

PHARMACEUTICS -1 (BP 103 T)

UNIT: 3

CLASS:6

TOPIC:EMULSIONS**DEFINITION :**

An emulsion is a mixture of two or more liquids that are usually immiscible but, under specific transforming processes, will adopt a macroscopic homogeneous aspect and a microscopic heterogeneous one. In an emulsion, one liquid is dispersed in the other.

Types of

Based on dispersed phase :

Oil in Water (O/W) : Oil droplets dispersed in water

Water in Oil (W/O) : Water droplets dispersed in oil

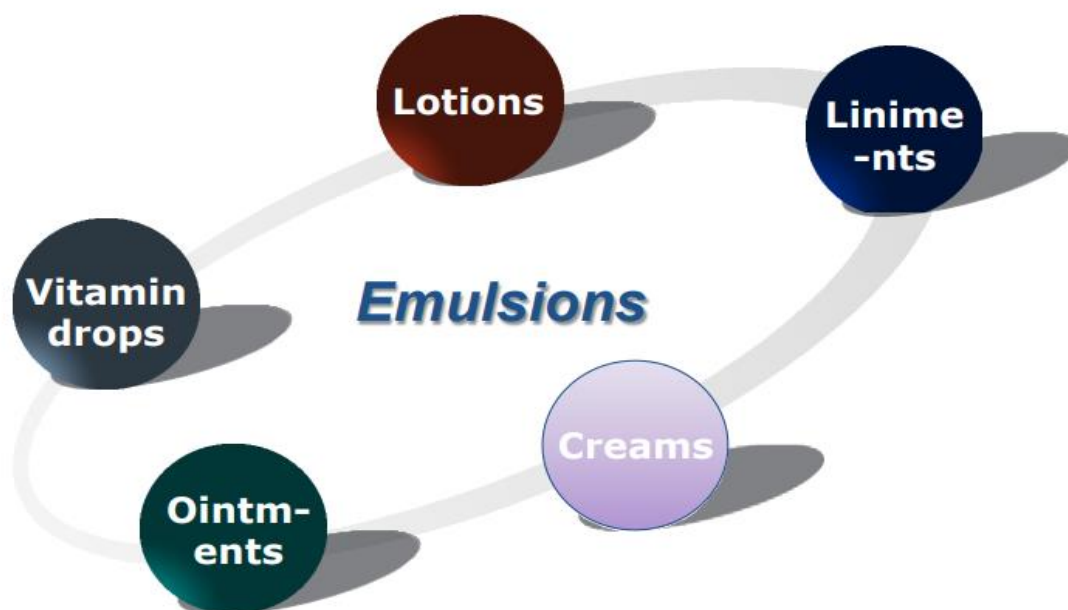
Water in Oil in Water (W/O/W) : Water in Oil Emulsion dispersed in water -multiple emulsion .

Based on size of liquid droplets :

0.2- 50 mm -Macro emulsion

0.01 -0.2 – Micro emulsion

TYPES OF EMULSIONS :



EMULSIFYING AGENTS :

are the substances that form a film around the dispersed globules or lower the interfacial tension in an emulsion. Structurally these agents have two parts in their chemical structure, that is, a hydrophilic and a lipophilic part. They form a protective barrier around the dispersed droplet by adsorbing on the oil–water interface and stabilizing the emulsion by decreasing the interfacial tension of the system. Some emulsifiers impart a charge on the surface of the drop, which reduces the physical contact between the droplets and decreases the coalescence potential of the droplet, which in turn increases the stability of the emulsion. All emulsifying agents used in the system should be odorless, nontoxic, nonirritant, chemically stable, inert, and chemically nonreactive with other excipients. Commonly used emulsifying agents include polymers (Spans and Tweens), sodium lauryl sulfate, sodium dioctyl sulfosuccinate, and tragacanthins.

CLASSIFICATION OF EMULSIFIERS



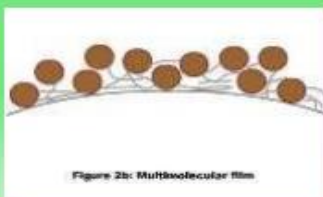
1

Synthetic
Surface active
agents
(Monomolecular
films)



2

Semi synthetic and
natural
Hydrophilic colloids
(Multi-molecular
films)



3

Finely divided solid
particles
(Particulate film)

