Alchohol as a fuel

Engineering

Methanol and Ethanol In certain cases, things which are similar are actually very different. This is so, when methanol is compared to ethanol. These substances look and sound the same. However, mistaking one for the other can result in mistakes that can be fatal. The comparison and contrast between methanol and ethanol is analyzed in terms of usage, physical and chemical properties. The physical appearance of ethanol shows that it is a colorless substance in liquid form. Ethanol is also very volatile, hence reacts with other substances very aggressively. The liquid possesses a very strong and odor. The burning characteristics of methanol entail bright blue flame. Methanol is also a colorless liquid, which is very volatile. The odor of methanol is unique and distinctive. The burning characteristic of methanol is bright white flame (Yant, 2012).

The paper also studies the physical effects between ethanol and methanol. Ethanol is the main ingredient of fermented beverages and also distilled alcoholic drinks. People who ingest ethanol experience the intoxication feeling. However, the consumers of ethanol can vomit or suffer from alcohol poisoning after taking large volumes of the substance. On the contrary, methanol must never be inhales, ingested or contact the skin. Small doses of the substance are very harmful. Ingesting small doses can highly cause blindness, and in worse scenarios be fatal.

Ethanol is used in the production of alcoholic beverages. This is due to its intoxicating effects. The substance is also utilized as a category of alternative fuel. The alternative fuel is mainly produced using sugarcane and corn by products. Specially designed cars, mostly in the United States, utilize approximately 85% ethanol fuel. Ethanol fuel is also used in rocket fuel. Antiseptic characteristics of the substance ensure its usage in the production

of hand gels and antibacterial wipes. Ethanol is a god solvent, hence greatly used as a base for different categories of paints and perfumes (Smith & Snyder, 2008). On the other hand, methanol is mainly used in the generation of other chemicals like formaldehyde. The substance is very desirable as fuel for the stunt and race vehicles. This is because it is not as flammable as gasoline, and water can distinguish its flame easily. Small quantities of methanol are used in the manufacture of denatured alcohol, plus also the production of solvents. The two substances react differently with water. Ethanol and water easily combine to produce homogeneous solution; hence miscible in water. But methanol breaks down in water and hence soluble. Methanol has the chemical formula CH3OH. The substance is produced through a catalytic industrial process, involving hydrogen, carbon monoxide, and carbon dioxide. Methanol reacts with oxygen to generate carbon dioxide and water. The industrial production of ethanol is through fermentation process of sugars and yeasts. The structural formula of ethanol is CH3CH2OH. In some cases, ethanol is abbreviated as EtOH through the basic organic chemistry symbol that illustrates the ethyl group C2H2, likewise, methanol is illustrated as MeOH (Blum, 2011).

References

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