**Obegolu Stephanie A. Pharmacy 19/MHS11/089 CHM102**

**Assignment on Ethers**

* Give the IUPAC names
1. CH3OCH3 - Methyoxymethane
2. CH3CH2OCH2CH3 - Ethyoxyethane
3. (CH3CH2CH2CH2)2O - Butoxymethane
4. CH3CH2OCH3 -Methoxyethane
5. CH3CH2CH2OCH2CH3 - Ethyoxypropane
* Properties of Ethers
1. Physical states : At room temperatures, ethers are colorless, neutral liquids with pleasant colors. The lower aliphatic ethers are highly flammable gases or volatile liquids.
2. Density : Most of the simple ethers are less dense than water, although the density increases with increasing relative molecular mass and some of the aromatic ethers are in fact denser than water.
3. Boiling Point: Low molecular mass ethers have a lower boiling point than the corresponding alcohols but those ethers containing alkyl radicals larger than 4 carbon atoms, the reverse is true.
4. Reactivity : Ethers are inert at moderate temperature. Their inertness at moderate temperatures leads to their wide use as reaction media
* Two methods of preparing ethers
1. Controlled catalytic hydration of olefins

2CH3CH=CH2 + H2O --------------🡪 (CH3)2CH-O-CH(CH3)2

 2-isopropoxypropane

1. From Haloalkanes and dry silver (I) oxide

2RX + Ag2O -----------------🡪 R-O-R + 2AgX

 WARM

2CH3CH2CH2Cl + Ag2O-------------🡪 CH3CH2CH2OCH2CH2CH3 + 2AgCl warm Propoxypropane

* Uses of ethylene oxide
1. Used as an intermediate in the hydrolytic manufacture of ethylene glycol.
2. Used in the preparation of non-ionic emulsifying agents, plastics, plasticizers and several synthetic textiles.
3. Used as a gaseous sterilizing agent.