

Title: Factors Affecting the Limiting Oxygen Concentration Required for Ignition in an Aircraft Fuel Tank

By:

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Abstract:

This paper presents a review of old and recently published test data on the Limiting Oxygen Concentrations (LOC) required for inerting aircraft fuel tanks. The review identifies the effects of various factors that impact the LOC such as fuel type, ullage temperature, source strength, slosh and vibration, dissolved oxygen, variation in fuel composition and concentration gradients in the ullage. While the effect of each of these factors on the LOC is small, their combined effects can be significant. A theoretical approach to quantifying the combined effects will be presented.