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MATRIC NO: 19/MHS06/009

CHEM102

1)Classification based on the number of hydrogen atoms attached to the carbon atom containing the hydroxyl group. They are divided into primary alcohols(CH3OH), secondary alcohols(CH3CH(OH)CH3) and tertiary alcohols(CH3)3C-OH.

* Classification based on the number of hydroxyl groups they possess. They are divided into Monohydric alcohols(CH3CH2CH2OH), Dihydric alcohol (HOCH2CH2OH), Trihydric alcohol(OHCH2CH(OH)CH2OH)

2)SOLUBILITY 0F ALCOHOLS IN WATER: lower alcohols with up to three carbon atoms in their molecules are soluble in water because these lower alcohols can form hydrogen bond with water molecules. The water solubility of alcohols decreases with increase in the relative molecular mass.

SOLUBILITY OF ALCOHOLS IN ORGANIC SOLVENTS: All monohydric alcohols are soluble in organic solvents. The solubility of simple alcohols and polyhydric alcohols is largely due to their ability to form hydrogen bonds with water molecules.

3)a. the biological catalyst enzymes found in yeast break down the carbohydrate molecules into ethanol to give a yield of 95%. On warming with malt to 60 degrees for a specific period of time are converted into maltose by the enzyme diastase contained in malt.

2(C6H10O5)n + n H20-----------n C12H22O11

Carbohydrate 600C/diastase maltose

b. the maltose is broken down into glucose on addition of yeast which contains the enzyme maltase and at a temperature of 150C

C12H22O11-----------------2C6H12O6

MALTOSE 150C/MALTASE GLUCOSE

C. The glucose at constant temperature of 150C is the converted into alcohol by the enzyme zymase contained also in yeast.

C6H12O6-------------------2CH3CH2OH + 2CO2

GLUCOSE 150C/ZYMASE ETHANOL.

