



New 100-Octane Fuel Additive Shows Promise

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In the nearly three decades that the GA industry has been searching for an unleaded replacement for 100LL, one recurring question: Isn't there an additive that will provide the octane? Ed Kollin, a petrochemist and consultant to Aircraft Specialties Lubricants, told us this week that there very well may be. After a months-long intensive research project, Kollin said Friday that he has developed an additive that shows promise as a direct replacement for the octane-boosting properties of tetraethyl lead.

He said initial trials indicate that when the additive is used with about a gram of lead in a gallon of gasoline -- half the maximum amount typically used in 100LL -- the motor octane value was a measured 110, far above typical FBO avgas. Kollin said when the additive was used in an unleaded aviation alkylate basestock, it achieved a motor octane value of at least 101. Because Kollin has not filed patents, he declined to offer any detail on the composition of the additive, but explained that it's a custom molecule whose production cost should be comparable to lead, which is generally seen at costing between 5 and 10 cents per gallon of avgas.

Kollin has done some initial stability and aging tests, but no full-scale engine tests. He said the next phase of testing will involve running a small engine to determine the additive's deposit formation characteristics.

"This is very encouraging," Kollin told us. "This is not a highly expensive molecule to produce. If nothing else comes of this for aviation, we will produce an automotive octane booster than you'll see on the shelves at your local NAPA."

Kollin developed an anti-wear and anti-corrosion aviation oil additive called CamGuard, which ASL also markets, in addition to automotive and marine versions.



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