

① IUPAC names of the following compounds.

①  $\text{CH}_3\text{OCH}_3$   
methoxymethane.

②  $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$   
ethoxyethane.

③  $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$   
butoxyethane.

④  $\text{CH}_2\text{CH}_2\text{OCH}_3$   
ethoxymethane.

⑤  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$   
propoxyethane.

② Properties of ethers.

① They are colourless and have a pleasant odour.  
Aromatic ethers are highly flammable.

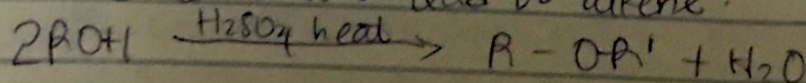
ii) Ethers less soluble in water than corresponding alcohols.

iii) Ethers less denser than water, density increases with increasing molecular mass.

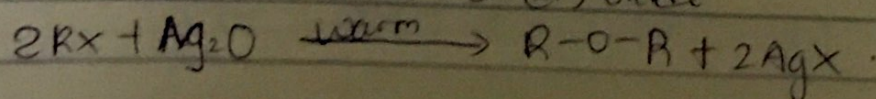
③ Preparation of ethers

① Dehydration (partially) of alcohols.

The dehydration of alcohols will be heated with  $\text{H}_2\text{SO}_4$ . This process is called continuous etherification. If the temperature is as high  $170^\circ - 180^\circ\text{C}$  further will lead to alkene.



② From haloalkene and silver (II) oxide



catalytic

③ Controlled hydration of alkenes

#### 4) Uses of ethylene oxide

- (i) Ethylene oxide is used ~~to produce ethox~~ as an intermediate <sup>hydrolytic</sup> in ~~hydro~~ <sup>hydrolytic</sup> manufacture of Ethylene glycol.
- (ii) Ethylene oxide used in the production of nonionic emulsifying agents
- (iii) Ethylene oxide used as a gaseous sterilizing agent.