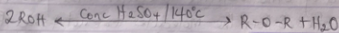


Molecules but as the hydrocarbon content of the molecules increases, there is a rapid decline in solubility. They are miscible with most organic solvents.

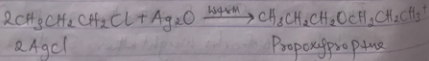
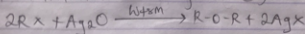
3) Partial Dehydration of Alcohols

Simple ethers are manufactured from alcohols by catalytic dehydration. The alcohol in excess and concentrated tetraoxosulphate (VI) acid is heated to a carefully maintained temperature of 140°C . This process is known as continuous etherification.

If excess alcohol is not used, the temperature is too high to $170-180^{\circ}\text{C}$, further dehydration to yield alkenes occurs.



" From Haloalkanes and Dry Silver (I) Oxide



Wt. mass and some of the frothy ethers are in fact denser than water.

iii) Reactivity:

Ethers are inert at moderate temperatures. Their inertness at moderate temperatures leads to their wide uses as reaction media.

iv) Boiling Point:

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

The boiling point of ethers tends to approximate those of hydrocarbons of same relative molecular mass from which it can be concluded that the molecules are not associated in the liquid phase and there are no suitably available hydrogen for association through hydrogen bonds.

v) Solubility:

Ethers are less soluble in water than are the corresponding alcohols. Lower molecular weight ethers such as methoxy methane and methoxyethane are fairly soluble in water since the molecules are able to form hydrogen bonds with the water.

NAME OKPE UCHENNA DANIEL

COURSE CHEM 102

DEPARTMENT MBBS

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Answers

1 CH_3OCH_3 Methoxymethane $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ Ethoxymethane

$(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$ 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 States:

At room temperature, ethers are colourless, neutral liquids with pleasant odours. The lower aliphatic ethers are highly flammable gases or volatile liquids.

3) Density:

Most of the simple ethers are less dense than water, although the density increases with increasing relative molecular mass.

Uses

- 4) Ethylene Oxide is used as a gaseous sterilizing agent
- 4) Ethylene Oxide is used as an intermediate in the hydrolytic manufacture of ethylene glycol.
- 10) Ethylene Oxide is used in the preparation of nonionic detergents, plastics, plasticizers and several synthetic textiles.