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MATRICULATION NUMBER- 19/MHS09/025

DEPARTMENT- DENTISTRY

COLLEGE- MHS

COURSE- CHM102

LEVEL- 100

1.

- CH3OCH3. Methoxymethan
- CH3CH2OCH2CH3 Ethoxyethane
- (CH3CH2CH2CH2)2O Butoxymethane
- CH3CH2OCH3. Methoxyethane
- CH3CH2CH2OCH2CH3. Ethoxypropane

2. **PROPERTIES OF ETHERS**

- Physical state: At room temperature, ethers are colourless, neutral liquids with pleasant odours. The lower aliphatic ethers are highly flammable gases or volatile liquids

- Solubility: Ethers are less soluble in water than their corresponding alcohols. Lower molecular weight ethers such as methoxymethane and methoxyethane are fairly soluble in water since the molecules are able to form hydrogen bonds with the water molecules but as the hydrocarbon content of the molecules increases, there is rapid decline in solubility. They are miscible with most oregano solvents.

- 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 in fact denser than water.

- Boiling point: Low molecular mass ethers have a lower boiling point than the corresponding alcohols but those ethers containing all radicals larger than four carbon atoms, the reverse is true. The boiling point of ethers tend to approximate those of hydrocarbons of the same relative molecular mass from which it can be concluded that the molecules are not associated through hydrogen bonds.

- Reactivity: Ethers are inert at moderate temperature. Their inertneds at moderate temperatures leads to thir wide use as reaction media simple ethers are not found commonly in nature but the other linkage is present in such natural products as sugars, starch and cellulose.

3.

**MANUFACTURE OF ETHERETHERS**

- Controlled catalytic hydration of olefins
  $2CH_3CH=CH_2 + H_2O$ — $(CH_3)_2CH-O-CH(CH_3)_2$
  2-isopropoxyptopane

- From Haloalkanes and dry silver (I) oxide
  $2CH_3CH_2CH_2Cl + Ag_2O$ — $CH_3CH_2CH_2O\ CH_2CH_2CH_3 + AgCl$
  **Warm** Propoxypropane

4. **Uses of Ethylene oxide**

- Ethylene oxide is used as an intermediate in the hydrolysis manufacture of ethylene glycol

- Ethylene oxide is used in the preparation of non ionic emulsifying agents, plastics, plasticizers and several synthetic textiles

- Ethylene oxide is used as a gaseous sterilising agent