

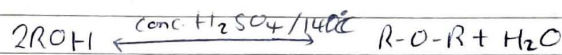
OMYESCH MAXUELLO OSOMPU
19/ENG04/046
CHM 102

- 1)
- CH_3OCH_3 - Methoxymethane
 - $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ - Ethoxyethane
 - $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$ - Butoxymethane
 - $\text{CH}_3\text{CH}_2\text{OCH}_3$ - Methoxyethane
 - $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$ - Ethoxypropane.

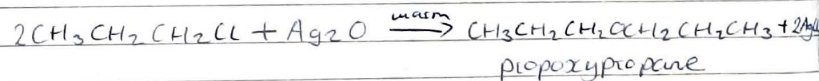
- 2)
- Physical State; Ethers are colourless, neutral liquids with pleasant odours. Lower aliphatic ethers are highly flammable gases.
 - Solubility; Lower molecular weight ethers are fairly soluble in water as they can make hydrogen bonds, while higher molecular weight ethers have a gradual decline in solubility.
 - Density; Most of the simple ethers are less dense than water, although the density increases with increasing molecular mass.
 - Boiling point; Low molecular ethers have a low boiling point when compared to corresponding alcohols, but ethers containing alkyl radicals larger than four carbon atoms, the reverse is true.
 - Reactivity; Ethers are inert at moderate temperatures. Their inertness at moderate temperatures leads to their wide use as reaction media.

- 3)
- The partial dehydration of alcohols.

Simple ethers are manufactured from alcohols by catalytic dehydration. The alcohol in excess and conc. tetraoxosulphate (VI) acid is heated at a carefully maintained temperature of 140°C , this process is known as continuous etherification. If excess alcohol is not used, the temperature is as high as $170-180^\circ\text{C}$, but then dehydration to yield alkene occurs.



- Through haloalkanes and dry silver(I) oxide.
When haloalkanes are warmed with dry silver(I) oxide, ethers and silver halides are formed.



- 4)
- Ethylene oxide is used as a gaseous sterilizing agent.
 - Ethylene oxide is used as an intermediate in the hydrolytic manufacture of ethylene glycol.