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## Ethanol Gasoline Blended Fuels as Alternate Fuels for the Spark Ignition (SI) Engine

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**Abstract:**

Ethanol gasoline blended fuel has the potential to be used as an alternative to fossil fuels to reduce the total exhaust emissions from spark-ignition engines. As the cost of gasoline is periodically increasing the quest for alternative fuels is evolved with which the emissions are reduced along with improved engine performance. Blending amounts of alternative fuel with conventional fuel is one way to conserve petroleum. The addition of alcohol and ether fuels to gasoline leads to complete combustion due to the higher oxygen content, thereby leads to increased combustion efficiency and decreased engine emissions. Alcohols could be produced from renewable resources and produce fewer exhaust pollutants. A significant reduction in emissions is observed with ethanol blends compared to the standard gasoline with improved engine performance and emission characteristics. In this issue, Lande et al. demonstrated that the ethanol-gasoline blended fuels increased brake thermal efficiency with varying ethanol percentage in the blend and reduced brake-specific fuel consumption (BSFC). The optimum blend for a Single cylinder Four Stroke SI engine showed a compression ratio of 7.5. Thus, ethanol-gasoline blended fuels could be a potential fuel for spark ignition (SI) engine and play a vital role in the near future especially for small and medium energy requirements. Hence, the use of 10% blend of ethanol is favorable for long-term applications in spark ignition (SI) engine, considering performance and emissions characteristics.

**Keywords:** Fossil fuels, gasoline alcohol blends, spark-ignition engines, brake thermal efficiency.