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**USING THE CETANE ID 510 FOR THE PREDICTION OF DERIVED CETANE
NUMBERS OF AVIATION TURBINE FUELS**

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In recent years, the use of diesel powered aircraft has gained popularity amongst the general aviation community. The increase in popularity has generated demand for suitable diesel engine fuels. Of the currently available fuels offered at fixed based operator sites, aviation turbine fuel has the greatest potential for use in diesel powered aircraft. However, the current aviation turbine fuel specifications do not regulate the cetane number of turbine fuels. Cetane number is a critical property to diesel powered aircraft to ensure adequate combustion characteristics.

In this paper, the combustion characteristics of aviation turbine fuels were explored using a CVCC analyzer. Based upon the ignition delay and combustion delay values for each fuel, a derived cetane number was calculated. This paper also explored the use of cetane improving additives on the combustion characteristics and derived cetane number of turbine fuels.