

**COMPARISON BETWEEN METHYL TERTIARY BUTYL ETHER AND
ETHANOL AS OXYGENATE ADDITIVES: THE INFLUENCE ON THE
EXHAUST EMISSIONS**

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ABSTRACT

The effect of adding ethanol or methyl tertiary butyl ether (MTBE) to gasoline on the regulated and unregulated emissions from an internal combustion engine with a typical three-way catalyst has been studied. The addition of ethanol to fuel (10% w/w) increased both the research octane number and the Reid vapour pressure of the fuel, whereas adding 11% w/w MTBE caused an increase only in the research octane number of the fuel. When the fuel contained MTBE, less hydrocarbons, carbon monoxide and acetaldehyde were emitted in the tailpipe. The increased emissions of acetaldehyde and of ethanol were the main disadvantages of using ethanol.