

Should the Ethanol Blender's Credit Be Eliminated?

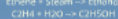
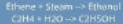
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Ethanol (Ethyl alcohol) is a clear and flammable oxygenated hydrocarbon. Lower concentrations of ethanol are consumed in alcoholic beverages such as whiskey, brandy and rum. Ethanol must not be drunk in high doses or will cause poisoning

Method 1- Ethene and steam

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Ethanol can be made by reacting the ethene and steam. The word and symbol equation for this is as follows.



Word equation
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Symbol equation
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Pros and cons

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Pros- The ethanol is created from a renewable plant source.
Cons- Plants usually take a long time to grow and depend upon the weather/climate

Method 2- Fermentation

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Ethanol can be created through fermentation. This occurs when sugars are taken from a plant and are converted into ethanol and carbon dioxide. The symbol and word equations follow

Word equation

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Symbol equation

Symbol equation

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Word equation

Pros and cons of method 1

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Pros- Ethanol can be made as long as there is a supply of ethene and steam
Cons- Ethanol is made from fractions of crude oil which will run out eventually

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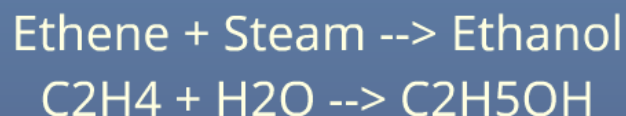
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Word + symbol
equation

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Ethene + **Steam** --> **Ethanol**

$\text{C}_2\text{H}_4 + \text{H}_2\text{O --> C}_2\text{H}_5\text{OH}$

Word + symbol equation

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Ethene + Steam --> Ethanol

$C_2H_4 + H_2O \rightarrow C_2H_5OH$

Pros and cons of method 1

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Word equation

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Sugar → Ethanol + Carbon
Dioxide

Symbol equation

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$C_6H_{12}O_6$ -enzymes in yeast-
 $2C_2H_5OH + 2CO_2$

Word equation

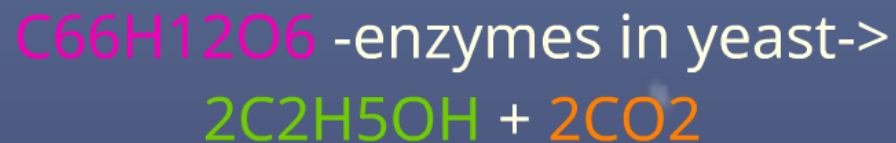
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Sugar --> Ethanol + Carbon
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T

Symbol equation

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Pros and cons

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