Science

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(Chapter – 4) (Carbon and its Compounds)

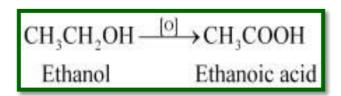
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Ouestion 1:

Why is the conversion of ethanol to ethanoic acid an oxidation reaction?

Answer 1:



Since the conversion of ethanol to ethanoic acid involves the addition of oxygen to ethanol, it is an oxidation reaction.

Question 2:

A mixture of oxygen and ethyne is burnt for welding. Can you tell why a mixture of ethyne and air is not used?

Answer 2:

$$2HC \equiv CH + 5O_2 \longrightarrow 4CO_2 + 2H_2O + Heat$$

When ethyne is burnt in air, it gives a sooty flame. This is due to incomplete combustion caused by limited supply of air. However, if ethyne is burnt with oxygen, it gives a clean flame with temperature 3000°C because of complete combustion. This oxy-acetylene flame is used for welding. It is not possible to attain such a high temperature without mixing oxygen. This is the reason why a mixture of ethyne and air is not used.