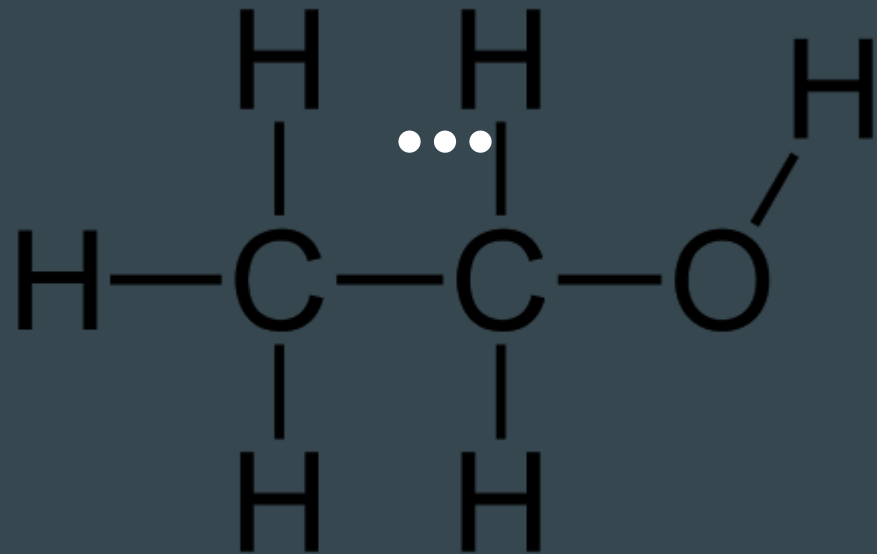


Ethanol



Why ethanol is important, and it's common uses at home and in industry?

Ethanol is important as it reduces carbon emissions by 43% compared to gasoline. It is the most clean and affordable source of octane available and it's cheaper than gasoline so that makes it good for industries to use. Ethanol in the home is used for alcohol and it's used for car fuel.

How do its chemical properties make it suitable for these uses?

Because it is a clear colourless liquid and had the same chemical formula when made from both starch and sugar. Since it's made of starch and sugar it's easy to make.

What organisms carry out fermentation and how the process works?

Ethanol fermentation also called alcohol fermentation is done by yeast. It works by the yeast consuming the glucose and the by products are ethanol and carbon dioxide,so basically ethanol is yeast pee. Also then you have to dehydrate the yeast because it's still got water in it. The dehydration gets rid of the water.

Balanced equation for the fermentation process?



Glucose \rightarrow ethanol + carbon dioxide

How ethanol is made by hydration of ethane including a balanced equations?



Ethanol is made from ethene when ethene reacts with steam. No other reactants are made so that means you will always get ethanol.

Advantages and disadvantages of using fermentation vs hydration of ethane to make ethanol?

Fermentation takes about a week and you need a pretty high temperature for the fermentation to work. Also the ingredients are expensive, but you can ferment ethanol at home with ease. To make ethanol at home you have to have a fuel plant permit which sounds annoying.

To get ethene you have to crack crude oil. Cracking is when you break large hydrocarbon chains into smaller chains. Then you have to react this with steam. This process probably takes a while and to make a lot of ethanol this way you probably have to be a big business