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19/mhs11/022

Pharmacy

CHM 102

1.

IUPAC NAMES:

1. CH_3OCH_3 : Methoxymethane
2. $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$: Diethyl ether
3. $(\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2)_2\text{O}$:
4. $\text{CH}_3\text{CH}_2\text{OCH}_3$: ethyl methyl ether
5. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$:
ethoxypropane

2.

PROPERTIES OF ETHERS

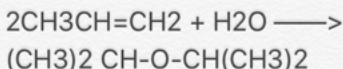
- Lower ethers are highly volatile and flammable.
- Lower ethers also act as anaesthetics
- Ethers are good organic solvents.
- Simple ethers (diethyl ether) are tasteless.

3.

METHODS OF MANUFACTURING ETHERS

a.

Controlled catalytic hydration of olefins: this process will yield ethers.



b.

Partial dehydration of alcohols: simple ethers are manufactured from alcohol by catalytic dehydration. Alcohol in excess and concentrated tetraoxosulphate(vi) acid is heated at a carefully maintained temperature of 140°C . This is called continuous etherification. If excess alcohol is not used, the temperature is as high as $170^\circ\text{--}180^\circ\text{C}$, further dehydration to yield alkene occurs.



140°C

4.

USES OF ETHYLENE GLYCOL

- It is mainly used as an intermediate in the production of several industrial chemicals, the most frequent is ethylene glycol
- It is used as a fumigant in certain agricultural products
- It is used as a sterilant for medical equipment and supplies