



Ignition Quality of Motor Fuels with Dual Fuel Operation in Bioethanol

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DESCRIPTION

The most common alternative fuels are bioethanol, biodiesel, hydrogen and boron, and as alternative fuels increase, investments are being made in methyl alcohol, ethyl alcohol, natural gas, LPG, P-series, electricity and solar fuels. Boron fuel consists of elemental boron that is mixed with pure oxygen in the engine.

Alcohol is also used as fuel for internal combustion engines. It can be mixed and dissolved in diesel fuel or added to the engine intake. Ethanol can be mixed with diesel if it is low in water. Diesel engines typically do not run on ethanol unless the addition of ethanol takes places to lubricate the fuel injection system. Another issue with addition of ethanol to diesel fuel is cetane number (ignition properties), which can affect engine manufacturers.

It can be corrosive to certain Materials which are used in engines. The methyl alcohol is the most corrosive when compared to butyl alcohol. It can also cause injury or physical harm if not used properly. People who use alcohol in motor fuels should observe warning labels and follow precautions to avoid certain problems.

The advantage of mixing alcohol with gasoline tends to increase with the octane rating and reduces the carbon monoxide and other tail-pipe emissions. The gasoline contains large numbers of dangerous and cancer-causing chemicals that include benzene, butadiene, toluene, ethylbenzene, xylene, trimethyl pentane, Methyltert Butylether (MTBE) and many others.

Hydrogen fuel is hydrogen gas which contains small amount of oxygen and other substances that are added. It includes clean air, clean water, and better health. It is also a renewable raw material and involves in the properties for automobile internal combustion engines. It can be used directly as fuel in internal combustion engines. Gasoline-like hydrocarbon fuels for powering fuel cell vehicles would have properties tailored to the

new technology, for optimum performance in the combustion engines.

Both methanol and ethanol are derived from non-crude and sometimes those are renewable, resources which are more evenly distributed over the globe. This is not much different from engines used on gasoline. It is not a primary fuel and must be made from water using fossil or non-fossil energy sources. Storage tanks are also used for the transport of chemicals by trucks and trains.

It is very safe and difficult to ignite. It also contains more energy than oil and has a very high energy density, far superior to liquid hydrogen, and safer, which makes it a viable vehicle fuel. Unfortunately, the boron is a fairly limited resource and the pure oxygen is more expensive.

Blending renewable fuel with gasoline and diesel reduces the amount of conventional petroleum based motor vehicle fuel required to meet transportation needs. Since conventional gasoline and diesel are refined from crude oil, increased use of renewable fuel also reduces the amount of crude oil needed to supply refineries.

Accidental spills occurring during transport and transfer operations constitute a relevant source of hazardous chemicals into groundwater. Consequently, increased demand for renewable fuels will not result in a significant rise in consumer food prices. Increased use of renewable fuels will boost demand for grains and oilseeds used to make ethanol and biodiesel.

CONCLUSION

The use of alternative fuels has many environmental, economic and consumer benefits. Development of the biofuels market in the world is dictated by the reduction in conventional petroleum energy resources, and drastic environmental degradation. These reasons led to stable growth and involves in the production of alternative fuels that includes biofuels.

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Received: 05-Aug-2022, Manuscript No. ACE-22-18409; **Editor assigned:** 08-Aug-2022, PreQC No. ACE-22-18409 (PQ); **Reviewed:** 29-Aug-2022, QC No. ACE-22-18409; **Revised:** 05-Sep-2022, Manuscript No. ACE-22-18409 (R); **Published:** 12-Sep-2022, DOI: 10.35248/2090-4568.22.12.247.

Citation: Cvengros J (2022) Ignition Quality of Motor Fuels with Dual Fuel Operation in Bioethanol. Adv Chem Eng. 12:247.

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