

YOUCHA PRAISE

19/MHS01/441  
MBBS

1a  $\text{CH}_3\text{OCH}_3 = \text{Methoxy methane}$

b  $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 = \text{Ethoxy ethane}$

c  $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O} = \text{Butoxy methane}$

d  $\text{CH}_3\text{CH}_2\text{OCH}_3 = \text{Methoxy ethane}$

e  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3 = \text{Methoxy butane}$

2a Physical states

At room temperature, ethers are colourless, neutral liquids with pleasant odours.

b Solubility

Ethers are less soluble in water than are the corresponding alcohols. They are miscible with most organic solvents.

c Density

Most of the simple ethers are less dense than water although the density increases with increasing relative molecular mass & some of the aromatic ethers are in fact denser than water.

d Boiling point

Low molecular mass ethers have a lower boiling pt. than the corresponding alcohols but those ethers containing alkyl radicals larger than four carbon atoms, the reverse is true.

The b.p. of ethers tend to approximate those of hydrocarbons of same relative molecular mass.

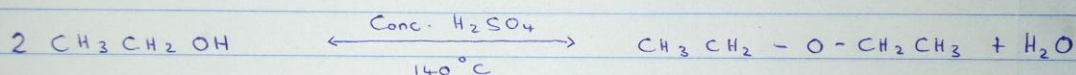
### e Reactivity

They are inert @ moderate temperature. Their inertness @ moderate temperatures leads to their wide use as reaction media.

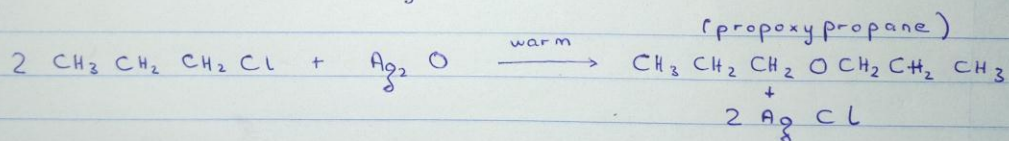
### 3: Partial dehydration of alcohols

Simple ethers are manufactured from alcohols by catalytic dehydration. The alcohol in excess & conc. tetraoxosulphate (vi) acid is heated @ carefully maintained temperature of  $140^{\circ}\text{C}$

The process is known as continuous etherification.



### ii From Haloalkanes and dry silver (I) oxide



4. Ethylene oxide is used in the preparation of nonionic emulsifying agents, plastics, plasticizers & several synthetic textiles

ii Ethylene oxide is used as a gaseous sterilizing agent

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