SEMISOLIDS

5TH YEAR STUDENTS/ 1ST SEMESTER
Properties of semisolid D.F.

Types of conventional semisolid D.F.
- Ointment and their preparation
- Creams
- Pastes and their preparation
- Gels (jellies)
- Semisolid foams
HUMAN SKIN  P.535-536

Functions

Structure

• Epidermis
• Dermis
• Subcutaneous tissues
• Skin appendages
Dermal routes of penetration

Viable epidermis or upper dermis routes of penetration (percutaneous absorption)

Other routes of skin penetration (transcellular, intercellular, transappendageal)
STUDY METHODS

In vitro techniques

In vivo techniques
FACTORS IN SKIN PENETRATION

Fraction of drug that penetrate skin via any routes P.538

Vehicle and skin penetration

P.538-539
FORMULATION OF SEMISOLID DOSAGE FORMS

Ingredients used in preparation

- Active ingredients
- Bases
- Antimicrobial preservative
- Humectants
- Fragrances
- Emulsifier
- Gelling agent
- Permeation enhancer
<table>
<thead>
<tr>
<th>Ingredients used in preparation of semisolids (Raw materials)</th>
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<tbody>
<tr>
<td>Hydrocarbons</td>
<td>P.540</td>
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<tr>
<td>Hydrocarbon waxes</td>
<td>P.540</td>
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<tr>
<td>Oleoginous substances</td>
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<tr>
<td>Fatty acids and alcohols</td>
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<td>Emulsifiers</td>
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<td>Polyols</td>
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<td>Insoluble powders</td>
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OINTMENTS
CLASSIFICATION OF OINTMENT BASES (TYPES OF VEHICLES)

Oleaginous (hydrocarbon bases)                      P.544-545

Absorption bases                                        P.545-546

Water removable base                                    P.547

Water soluble bases                                    P.547
OTHER SEMISOLID PREPARATIONS

Pastes, Gels, and Jellies
P.548

Ophthalmic ointments
P.548-549
ADDITIVES USED IN PREPARATION OF SEMISOLIDS

Preservation from Microbial spoilage
P.549-553

Antioxidants
P.554
EVALUATIONS FOR OINTMENT PREPARATIONS

Microbial content  
P.550

Additional standards:  
Rheological studies and  
in vitro release  P.555

Packaging, storage,  
labeling  P.561-562
Thank you!