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DEPARTMENT: MBBS

COLLEGE: MHS

1) CH_3OCH_3 Methoxymethane

ii) $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ Ethoxymethane

iii) $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$ Butoxymethane

iv) $\text{CH}_3\text{CH}_2\text{OCH}_2$ Methoxyethane

V) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$ Ethoxypropane

2) Physical states: At room temperature, ethers are colourless, neutral liquids with pleasant odours. The low aliphatic ethers are highly flammable gases or volatile liquids.

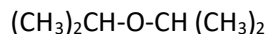
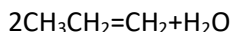
ii) Solubility: ethers are less soluble in water than the corresponding alcohols. Lower molecular weight ethers such as methoxymethane and methoxyethane are fairly soluble in water since the molecules are able to form hydrogen bond with the water molecules but as the hydrocarbon content of the molecule increases there is a rapid decline in solubility. They are miscible with most organic solvents.

lii) 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.

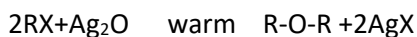
iv) Boiling point: low molecular mass ethers have low boiling point than the corresponding alcohols but those ethers containing alkyl radicals larger than four carbon atoms the reverse is true. The boiling points of ethers tends to approximate those of hydrocarbons of same relative molecular mass from which it can be concluded that the molecules are not associated in the liquid phase as there are not suitably available hydrogen for association through hydrogen bonds.

V) Reactivity: ethers are inert at moderate temperature. Their inertness at moderate temperatures leads to their wide use as reaction media

3i) Controlled catalytic hydration of olefins



II) FROM halo alkanes and dry silver (I) oxide



$2\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl} + \text{Ag}_2\text{O} \xrightarrow{\text{warm}} \text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{CH}_3 + 2\text{AgCl}$ propoxypropane

4) Ethylene oxide is used as a gaseous sterilizing agents

ii) Ethylene oxide is used in the preparation of nonionic emulsifying agents; plastics, etc.

iii) ethylene oxide is used as an intermediate in the hydrolytic manufacture of ethylene glycol