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Computer Engineering
19/ Eng 02/045
CHM 102

- 1 CH_3OCH_3 - methoxymethane
 $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ - ethoxyethane
 $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$ - butoxyethane
 $\text{CH}_3\text{CH}_2\text{OCH}_2$ - methoxyethane
 $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$ - ethoxypropane

2 Physical states

At room temperature they are colourless, neutral liquids with pleasant odours

- Solubility

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

- Density

Most simple ethers are less dense than water. The density increases with relative molecular mass

- Boiling point

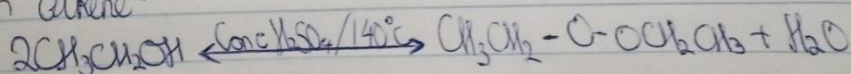
Lower molecular mass ethers have a lower boiling point than the corresponding alcohols

- Reactivity

They are at moderate temperature

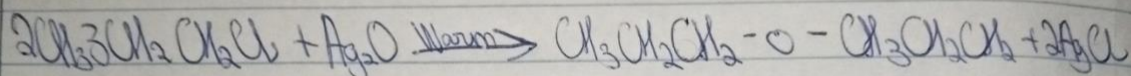
3 Partial dehydration of alcohols

Simple ethers are manufactured from alcohols by catalytic dehydration. The alcohol in excess and concentrated tetraoxosulphate (VI) acid is heated at a carefully maintained temperature. If excess alcohol is not used, the temperature is as high as $170-180^\circ\text{C}$, it would dehydrate and yield an alkene.



iv) From haloalkenes and dry silver (I) oxide

When haloalkenes and dry silver (I) oxide are reacted in a warm condition it produces an ether



4 It is used in the preparation of plastics, plasticizers and several synthetic textiles

- It is used as a gaseous sterilizing agent

- It is used as an intermediate in the hydrolytic manufacture of ethylene glycol