

## Fundamental Study of Flash-Boiling Ignition by Fuel Ignition Analyzer

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The ignition delays of n-alkanes and two-component mixtures of n-alkanes were measured by injection into a constant volume chamber at pressures and temperature similar to compression ignition engine conditions. The ignition delays of pure n-alkanes provide a basis for comparison with mixtures in varying ratios of n-pentane and n-tridecane. The low boiling point of n-pentane results in flash-boiling and rapid charge mixing, while the high cetane number of n-tridecane aids ignition. For mixtures of n-pentane and n-tridecane, the ignition delay depends primarily on the mixture carbon number, apparently unaffected by the flash-boiling phenomena.