. CONCLUSION**

Ointment constitute a significant type of treatment and hold a lot of potential ;its up to us to effectively utilize these dosage forms to effectively harness their potential in effective therapy and healthcare management. There is a rising demand for dermatological products in world market today, and this trend will continue in future. The treatment subareas of dermatology that will see the highest boost in the future include infectious skin disease , psoriasis, dermatitis, acne and skin protection.

## **REFERENCES**

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