



Department of the Interior Accident Prevention Bulletin

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Subject: Aviation Fuel Additives

Area of Concern: Use of Unauthorized Additives

Distribution: All Aviation Activities



Discussion: Recently, A DOI pilot used an off-the-shelf oil based fuel additive in a fleet aircraft.

Question: Can we use a fuel additive desinged for automobile engines in my aircraft?

Answer: NO! So then what can be added to fuel? D910 is the American Society for Testing & Materials (ASTM) specification for AvGas grade 100LL. The specification includes those additives approved for use in 100LL fuel. Currently, the only approved additives are Isopropyl Alcohol, DI-Ethylene Glycol Monomethyl Ether (DI-Egme)(Prist), Electrical Conductivity Additive (Stadis 450) and Corrosion Inhibitors (DCI-4A, DCI-6A, HITEC 580, NALCO 5403, NALCO 5405, PRI-19, UNICOR J, SPEC-AID 8Q22, TOLAD 351, TOLAD 4410). The ASTM should be referenced for determining how much of an additive is allowed by volume.

Since it was not an approved fuel additive, the aircraft was removed from service and fuel system flushed in order to remove the oil/additive. The crankcase oil and oil filter were also changed.

Prist is an approved fuel additive that pilots should be aware of. It's a Fuel System Icing Inhibitor (FSII) added to aviation fuel to prevent the formation of ice in fuel lines. It is important to note that FSII has to be added to the fuel while fueling and cannot be added afterwards. The reason for this is that FSII is heavier than fuel and will sink to the bottom of the tank and not mix in with the fuel you are trying to treat.

Remember, an aircraft engine is not like an automobile engine, so it's important to keep non-approved fuel additives out of aviation fuel.

For additional information, contact the OAS Fuels Specialist, Charles Mathwig, at (907) 271-5061.

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