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DEPARTMENT: NURSING

1] The classifications are;

1. CLASSIFICATION BASED ON THE NUMBER OF HYDROGEN ATOMS: This is based on the number of hydrogen atoms attached to the carbon atom containing the hydroxyl group. This is made up of the primary alkanol, secondary alkanol and tertiary alkanol. The primary alkanol which is made up of two or three carbon atoms attached to the hydrogen atom. The secondary alkanol which is made up of one carbon atom attached to the hydrogen atom. The tertiary alkanol which is made up of no carbon atom attached to the hydrogen atom.

Examples;

CH3OH [Methanol]

CH3CH2OH[Ethanol]

1. CLASSIFICATION BASED ON THE NUMBER OF HYDROXYL GROUP THEY POSSES : This is made up of monohydric alcohol that is made up of one hydroxyl group present in the alcoholic structure , the dihydric alcohol [ Glycols] that is made up of two hydroxyl groups in their alcoholic structures. The trihydric alcohol [Triols] that is made up of three hydroxyl groups present in their alcoholic structures.

Examples;

CH3CH2CH2OH – Propanol [Monohydric alcohol]

HOCH2CH2OH –Ethane [Dihydric alcohol]

2] CH3MgBr + CH3CH2CH2CH2C=O-CH2CH2CH3

[Grignard reagent] [Octane-4-ene]

Mg[Br]Cl + CH3CH2CH2CH2CCH3OHCH2CH3

[Tertiary Alkanol]

3] The biological catalysts [Enzymes] found in yeast break down the carbohydrate molecules in ethanol.

The industrial manufacture shows the following processes;

1. The starch containing the materials is warmed with malt to 60 for a specific period of time and is converted into maltose by diastase [an enzyme] in the malt.

2[C6H10O6]n + nH2o nC12H22O11

1. The maltose is broken down into glucose on addition of yeast which contains the enzyme maltase and at a temperature of 15

C12H22O11 + H20 2[C6H12O6]

1. Glucose at a constant temp of 15 is then converted into alcohol by the enzyme zymase also contained in the yeast

C6H1206 2CH3CH2OH + 2CO2

4] The product obtained from the reduction of Alkanone and Alkanals is alcohol

EQUATION [ALKANALS];

CH3C=OH +2[H] CH3CH2OH

Ethanal Ethanol

[Reduction of Ethanal to form Ethanol]

EQUATION [ALKANONE];

2[CH3] C=O + 2[H] CH3CHCH3

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OH

Propanone propan-2-ol

[Reduction of propanone to form propan-2-ol]