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Matricnum: 19/sci07/008

NAME	IUPAC NAME
$\text{CH}_3\text{OCH}_3$	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.

### Properties Of Ethers

Ethers are colourless, neutral liquids with pleasant odours. They are less soluble in water than their corresponding alcohols. They are also less dense than water.

Ethers with lower molecular masses have a lower boiling point than the corresponding alcohols. However, those which contain alkyl radicals larger than four carbon atoms, have a higher boiling point.

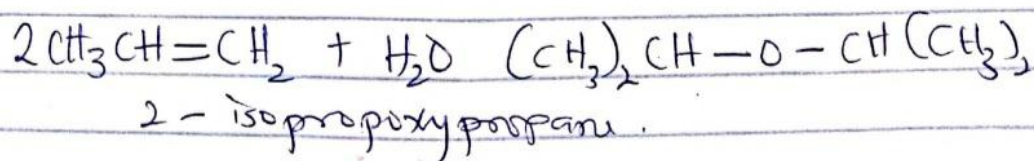
At room temperature, ethers are inert / unreactive.

3.

### TWO METHODS OF PREPARING ETHERS.

Ethers are prepared by:

(i) Controlled catalytic hydration of olefins.



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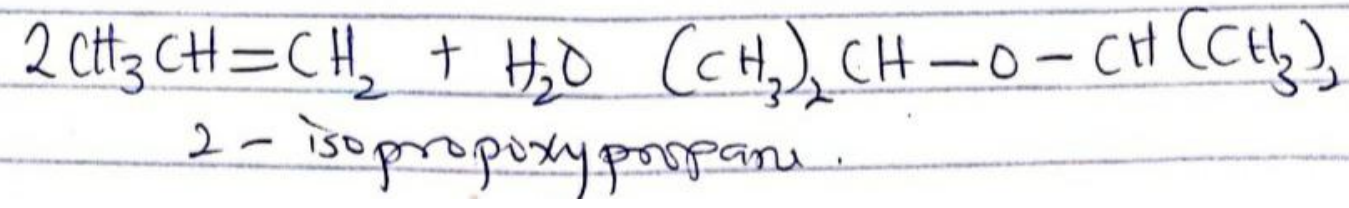
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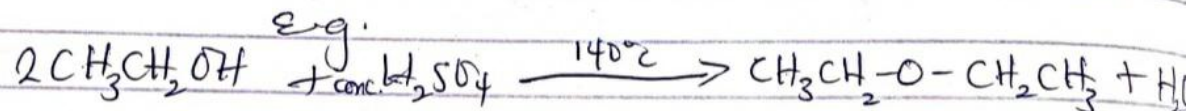
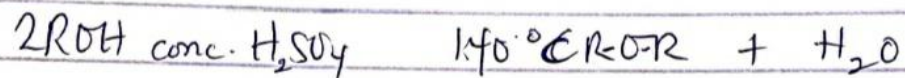




(ii)

Partial dehydration of alcohols.

Catalytic dehydration of alcohols produces simple ethers. Concentrated  $H_2SO_4$  acid is then heated together with the excess alcohol at a temperature of  $140^\circ C$  in a process known as <sup>continuous</sup> esterification. In a case where the excess alcohol is not used, the temperature required will be as high as  $170-180^\circ C$ . Further dehydration to form alkenes occurs.



4.

Uses of ETHYLENE OXIDE.

1. It is used as a gaseous sterilizing agent.
2. It is used in the hydrolytic manufacture of ethylene glycol, as an intermediate.
3. It is used in the preparation of monomers emulsifying agents, plastics, plasticizers and several synthetic textiles.