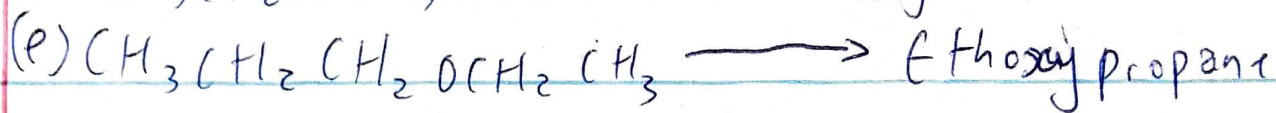


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Mechatronics 100 level Engineering

09/ENG05/060



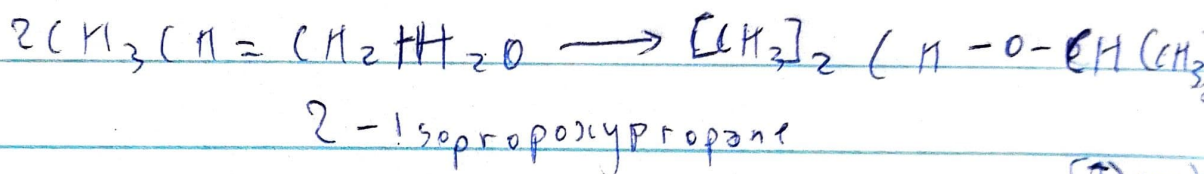
(2) Physical state:- At room temperature, ethers are colourless, neutral liquids with pleasant odours. The lower aliphatic ethers are highly flammable gases or volatile liquids.

(b) Solubility:- Ethers are less soluble in water than are the corresponding alcohols, lower molecular weight ethers such as methoxy methane and methoxy ethane are partly soluble in water since the molecule ^aact as the hydrocarbon content of the molecules increases, there is a rapid decline in solubility. They are miscible with most organic solvent.

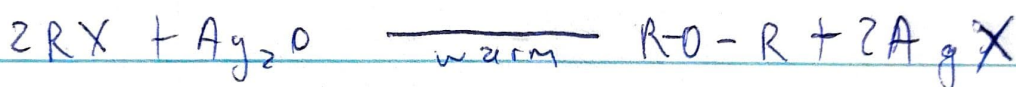
(c) Most Density:- most of the ethers are less dense than water, although the density increases with increasing relative molecular mass and some of the aromatic ethers are in fact denser than water.

- (d) Boiling point :- low molecular mass ethers have a lower boiling point than corresponding alcohols but those ethers ~~containing~~ containing allyl radicals later than four carbon atoms, the reverse is true.
- (e) Reactivity :- Ethers are inert at moderate temperature. Their inertness at moderate temperature leads to their wide use as reaction media.

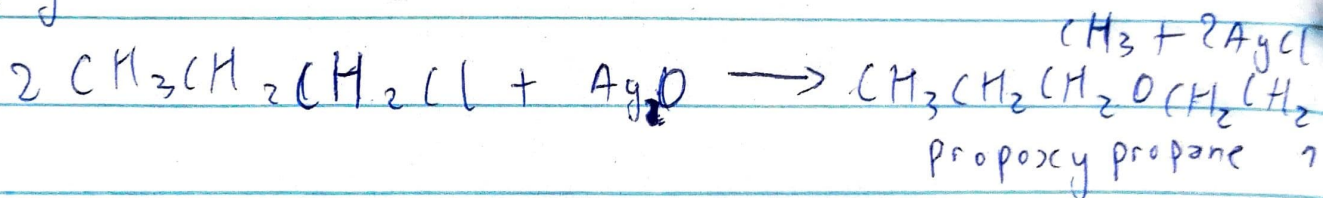
(3) (a) Controlled catalytic hydration of ~~aldehydes~~



(b) Preparation of ethers from haloalkanes and dry silver ^{(I) oxide}



e.g



3 uses of ethylene oxide

- (a) Ethylene oxide is used ~~as~~ ^{as} a gaseous sterilizing agent
- (b) Ethylene oxide is used in the preparation of non-ionic emulsifying agent, plastics etc.
- (c) Ethylene oxide is used as an inter mediate in the hydrolytic manufacture of ethylene glycol