

Nenzab David Bunshak

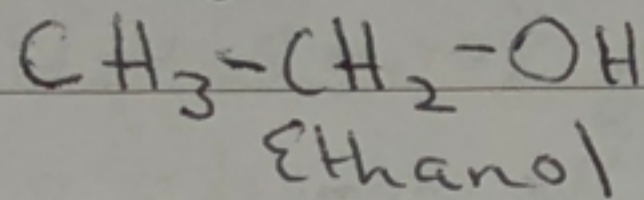
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No.

Mechatronics Engineering

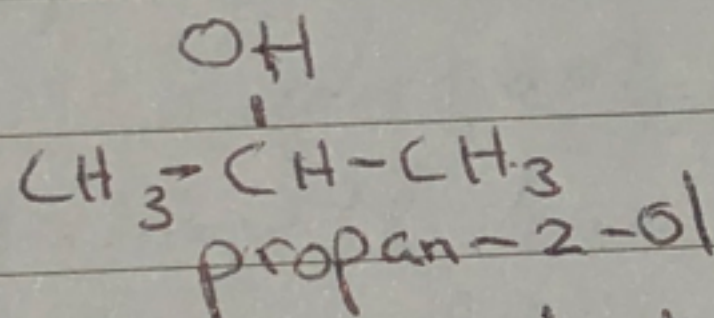
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(i) = Primary alcohols: In a primary ( $1^\circ$ ) alcohol, the carbon atom that carries the OH group is only attached to one alkyl group. Eg.

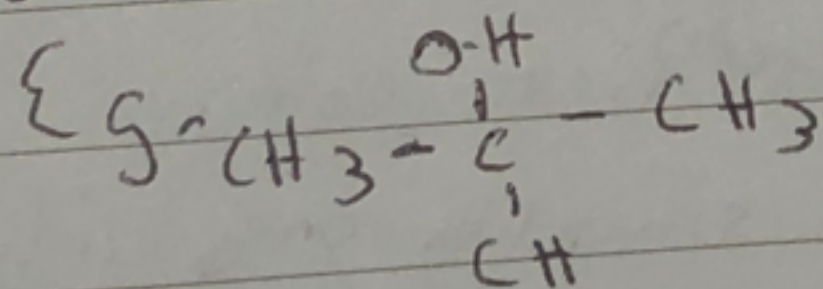


ii - Secondary alcohols: In a secondary ( $2^\circ$ ) alcohol, the carbon with the OH group attached is joined directly to two alkyl groups.

Eg.



iii - Tertiary alcohols: In a tertiary ( $3^\circ$ ) alcohol, the carbon atom holding the OH groups, which may be any combination of the same or different groups is directly attached to three alkyl groups.



2-methylpropan-2-ol

(2) - Alcohols are soluble in water. This is due to the hydroxyl group in the alcohol which is able to form hydrogen bonds with water molecules.

- Alcohols are soluble in organic solvents

(3) Making Ethanol by fermentation:  
The starting material for the process varies widely, but will normally be some form of starchy plant material such as maize, wheat, barley or potatoes.

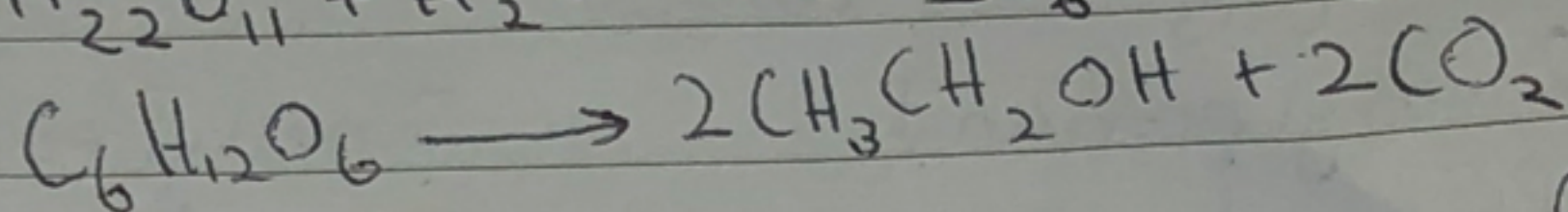
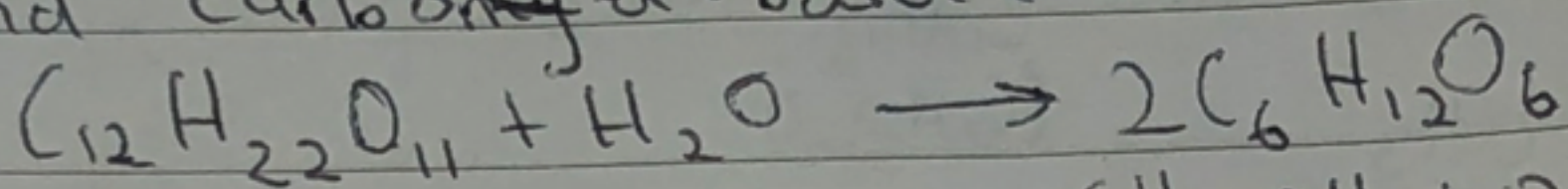
The first step is to break the complex carbohydrates into simpler ones.

Yeast is then added and the mixture is kept warm (say  $35^{\circ}\text{C}$ ) for perhaps several days until fermentation is complete.

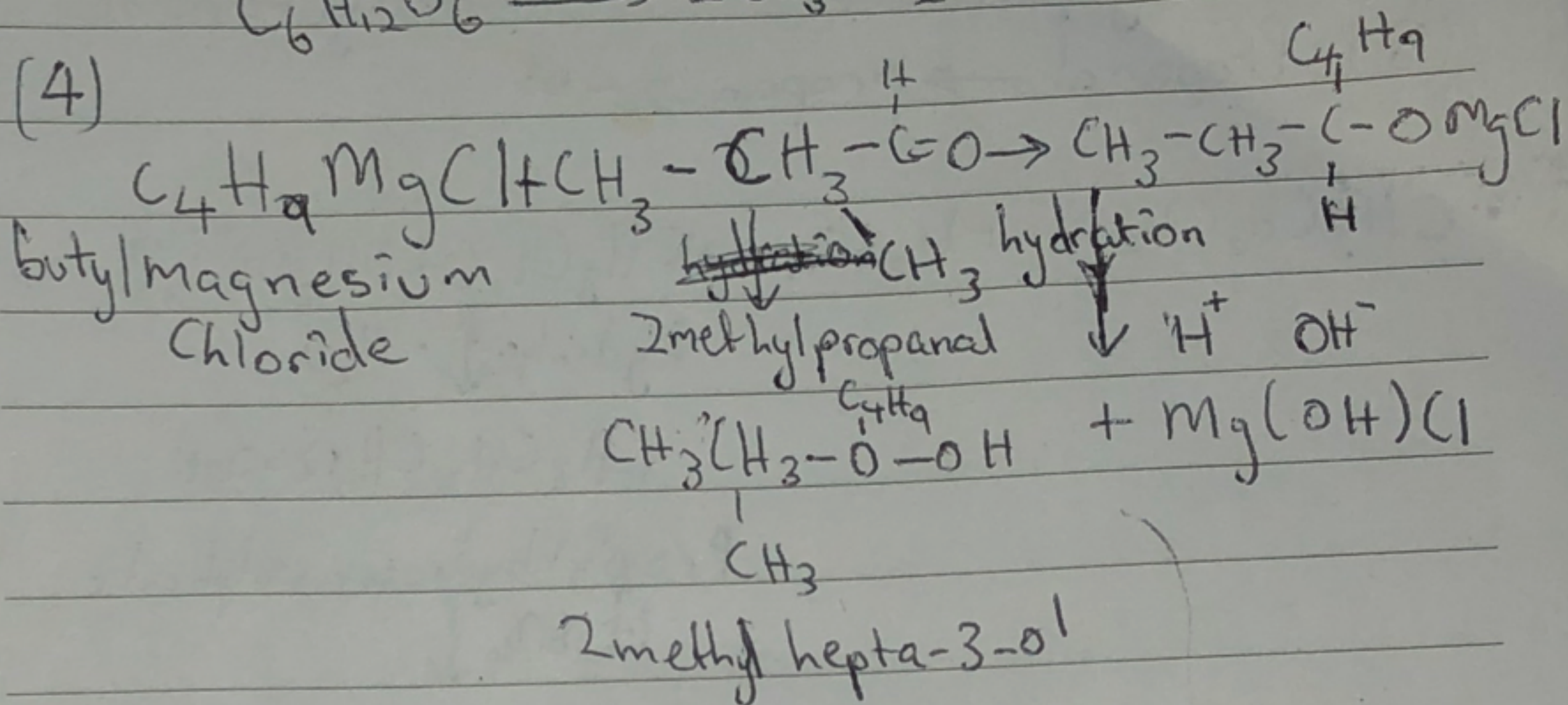
Air is kept out of the mixture to prevent oxidation of the ethanol produced to ethanoic acid.

Enzymes in the yeast first convert carbohydrates into even simpler ones like glucose and fructose, both  $\text{C}_6\text{H}_{12}\text{O}_6$ , and

Then these are converted to ethanol and carbon dioxide.



(4)



(5) 2-methyl propanone doesn't exist

(6) 2-methyl propanone does not exist. The oxygen atom must carry a double bond. The methyl group would not fit second carbon atom of propanone

