NAME: Agunbiade THEOPHILUS Olayiwola

DEPARTMENT: Pharmacy

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COURSE: CHEMISTRY( CHM102)

 Assignment 2

1. CH3OCH3Methoxymethane

CH3CH2OCH2CH3Ethoxyethane

(CH3CH2CH2CH2)2O Butoxymethane

CH3CH2OCH3Methoxyethane

CH3CH2CH2OCH2CH3 Ethoxypropane

 properties of ethers

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

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

3. Most of the simple ethers are less dense than water, although the density increases with increasing relative molecular mass and some of the aromatic ethers are in fact denser than water

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

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

Method of preparing ethers

1. Controlled catalytic hydration of olefins

2CH3CH=CH2 + H2O (CH3)2CH-O-CH(CH3)2

 2-isopropoxypropane

1. From Haloalkanes and dry silver (I) oxide

2RX + Ag2O warm R-O-R + 2AgX

2CH3CH2CH2Cl + Ag2O warm CH3CH2CH2OCH2CH2CH3 + 2AgCl Propoxypropane

Uses of ethylene oxide

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