

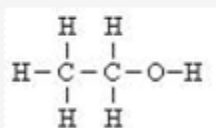
Alcohols

PAGE NO : 264

Solution 1:

Molecular formula of Ethanol: C_2H_5OH

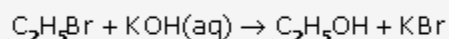
Structural formula of Ethanol:



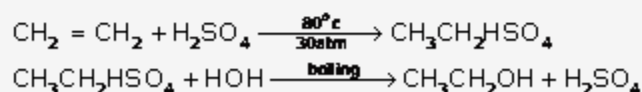
Solution 2:

Necessary conditions and equations of getting ethanol from the following are:

- (a) Alkyl halide: alkyl halide on hydrolysis with dilute alkali give alcohol



- (b) An ethene: Ethene is first treated with concentrated sulphuric acid at $80^\circ C$ when ethyl hydrogen sulphate is formed. Ethyl hydrogen sulphate on hydrolysis with boiling water or steam yield ethanol.



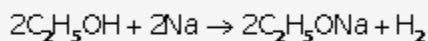
Solution 3:

- (i) Potassium dichromate and potassium permanganate in the presence of acid .
- (ii) Conc. H_2SO_4
- (iii) Methanol
- (iv) Ethyl alcohol

Solution 4:

Ethanol reacts as follows

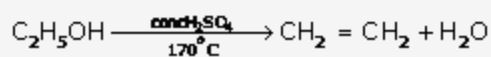
- (a) Metallic sodium:



- (b) Acetic acid:



- (c) Conc. H_2SO_4 :

**Solution 5:**

- (i) Methylated spirit:- Ethyl alcohol mixed with certain percentage of methyl alcohol.
- (ii) Power alcohol:- Petrol:Alcohol in 4:1
- (iii) Spurious alcohol:- Ethyl alcohol mixed with higher percentage of methyl alcohol

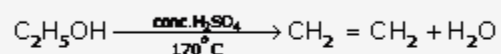
Solution 6:

Uses of ethanol:

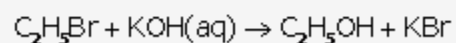
- (i) In the manufacture of alcoholic beverages
- (ii) As a solvent for paint, oils, perfumes
- (iii) As an antifreeze in automobile radiators

Solution 7:

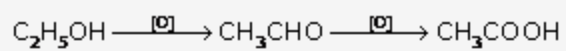
- (i) Ethanol to ethene:



- (ii) Bromoethane to ethanol:



Solution 8:



(X)

(Y)



(Y)

(X)

(Z)

'X' = Ethyl alcohol

'Y' = Ethanoic acid

'Z' = Ethyl ethanoate