

## عنوان مقاله:

Boosting the Octane Number of Gasoline by Natural Gas Concentrated in Methane

## محل انتشار:

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## نویسندگان:

Iqbal Hossain - Associate Professor, Department of Chemical Engineering, Bangladesh University of Engineering and Technology, Dhaka 1000, Bangladesh

Manos Roy - B.Sc. Engg. (Chem.) Graduate, Department of Chemical Engineering, Bangladesh University of Engineering and Technology, Dhaka 1000, Bangladesh

Abir Debnath - B.Sc. Engg. (Chem.) Graduate, Department of Chemical Engineering, Bangladesh University of Engineering and Technology, Dhaka 1000, Bangladesh

## خلاصه مقاله:

Gasoline obtained from the fractionation of indigenous natural gas condensate has low octane number (۷۸) and is therefore of limited uses. Lead-based octane boosting and catalytic reforming are not the viable methods for many fractionation plants. This study was therefore aimed to develop an inexpensive conceptual alternative method for boosting the octane number of gasoline. Natural gas concentrated in methane having high octane number (more than ۱۰۰) was absorbed in the gasoline to boost the octane number partially (۸۶). Selective additives i.e. ethanol, tert-butyl alcohol, methylcyclopentane, toluene, iso-octane and xylene were blended first with the gasoline to aid the absorption of natural gas molecules. The loss of absorbed gas molecules from gasoline with the increase in temperature was also observed. It is therefore required to try for avoiding any increase in temperature in the finished gasoline. The developed conceptual method is promising. The findings of this simulation study would be useful for more studies towards the development of an affordable alternative method for fractionation plants for boosting the octane number of gasoline derived from natural gas condensate.

## کلمات کلیدی:

Gasoline, Octane Number, Natural gas, Gas Condensate, Antiknocking

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