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# Ethyl tert-Butyl Ether and Methyl tert-Butyl Ether: Status, Review, and Alternative Use Exploring the Environmental Issues of Mobile, Recalcitrant

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**Ethyl tert-Butyl Ether and Methyl tert-Butyl Ether:  
Status, Review, and Alternative Use**

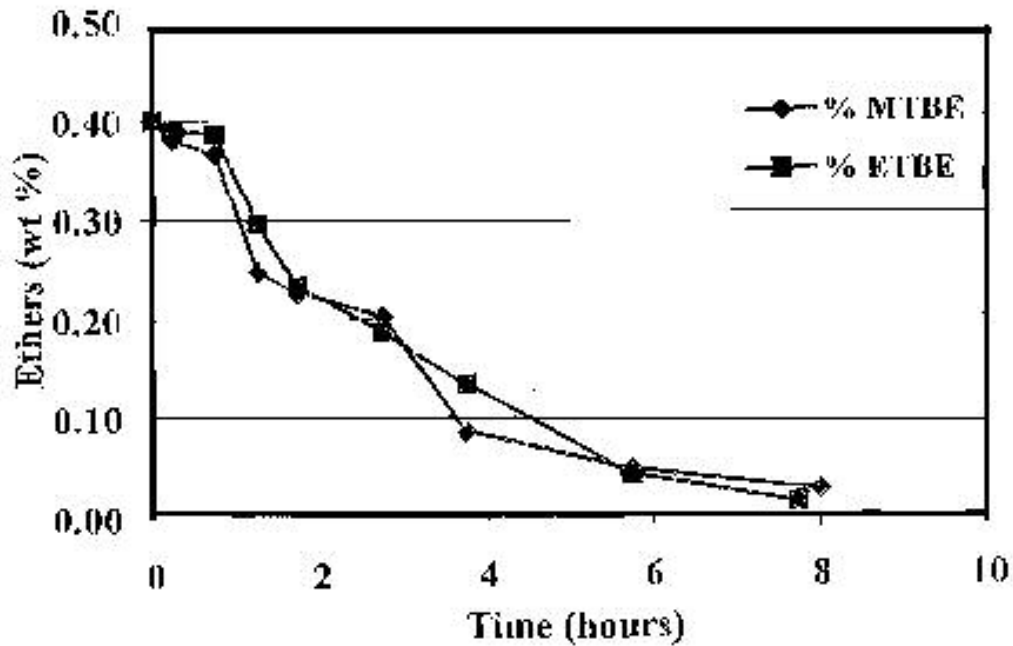
**Exploring the Environmental Issues of Mobile, Recalcitrant  
Compounds in Gasoline**

Hossein Nouredini

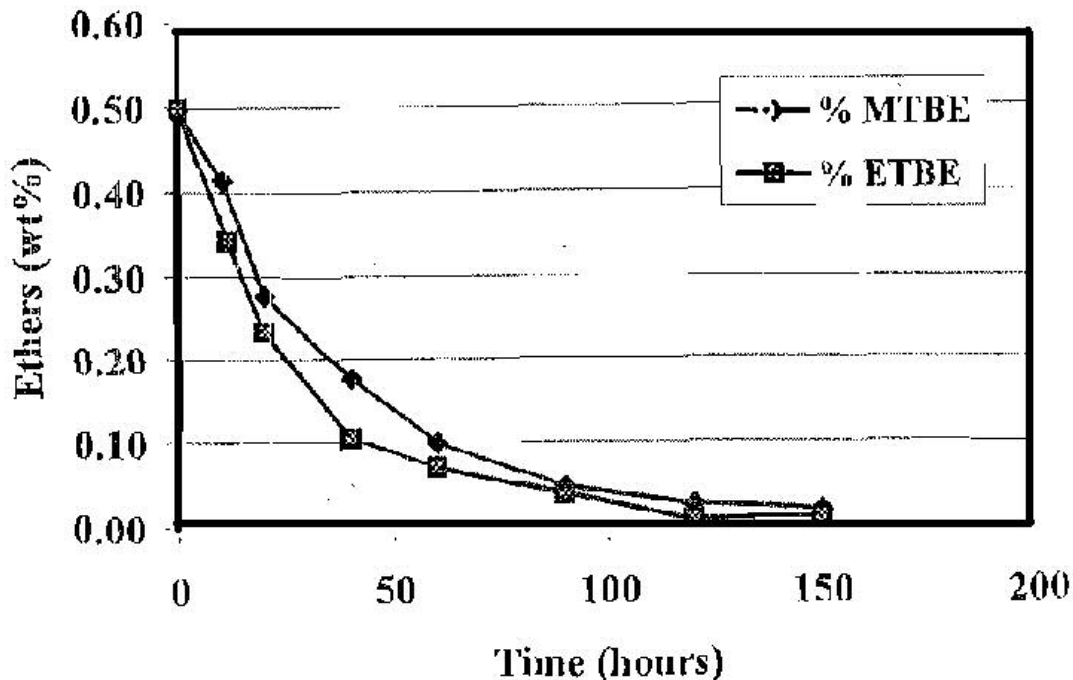
Petroleum products leaking from under ground storage tanks have raised concerns regarding the quality of ground water resources. The concerns about the environmental behavior and rate of MTBE as an oxygenated additive prompted this investigation to explore the technical characteristics of MTBE in comparison to ETBE. Evaluation of the existing literature suggests that ETBE has more favorable characteristics than MTBE. Findings in this research suggest that ETBE is a technically sound oxygenated octane enhancer, which can help refiners meet specifications for cleaner burning gasoline.

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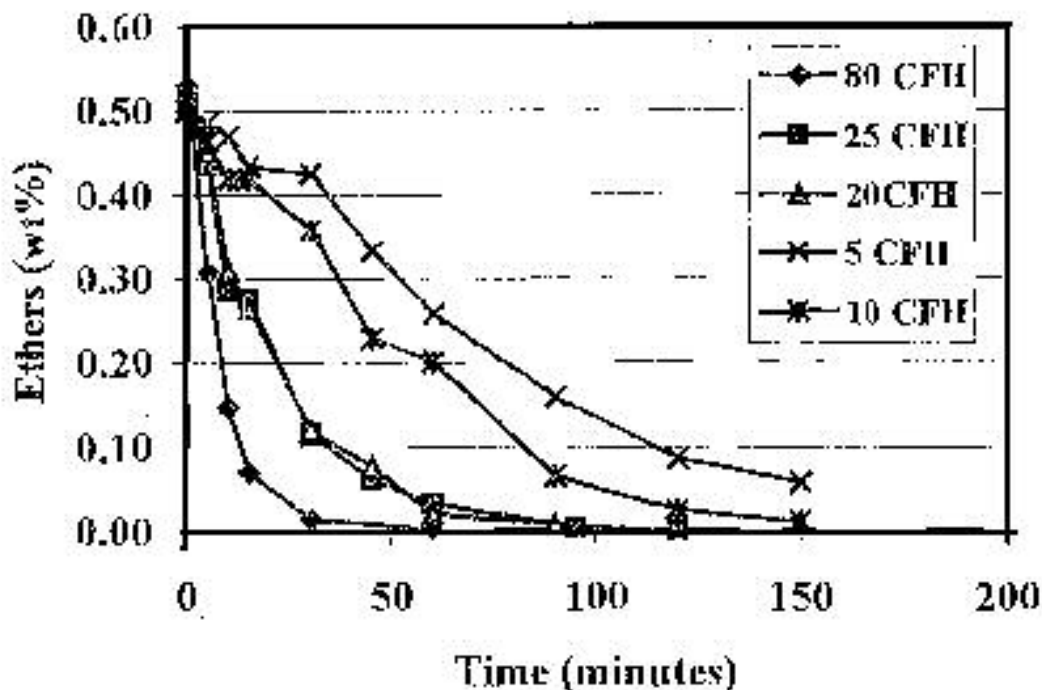


**Figure 1. Rate of dispersion of MTBE and ETBE from water in a trough setting subject to an initial ether concentration of 0.4wt%**

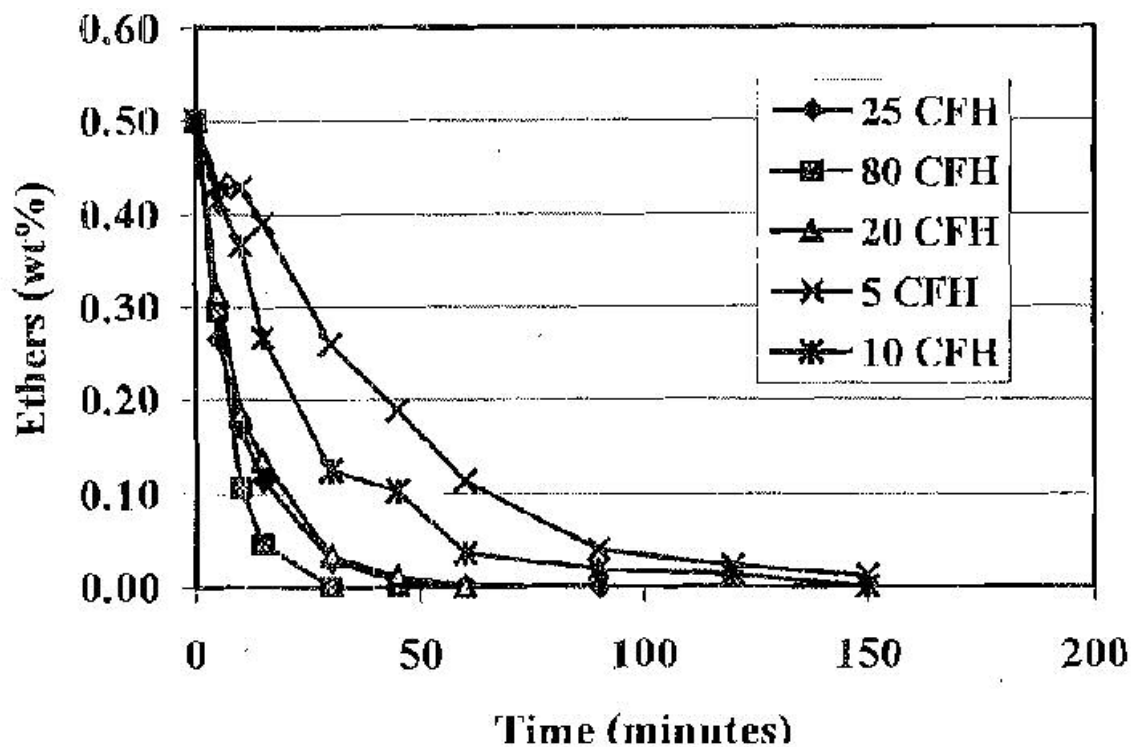


**Figure 2. Rate of dispersion of MTBE and ETBE from water in a very high-stirred tank subject to an initial ether concentration of 0.50 wt%.**

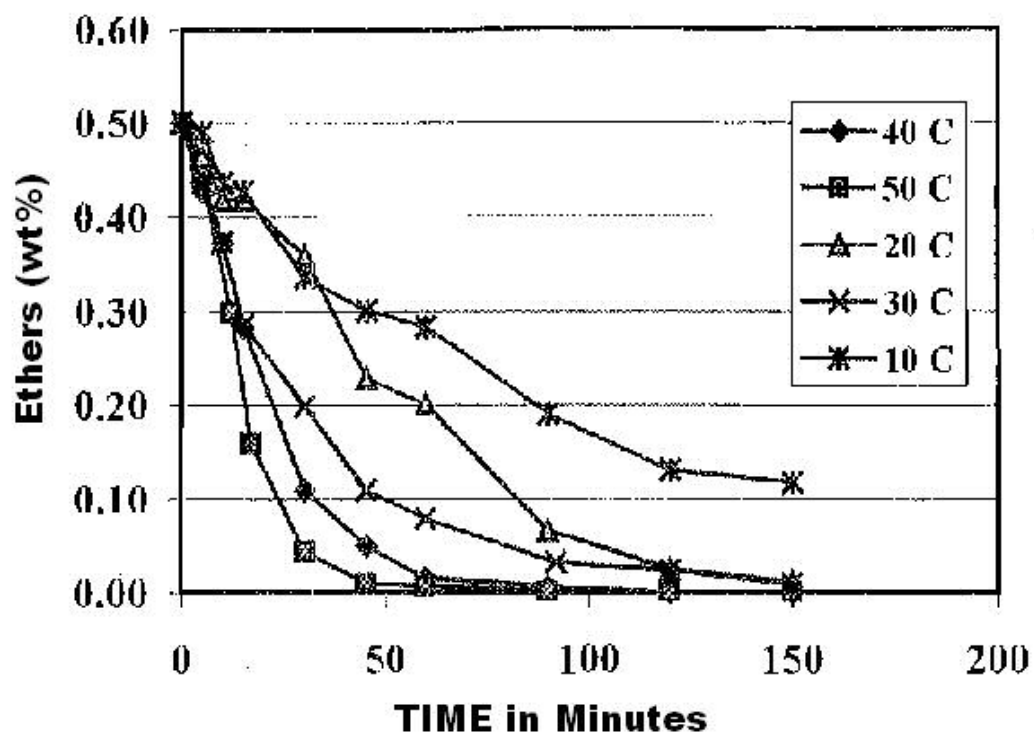
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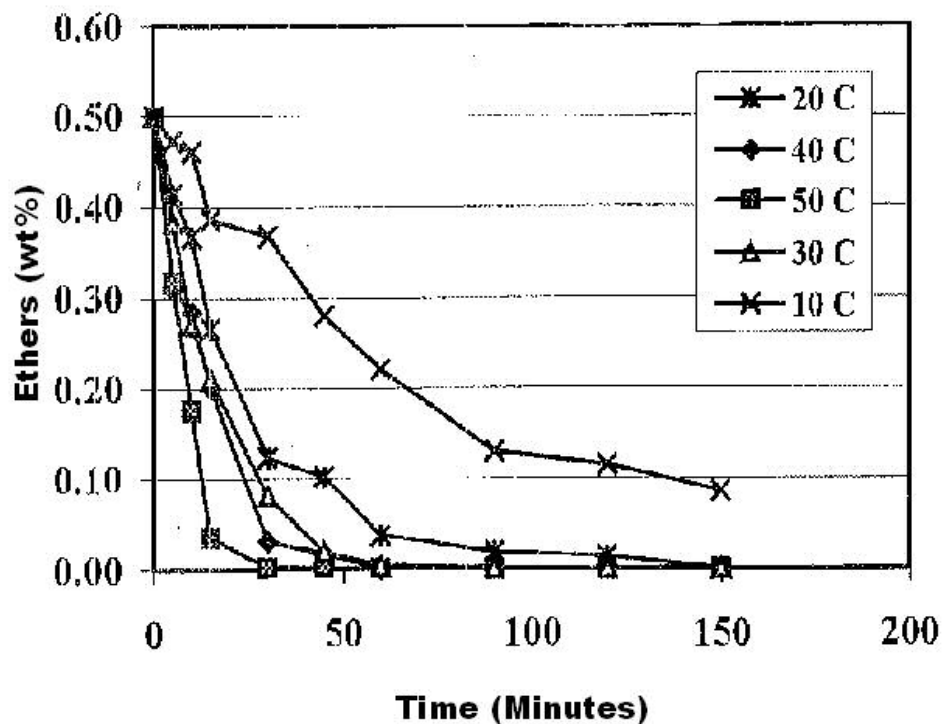
**Figure 3. Rate of stripping of MTBE from water in a packed column subject to an air flow rate 5, 10, 20, 25 and 80 CFH**



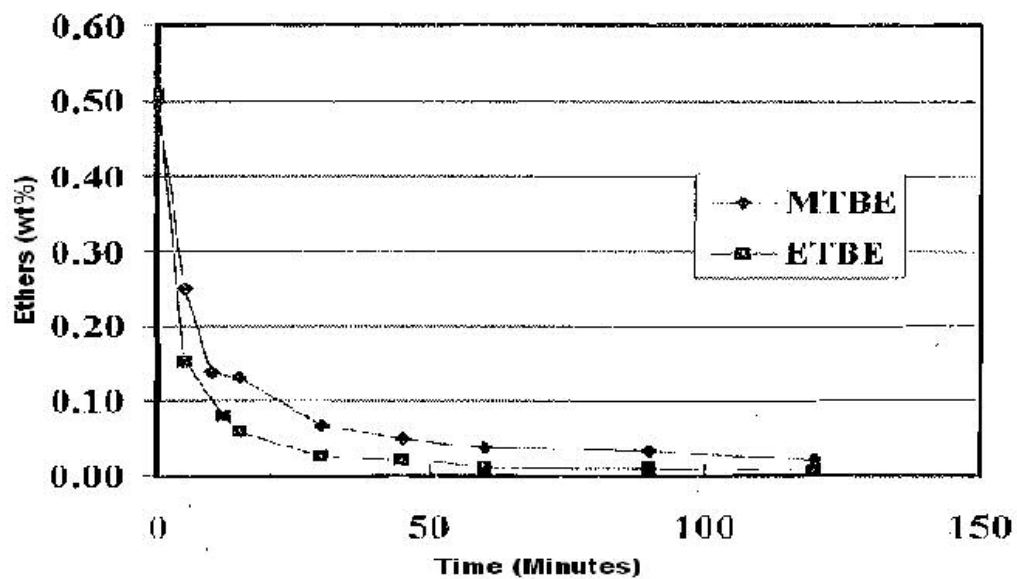
**Figure 4. Rte of stripping of ETBE from water in a packed column subject to an airflow rate of 5, 10, 20, 25 and 80 CFH**



**Figure 5. RATE of stripping of MTBE from water in a packed column subject to an airflow rate of 10 CFH and 10,20,30, and 50 C**



**Figure 6. Rate of Stripping of ETBE from water in a packed column subject to an air flow rate of 10 CFH at 10, 20, 30, 40 and 50 C**



**Figure 7. Rate of absorption of MTBE and ETBE on activated carbon subject to an initial ether concentration of 0.05 wt%**