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Matric no:18/MHS01/241

Chemistry 102 Assignment

1. Alchohols are classified into two

A. Based on the number of hydrogen atoms attached to the carbon atom containing the hydroxyl group. If the number of hydrogen atoms attached to the carbon atoms containing the hydroxyl group are 3 or 2 it is called a primary alcohol If it is 1 hydrogen atom it is called a secondary alcohol and if there is no hydrogen atoms then it is called a tertiary alcohol.

B. Based on the number of hydroxyl groups they possess. If there is one hydroxyl group present in the alcohol structure it is called a monohydric alcohol. If there are two it is called a dihydric alcohol or glycol. If there are three it is called a trihydric alcohol or triol. If there are more than three it is called a polyhydric alcohol or poly.

2.lower alcohols with up to three carbon atoms in their molecules are soluble in water because they can form hydrogen bon with water molecules. All Monohydric alcohols are soluble in Organic solvents.

3.Industrial Manufacture of Ethanol

Starch containing foods can be made to yield ethanol through a biological process called fermentation

A.the ethanol containing material is wrmed with malt to 60°C for a period of time. This converts it into maltose by the enzyme diastose contained in the malt.

$$2(C_6H_{10}O_5)n + nH_2O$$
 Diatose $nC_6H_{12}O_{11}$ Carbohydrate 60.C Maltose

B.The maltose is broken down into glucose when yeast is added which contains enzyme maltose at 15.C

$$C_6H_{22}O_{11} + H_2O$$
 Maltase $2C_6H_{12}O_6$ Maltose $16C$ Glucose

C.The glucose at 15.C is converted into alcohol by enzyme zymase contained in yeast.

