

# Essay on gasoline and diesel a comparative study

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Gasoline and Diesel are both derived from petroleum. This is done by heating petroleum so that different components boil at different temperatures. The other products of importance obtained from this process are propane, bitumen, kerosene, etc.

Gasoline is made up of various constituent compounds. The chief constituent is Isooctane (IUPAC name: 2, 2, 4 - trimethylpentane). Its chemical formula is  $C_8H_{18}$  and undergoes combustion according to the following equation.

Gasoline is very volatile liquid (more volatile than diesel). It is very stable. It can be stored indefinitely under proper conditions (Reduced air exposure, cool temperatures, etc.). It has a relative density of 0. 71-0. 77. Therefore, it can float on water. Gasoline fires cannot usually be extinguished by water for this reason.

Diesel is not a single fuel but any of several compounds that can be used as a fuel for a diesel engine. The most common form is diesel derived from petroleum (also known as petrodiesel). It is a mixture of hydrocarbons which are long carbon chains about 8 to 21 carbon atoms in length. The chemical formulas of these compounds typically vary from  $C_{10}H_{20}$  to  $C_{15}H_{28}$ . The other forms include artificially made biodiesel, etc. Diesel engines have better mileage than their gasoline counterparts. They also give more torque which is why they are preferred for heavy duty vehicles such as trucks and SUVs .

The long carbon chains in diesel often result in incomplete combustion of the molecules. This leads to formation of soot (unburnt carbon) and unburnt hydrocarbons in the emissions. Thus, diesel usually causes more pollution than gasoline. This often results in photochemical smog in colder climates.

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Diesel also has a considerable amount of sulfur. Diesel spills are also much more dangerous than gasoline spills. As opposed to gasoline which quickly evaporated when spilled, diesel stays and forms a slippery layer on roads when spilled. This substantially increases the risk of accidents. Diesel needs to be cleared quickly when spilled.

On the whole, diesel pollutes the environment more than gasoline. However, it has a much better mileage than petrol. Therefore, diesel powered cars usually produce less greenhouse emission. This is because the better fuel economy (20% - 40%) offsets the higher per liter greenhouse emission . That being said, diesel poses a greater health hazard due to sulfur emissions, unburnt hydrocarbon emissions and soot. These also are important constituents of photochemical smog. Of course, the above is only true for the most common form of diesel, i. e. petrodiesel. Alternative fuels like biodiesel are much more environment friendly than any of the conventional fuels.

## **Works Cited**

Diesel Fuel - Wikipedia, the free encyclopedia. 15 January 2012 .

Kulkarni, Arjun. Diesel Fuel Facts. 15 January 2012 .

Petroleum - Wikipedia, the free encyclopedia. 15 January 2012 .