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MATRIC NUMBER: 19/SCI07/009

DEPARTMENT: AGRICULTURAL SCIENCE

LEVEL: 100 LEVEL

CHM102 ASSIGNMENT

1. CH3OCH3= Methoxymethane

(CH3CH2CH2CH2)2O = Butoxymethane

CH3CH2CH2OCH2CH3 = Ethoxypropane

CH3CH2OCH2CH3 = Ethoxyethane

CH3CH2OCH3 = Methoxyethane

1. Physical states: At room temperature, ethers are colorless, neutral liquids with pleasant odors. The lower aliphatic ethers are highly flammable gases or volatile liquids.

Solubility: Ethers are less soluble in water than the corresponding alcohols. Lower molecular weight such as methoxy ethane and methoxymethane are fairly soluble in water since the molecule are able to form hydrogen bonds with water molecules increases, there is a rapid decline in solubility. They are miscible with most organic solvents.

Density: 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

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

Reactivity: Ethers are inert at moderate temperature. Their increase at moderate temperatures leads to their wide use as reaction media. Simple ethers are not found commonly in nature but the ether linkage is present in such natural products such as sugars, starch, and cellulose.

1. Controlled catalytic hydration of olefins:

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

 2-Isopropoxypropane

From haloalkanes and dry silver (1) oxide

2RX + Ag2O warm CH3CH2CH2OCH2CH2CH3 + 2AgCl

1. Ethylene oxide is used as an intermediate in the hydrolytic manufacture of ethylene glycol.

Ethylene oxide is used in the preparation of nonionic emulsifying agents, plastics, plasticizers and several synthetic textiles.

It is used as a gaseous sterilizing agent.