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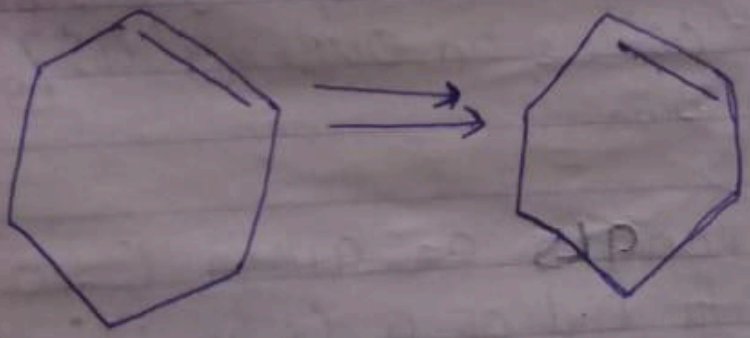
Course: Chem

(1) There are three types of alkanols Primary, Secondary and tertiary alkanols. A primary alkanol has only one alkyl group attached to the carbon atom that carries the hydroxyl group eg propanol, ethanol.

- Secondary alkanols: Secondary alkanols has alkyl group ~~white a tertiary alkanol~~, Some example are Pentan-3-ol, ~~CH2~~ HO.

(2)



b $CH_3CH_2CH_2CH_2Br \Rightarrow CH_3CH_2CH_2CH_2CH_2CH_3$

c $CH_3CH_2CH_2CH{=}CH_2 \Rightarrow CH_3CH_2CH_2CH_2CH_2CH_2$
$CH_2CH_2CH_3$

(3)

(3) Ethanol is manufactured by reacting ethene with steam the reaction is reversible and the formation of the ethanol is exothermic

~~$CH_2=CH_2(g) + H_2O$~~

$CH_2=CH_2(g) + H_2O(g) \rightleftharpoons CH_3CH_2OH(g)$ $\Delta H = -45\ Kjmol^{-1}$

Only five percent of the ethene is converted into ethanol at each pass through the reaction by removing the ethanol from equilibrium mixture and recycling the ethene, it is posible to achieve an overall 95% Conversion

(4) Alkanals ~~are alkan~~ C=O occurs at the end of a Carbon Chain

The general Structure of an alkanal is R-CHO (R is an alkane chain or a hydrogen atom)

Alkanones C=O does not occur at the end of a carbon chain

The general structure of an alkanone is ~~RRCOOR~~ R-CO-R' (R and R' are both alkane chains)

	Product	
alkanal (aldehyde)	oxidising agent	alkanoic acid (carboxylic acid)
alkanone (ketone)	oxidising agent	no observable reaction