

TOPICAL AGENTS

Definition

The topical agents" are those substances, which applied to body surface including applications within the body cavities that open outside .

e.g. eye,ear,nose,vagina

- These are the compound that act locally with skin or mucous membrane mainly by mechanical or physical manner.
- Topical agents does not absorbed directly into the circulation.
- Compounds have little pharmacological effect.

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- The facts of compounds are that when they are applied produces variety of effects like adsorbent, astringent, demulcent , emollient or protective
 - Some compounds also exhibit antimicrobial, astringent activity topically.
 - Some inorganic compounds are having topical local activity .

➤ The inorganic compounds used topically are broadly

categorized on the basis of their usual action or use e.g.

- (i) protective's and adsorbents,
- (ii) antimicrobial,
- (iii) astringent and
- (iv) Sulphur and its compounds
- (v) miscellaneous compounds.

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Classification of topical agents

1. **Protectives and adsorbents**. e.g. talc, silicone polymers, titanium dioxide, calamine, zinc oxide.
2. **Antimicrobial agents**.
 - Hydrogen peroxide, Potassium permanganate, Sodium per borate.
 - Iodine & iodine preparations, Chlorinated lime, sodium hypochlorite solution,
3. **Astringents**. E.g. Zinc chloride, Zinc sulphate, Aluminium sulphate, Alum, Aluminum sub acetate solution.
4. **Miscellaneous compounds**. E.g. sulphur & sulphur compounds.

5 **Protective's and adsorbents :-**

protective's are the agents that cover the skin or mucous membrane from possible irritants.

MOA:-

- Some substance are of insoluble type & chemically inert, they act by forming a coat or film on the skin.
- They absorb moisture decreases mechanical friction and irritation and also discourages certain bacterial growth.
- Dusting powder is in the state of fine division form

Adsorbents:-

- Some chemically inert substances adsorb dissolved or suspended particles or gases, toxins etc are known as adsorbents .

MOA:-Adsorbents' are mainly used internally to prevent the irritant & unwanted effects on mucous membrane.

- Some inorganic chemicals possess both protective & adsorbent properties on topical application.
- Protective action is generally nothing but the mechanical protection which is given from the external environment by forming a film coat or layer on the skin.

TALC

Chemical formula :- $3\text{MgO} \cdot 4\text{SiO}_2 \cdot \text{H}_2\text{O}$

Synonym:- soapstone or French chalk, purified talc

PREPARATION

- a) prepared by boiling fine powered talc with Dil HCL & allowing to settle.
- b) the supernatant liquid is removed
- c) the talc is washed thoroughly with water to make it free from acid.
(*Acid treatment remove impurities from talc.*)

Properties

- Colour: White/greayish white
- Odour:-odourless.
- Nature:-fine powder
- Taste:-tasteless
- Touch:-greasy or unctuous & adheres to skin
- Solubility:-soluble in water, dil. acids & bases

USES:-

- 1) As pharmaceutical aid
- 2) Dusting powder.
- 3) It can be perfumed that is cosmetic or medicated with zinc oxide or boric acid.
- 4) It is greasy / untouch to touch therefore used as lubricant or protective.
- 5) It is used as excipient, lubricant & filler for tablet & pills