

### Alcohols

Ethanol	Isopropanol	Ethylene oxide (Oxirane)
70% solution for lipo-hydrophilic balance and max antiseptic effects.		Not safe: <b>Carboxide</b> (1:9 ratio of oxirane & CO <sub>2</sub> ) is safe.
		MOA: Alkylator of nucleic acid & proteins.

**Aldehyde "Formalin":** Alkylator of MO proteins through carbinol formation.

### Halogen-containing compounds.

Iodophors
Iodine tincture
I <sup>-</sup> salts are added to solubilize iodine and decrease volatility (ex, potassium iodide).
Povidone iodine (Betadine)
Complex of polyvinyl pyrrolidone + iodine; 9-12% of polymer is iodine.
Advantages: Non-irritant, non-staining, non-toxic, non-volatile, water soluble.
MOA: Inactivation of proteins by <b>iodination (of double bonds/aromatic rings) or Thiol (SH) oxidation.</b>

### Mercury compounds

Nitromersal; Thiomersal (Merthiolate sodium)
MOA: Inactivate proteins and enzymes containing thiol (SH) group by a <b>covalent compound of R-S-Hg-R formed.</b>

### Phenols & deriv.

1) Phenol	2) Resorcinol & resorcinol monoacetate	4) Hexachlorophene	5) Anthralin
Used as phenolated calamine as anaesthetic and antipruritic.	Resorcinol is weaker than phenol (lower PC) & resorcinol monoacetate.	More active than phenol (SAR)	Used for ttt of psoriasis, alopecia, eczema.
3) P-chloro-m-xylene & dichloro-m-xylene		Not used now due to toxicity to babies nerves.	MOA: decreases epidermal DNA synthesis and mitosis.

### Cationic surfactants

Benzalkonium chloride	Cetyl pyridinium chloride.
MOA: Cell lysis by interfering with enzymes of cell wall & membrane.	
Advantages: Broad-spectrum, non-toxic, stable.	
Disadvantages: Inactivated by anionic surfactants (like soap) and organic matter (pus), not sporicidal.	

### Nitrofurane deriv.

Nitrofurazone	Furazolidone	Nitrofurantoin
Topical antiseptic.	GIT & diarrheal infections	ttt of UTI.
Identify structures.		

### Oxidizing agents

Carbamide peroxide	Benzoyl peroxide
Urea + Hydrogen peroxide	30% water; safer.
Needs to get mixed with water to release H <sub>2</sub> O <sub>2</sub> .	Keratolytic agent in 5-10%
Anti-septic & disinfectant.	For ttt of acne.
MOA: Protein denaturation through oxygen released (like H <sub>2</sub> O <sub>2</sub> ) causing direct oxidant action.	

### Dyes

Triphenylmethane dye	Phenothiazine dyes
Gentian/crystal violet	Methylene blue
pH dependent activity; active in acid, inactive in base.	Has thionium ion (+ve sulfur)
Uses: ttt of tinea, Vaginal supp. for yeast infect., Oral anthelmintic.	Weak antiseptic.

### Silver sulfadiazine

Antiseptic & antibacterial used for wounds and burns.
Silver (Ag) has same MOA as mercury.

