

Title:

Is Ethanol The Alternative Fuel?

Word Count:

531

Summary:

Ethanol (commonly called "Alcohol") has assumed a very important place in the world's economy. It is a vital raw material for a number of chemicals. It has been a major source of revenue by way of excise duty for the Governments.

Keywords:

ethanol, fuel ethanol, alcohol, fermentation, sugarcane molasses, gasohol, distilleries, chemicals, ethyl

Article Body:

Ethanol (commonly called "Alcohol") has assumed a very important place in the world's economy. It is a vital raw material for a number of chemicals. It has been a major source of revenue by way of excise duty for the Governments.

Industrial alcohol produced from sugarcane molasses has a significant role to play in the world's economy. Alcohol is a by-product of sugar industry which is linked to agriculture. Sugarcane crop is a renewable source of energy. Therefore alcohol produced from molasses deserves a preferential place as a substitute feed stock for chemicals industry to bridge the gap in any country's energy needs for increasing requirement for potable purpose. Sugarcane can also be directly used to produce ethanol.

Alcohol Based Chemicals

Ethyl Alcohol is an important feed stock for the manufacture of chemicals. These chemicals are Acetic Acid, Acetone, Butanol, Butadiene, Acetic Anhydride, Vinyl acetate, styrene, MEG PVC etc. Synthetic rubber industry also requires large quantity Of Alcohol. The main product INDUSTRIAL ALCOHOL is used in the manufacturing of the following Alcohol based chemicals, the uses of which are also given below.

a) Acetaldehyde : Can be used for industrial use as Chemicals derivatives Pharmaceutical applications and synthetic resins and

for manufacture of Acetic Acid.

- b) Acetic Acid : Used in Pharmaceuticals applications, Textiles, Dyestuffs, Ethyl Acetate, and is the basic chemical for Alcohol based chemicals via Acetaldehyde route...
- c) Acetic Anhydride : Used in Bulk Drug manufacturing
- d) Ethyl Acetate : Used in manufacturing of Paints, Dyestuffs and Pharmaceuticals .
- e) Substitute to : Used in manufacture of HDPE, LDPE etc. and Chemicals other Petroleum based petroleum based chemicals such as Ethylene Glycol.

Potable Alcohol

Manufacture of alcoholic beverages from alcohol is also an attractive diversification. There is large demand for alcoholic beverages i.e. Brandy, Whisky, Rum, gin , Vodka and Wine. The need for alcohol for potable purpose is as high as the alcohol being used for industrial purposes.

Alcohol as fuel/Ethanol Blended petrol

The trend in the world (particularly Brazil and USA) is towards the use of alcohol as an alternative fuel. During World war II, alcohol in the form of power alcohol was used for blending with petrol in the proportion of 80% petrol and 20% power alcohol. Brazil has developed a technology which has made possible large scale substitution of petroleum derived fuel. Now Anhydrous Alcohol is exclusive fuel for automobiles. Alcohol powered vehicles have taken the first position in Brazil & accounting for 80% of overall sales of about 500,000 alcohol powered vehicles every year.

Anhydrous Alcohol (99.5% v/v) is being used as fuel, by mixing it with Petrol. The blend of Anhydrous Alcohol and petrol is called Gasohol. In Brazil 4 million Vehicles are running on Gasohol. The content of alcohol in Gasohol varies from 10% to 85%. Alcohol works as Oxygenate in petrol combustion and superior to other oxygenate MTBE and ETBE. Alcohol reduces CO (Carbon Monoxide) emission and

cause less pollution compared to petrol.

It can be seen that demand for alcohol will be ever increasing & there would not be any problem in marketing alcohol (either for Industrial or for potable purpose) produced by distilleries.

It is debatable whether corn should be used for producing ethanol or for that matter any food grain.