III. Solutions:

Is chemically and physically homogeneous mixture of two or more substances.

- The type of solution (which most important in pharmacy) is:
  - solids in liquids
  - liquid in liquid
  - gases in liquid

- Depending on the size of the dispersed particle they are classified as:
  - True solutions.
  - Colloidal solutions.
  - Suspensions.

- Solution ⇨ Solute + Solvent

- Solubility: The rate at which substance go in to solution

- descriptive terms for solubility:

(Parts of solvent for parts of solute) e.g. 1 gm in × ml

Very soluble	Less than 1
Freely soluble	From 1 to 10
Soluble	From 10 to 30
Sparingly soluble	From 30 to 100
Slightly soluble	From 100 to 1000
Very slightly soluble	From 1000 to 10,000
Practically insoluble or (Insoluble)	More than 10,000

- 1g of Na Cl dissolves in 2.786 ml of water

  ➥ Na Cl is: .....

✷ Factors affecting on solubility:

- Physiochemical properties
- Physical properties
- Co solvent
- Complexes

$KI - I_2 ======= K[I_3]$

✷ Type of solvents:

- polar solvents
  e.g. water, H_2O_2
- semi polar solvents
  e.g. acetone
- non polar solvents
  e.g. vegetable oil , mineral oil

≥Practical Part≤

Mercurochrome 2%

℞

Mercurochrome		2 gm
Water	to	100 ml

Uses:

As an antiseptic for skin and wound.

Role of each ingredient:

Mercurochrome:

Water:

Calculation:

prepare 50 ml:

Procedure:

1. Weight ..... gm of mercurochrome and put in beaker.
2. Measuring ..... ml of water.
3. Pure 2/3 of vehicle (water) in beaker and dissolve the mercurochrome.
4. Transfer the solution in bottle and wash by 1/3 of vehicle.

Label:

sig. swab infected area p.r.n

كلية العلوم الصحية بالمدينة المنورة قسم الصيدلة

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