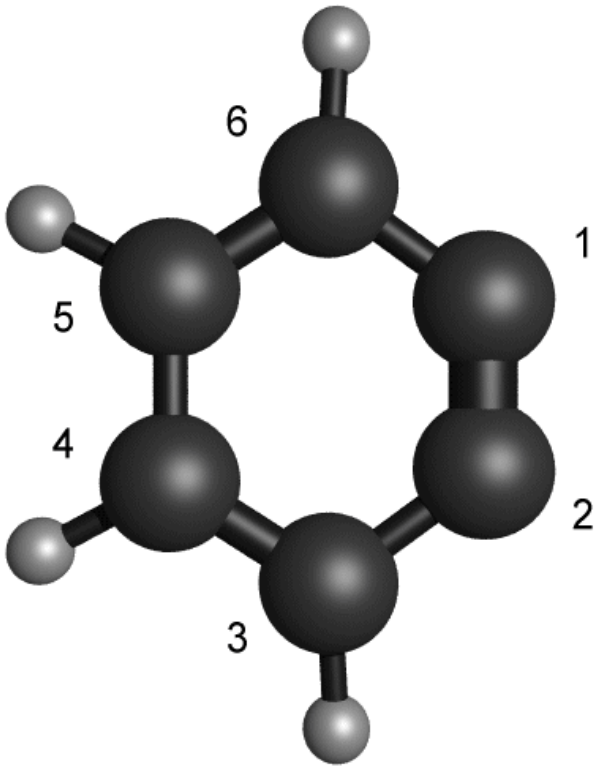
Research Paper: Biofuel Compounds

Introduction

Biofuels are used as an alternative to fossil fuels. Fossil fuels are a non-renewable resource; a nonrenewable resource is a natural resource that cannot be produced, re-grown, regenerated, or reused on a scale which can sustain its consumption rate. Biofuels are a renewable resource; renewable resources are capable of being renewed. It has been long predicted that the human race will run out of fossil fuels, such as coal and oil. As a solution, scientists have been researching and creating Biofuels. Biofuels will be used in the future if no alternative fuel is found. Four important components in the context of this paper are Benzene, Naphtha, ethylene, and isooctane. These are explained in more detail below.

Benzene

Benzene contains 92.3% carbon and 7.7% hydrogen. Its chemical formula is C6H6. Benzene was first discovered in 1825 by Michael Faraday, a scientist. Benzene is produced in natural disasters such as forest fires and volcano eruptions. People weren't aware that it was a toxic chemical. It is used to make nylon and plastic



material. It was also used as a solvent in industries. Benzene is a poisonous chemical with side affects which can include trouble breathing, dizziness, drowsiness, headaches, and nausea. Long-term exposure to Benzene may cause cancer (leukemia).

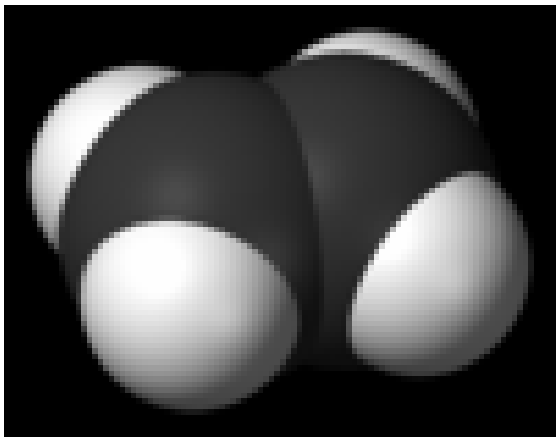
Naphtha

Naphtha is a chemical compound that is left over during the process of refining coal tar and petroleum. Naphtha is broken down into other chemicals and is used for different things like producing plastics, synthetic fibers, paints, solvents, polishes and camp stove fuels. It is also used to increase the octane rating of gas for cars. It was first used in the mid 19th century when it was discovered that stuff like kerosene, which has Naphtha chemicals, could remove stains from fabrics. Naphtha is a hydrocarbon and many hydrocarbons are poisonous by breathing in and some by touching with bare hands. Benzene is a product of Naphtha and is a known to cause cancer. Naphtha can cause headaches, dizziness, and reacting to things slower, and even apnea or your heart stopping as a result of acute exposure.

Ethylene

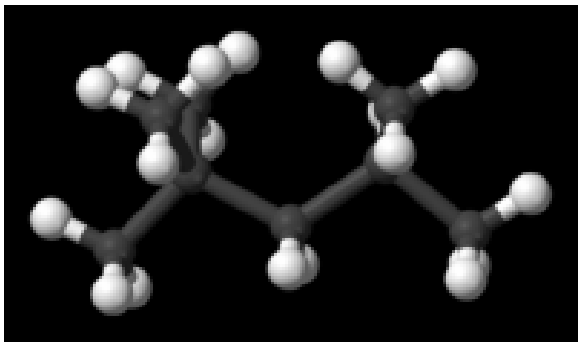
Ethylene was first discovered in 1795 by a group of four Dutch chemists. Ethylene is the simplest alkene. It is important in industry and also in biology as a hormone.

Ethylene is the most produced organic compound in the world. Ethylene is most often used to create ethylene oxide, ethylene dichloride, and polyethylene. Ethylene can be used to make packaging, injection molding, pipe extrusion, wire sheathing, and insulation. Ethylene Oxide is an important ingredient in surfactants and detergents. It also can be used to make ethylene glycol, which is used to make antifreeze. Ethylene is produced in parts of higher plants, including leaves, roots, stems, flowers, tubers, fruits, and seedlings.



Isooctane

Isooctane, also known as 2, 2, 4 –Trimethylpentane, is an octane isomer. An octane isomer defines the 100 point on the octane rating scale. Isooctane is an important part of gasoline. Isooctane is produced in large quantities in the petroleum industry. Isooctane is very hazardous to humans. It can cause skin to turn red, become dry, and become very painful. Isooctane is very flammable. When exposed to air or moisture it can explode.



Conclusion

In the future alternative fuels will become an increasingly important source of energy. Biofuels are a big fraction of renewable fuels that are being developed. It has been proved that fossil fuels are going to run out at an undetermined point in the future. The only alternative is to use renewable sources. Biofuels are healthier for the environment and the atmosphere, giving them yet another advantage over fossil fuels. The fact that Biofuels will never run out is the biggest reason Biofuels rise above other fuels.

Sources

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