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## Lead in Aviation Fuel

John November 19, 2011 Commentary

At the recent Ocean Park Association Airport Event, Mr. Joe Justice (owner of Justice Aviation, the largest flight school at SMO) publicly stated that residents should not worry about the lead pollution caused by SMO flight traffic, and that it was nothing compared to the pollution from automobiles. Just to set the record straight, here are the facts:

From Wikipedia (<http://en.wikipedia.org/wiki/Tetraethyllead>): Tetra-ethyl-lead remains an ingredient of 100 octane avgas for piston-engine aircraft. The United States Environmental Protection Agency and others are working on an economically feasible replacement for leaded avgas. The current formulation of 100LL (low lead) aviation gasoline contains 2.12 grams of lead per gallon, half the amount of the previous 100 octane avgas (at 4.24 grams per gallon), but far more than the 0.1 gram per gallon permitted in automotive leaded gasoline or the 0.001 grams per gallon in automotive unleaded gasoline sold in the United States.

So, this means that even today's 'low lead' aviation fuel contains 21 times the lead content of leaded automobile fuel and 2,120 times the lead content of today's unleaded automobile fuel. Leaded automobile fuel was outlawed in the early 90's due to its adverse health risks.

Put another way, every time a prop aircraft (we are not talking about jets here, that is another issue) departs or lands at SMO, that rains an equivalent amount of lead on the neighborhood as if 2,100 cars had driven past our front door. That means with an average of one flight out of SMO every 3 minutes during daylight hours (good weather), we have the equivalent of 20 (planes per hour) \* 8 (hours per day) \* 2,100 cars = 336,000 cars. Yes that is right, SMO activity causes the equivalent of around 1/3 million of today's cars passing the front doors in neighboring areas every day in terms of lead content!

Given that previous CASMAT studies have shown that over time approximately 60% of the SMO traffic is flight school and training related, and that much of this 60% is pattern flying (looping within sight of the airport over surrounding neighborhoods), the community's feelings regarding pattern flying are easy to understand.

Those are the facts. We may debate the exact danger levels these lead levels imply for us and our children, but to suggest that it is invalid or even silly to worry about lead pollution caused by SMO activity is clearly unreasonable.

A local resident has created a petition to ban lead in aviation gas ([Click here](#)). The petition sends an e-mail to the EPA director.

UPDATE: See [here](#) and [here](#) for more information on un-leaded alternatives to AVGAS.

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