MONOPHASIC LIQUIDS

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INTRODUCTION

- Monophasic dosage form refers to liquid preparation containing two or more components in one phase system, it is represent by true solution.

- A true solution is a clear homogenous mixture that is prepared by dissolving solute in a suitable solvent.

- The component of the solution which is present in a large quantity is known as "SOLVENT" where as the component present in small quantity is termed as "SOLUTE".

Advantages

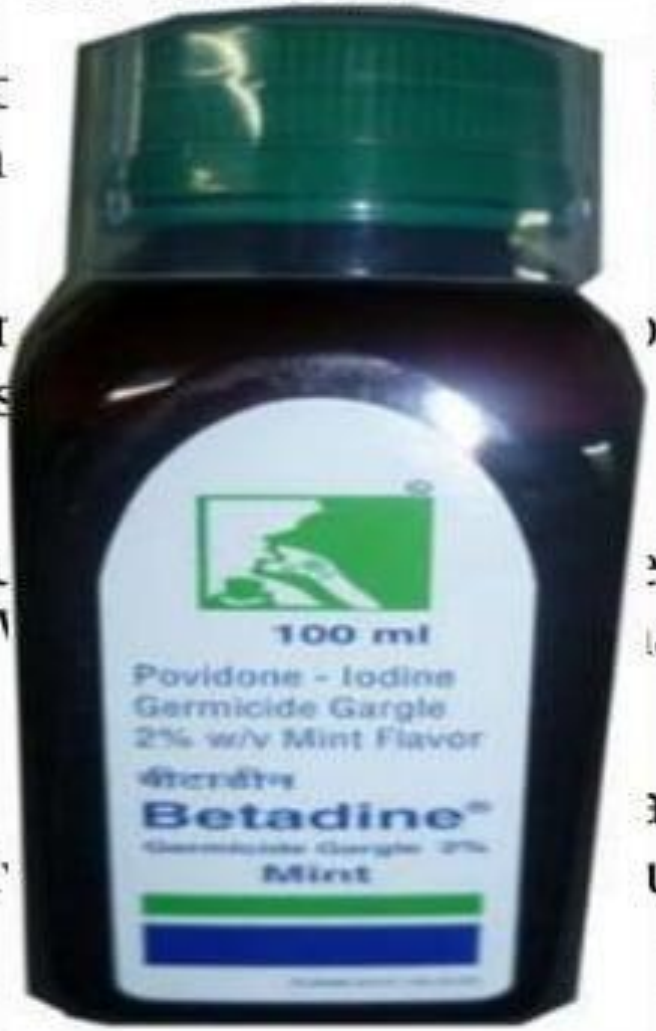
- It is easier to swallow, therefore easier for children and old age people.
- Facilitate absorption of drug faster than solid dosage form as drug is already in solution form.
- It is homogenous therefore give uniform dose than suspension or emulsion which need shaking.
- Simple and fast to formulate
- It can be administered by various routes :
- Oral, Parenteral (injection),enema for rectal use, otic(ear), nasal and ophthalmic preparation.

Disadvantages

- They are bulky, so difficult to transport and store.
- Water is commonly use vehicle, which is prone to microbial growth, So addition of preservative is needed.
- When expose to direct sunlight it may undergo hydrolysis, so need to store in cool and dark place.
- Drug stability reduce by hydrolysis or oxidation. So, they have shorter expire date than solid dosage form.
- Other major sign of drug instability are color change, Precipitation, microbial growth etc.

GARGLES

- Aqueous solutions cc antibiotics used to treat throat infection
- Available in concentr on for dilution with warm water before us
- Phenol or thymol is u nt in gargles & it is present in low conc. V aesthetic effect.
- KCl is also present astringent effect & stimulate flow of sali ugs.
- e.g Phenol gargle



Formulation Method

- e.g. Phenol Gargle

Phenol glycerin: 5ml

Amaranth Solun.: 1ml

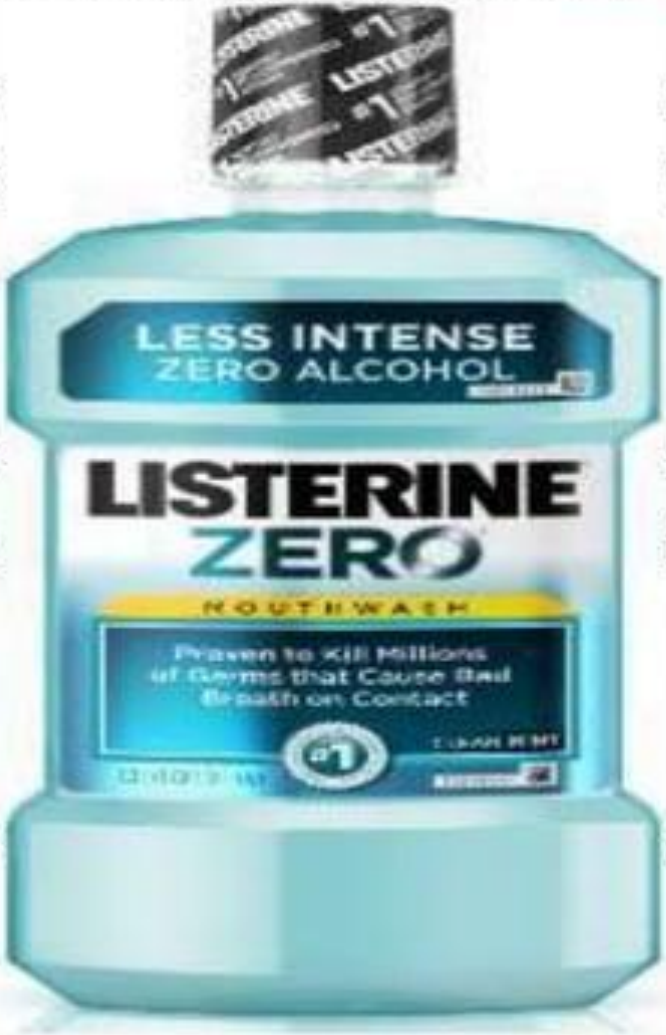
P.W q.s upto 100ml

Procedure: amaranth solution + a small qut. Of H_2O + Phenol glycerin to it. The solut. Is stirred & made up the volume with purified H_2O.

Diluted with equal volu. With warm water.

MOUTH WASH

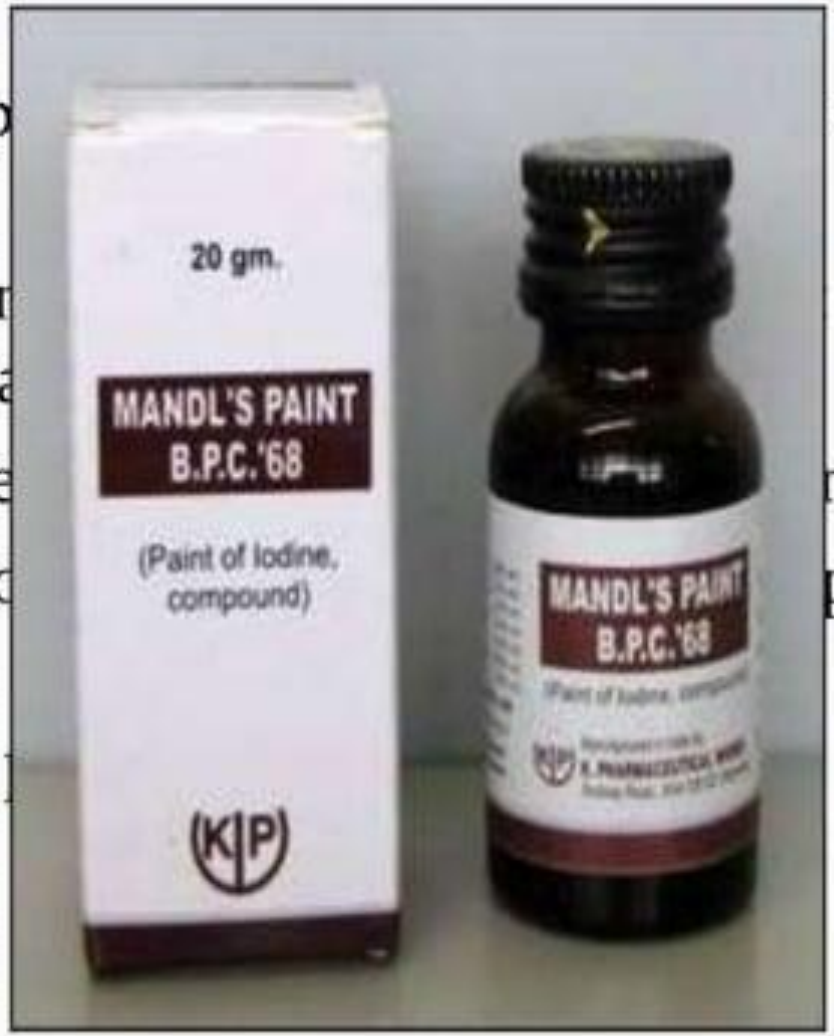
- Aqueous solution ' nd odor used to clean and deodoriz ve antiseptic and astringent activity.
- They may also c rin, surfactants, synthetic sweetene ing agents.
- e.g. Compound so vash



THROAT PAINT

- Viscous liquid p and throat infections.
- Glycerin is comm adheres to mucous membra
- Glycerin provide medicine.
- Glycerin also pro paration.

- e.g. Compound



Formulation Method

Potassium iodide : 2.5 gm

Iodine : 1.25 gm

Alcohol : 4ml

Water : 2.5 ml

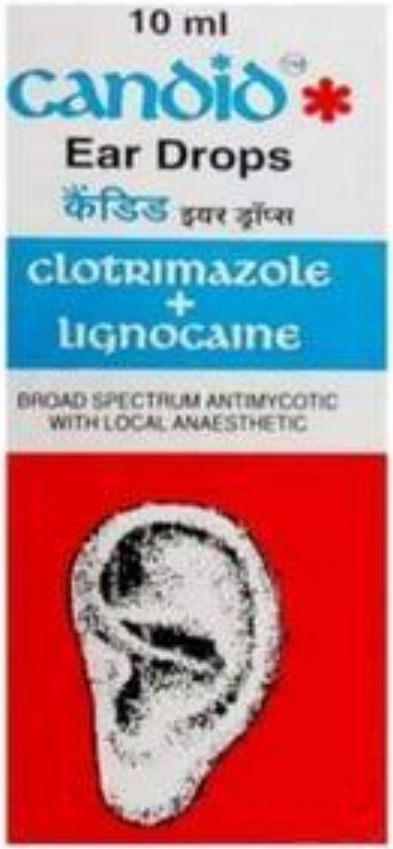
Peppermint oil : 0.4 ml

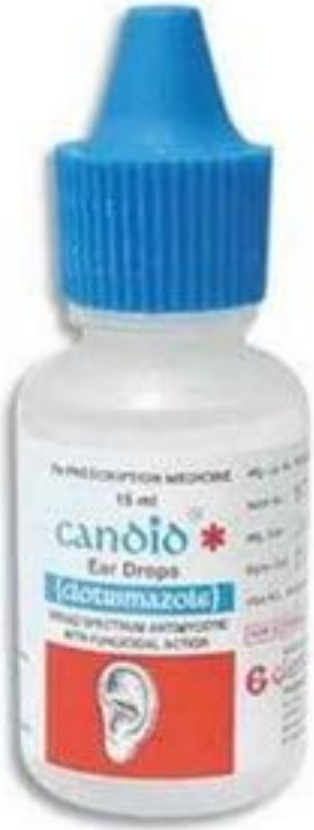
Glycerin : 100ml

Procedure : potassium iodide dissolve in H_2O + iodine stir until completely dissolved. Dissolve Peppermi.oil in alcohol & transfer into iodine solu. & make up the volume with glycerin.

EAR DROPS

- Ear dr in relieving & antisep
- In tha suspended in suitabl l,polyethylene glycol, ure of these.
- Aqueo ed bec. The secreti as such these do not
- e.g Ch





Formulation Method

- e.g. Chloramphenicol Ear Drops

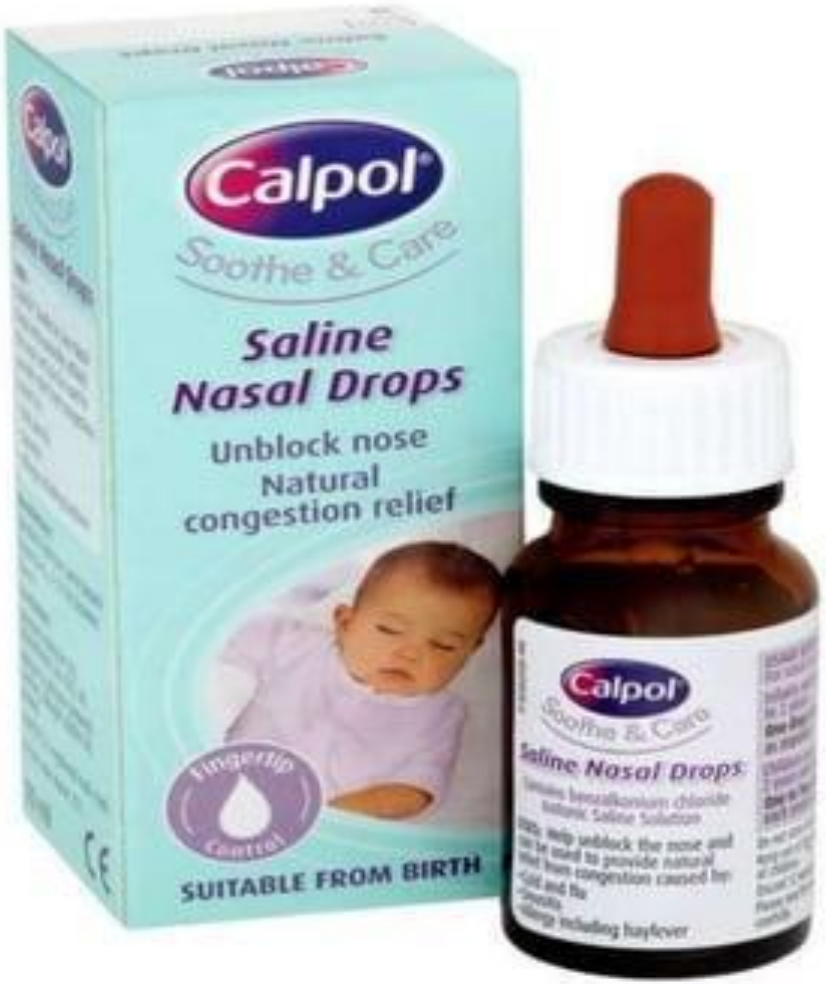
Chloramphenicol : 5gm

Propylene glycol q.s to 100ml

Procedure: Dissolve chloramphenicol in sufficient quty. of propylene glycol & finally make up the volume with propylene glycol

NASAL DROPS

- Admin ect. Used during roblem.
- In the r
- In the gents viz. methyl of nasal secretic
- Nasal d s etc.
- e.g. Ephedrine Nasal Drops



Formulation Method

- e.g. Ephedrine Nasal Drops

Ephedrine hydrochloride : 0.5 gm

Chlorbutol : 0.5 gm

Sodium Chloride : 0.5gm

P.W q.s to 100ml

Procedure: dissolved chlorbutal with hot H_2O then cool at room temp. then add remaining ingredients filter it & make up the final volume with H_2O.

SYRUPS

- I.P contains 66.7% W/W in P.W (100ml)
- U.S.P contains 85% W/V in P.W (100ml)
- Medicated Syrup : e.g Cough syrup
- Flavoured Syrup : e.g Cheery syrup
- Invert Syrup : according to BPC invert syrup is prepared by hydrolysing sucrose with HCL & solution neutralised with calcium or sodium carbonate. In invert syrup contains levulose, sucrose & dextrose in the ratio 173: 100:74.
- The invert sugar is 1.23 times sweet as sucrose.

Methods for Formulation

- Agitation Method
- Agitation with Heat Method
- Percolation Method

- Agitation Method : Used for thermolabile or volatile substances.
- Agitation with Heat Method:
- Percolation Method: It is an extraction process

- Drug is packed in the percolator which has a layer of loosely packed cotton covering the lower outlet, to which suitable solvent is added.
- Sucrose is dissolved firstly then introduced in the percolator.

Examples of Syrup

- Non-Medicated Syrup

  Simple Syrup Orange Syrup

  Lemon Syrup

- Medicated Syrup

  Paracetamol Syrup

  Piperazine citrate syrup

ELIXIRS

- Alcohol content varies 5 to 40%
- 10 to 12% alcohol are stable & not required the preservative.

METHOD OF FORMULATION

- Simple agitation method used
- Alcoholic soluble ingredients dissolve in alcohol.
- Water soluble ingredients dissolve in water.
- Then water solution mixed with alcoholic solution.
- If any oil ingredients added, then use with talc for removing of oil droplets & again filter it.
- e.g Paracetamol Elixir

LINIMENTS

- Liquid or semi-solid dosage form.
- It is applied on the skin with friction & rubbing of skin.
- The liniments may be alcoholic or oily solution or emulsion.
- Liniment should not be applied on broken skin it may cause irritation.
- Use: Counter irritant
- e.g. Turpentine liniment

LOTIONS

- Lotions are liq. Preparations meant for external use without friction.
- Lotions are not applied on broken skin bec. It causes irritation.
- Lotions used as antiseptic, astringents, germicidal action.
- e.g. Calamine lotion

THANK YOU