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**EFFECT OF ETHANOL ON MICROBIAL PROLIFERATION IN UNLEADED  
GASOLINE MICROCOSMS**

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Ethanol is a well known disinfectant. Conventional wisdom holds that when phase-separation occurs in tanks containing ethanol-gasoline blended fuel, the ethanol that partitions into the aqueous-phase will act as a disinfectant. Reports based on culture data generally support this hypothesis. However, at ICSHLF 5, one of the authors reported evidence of microbial activity in the aqueous-phase of underground storage tanks containing 10% ethanol in regular unleaded (87 octane) gasoline.

In the current study, culture and adenosine triphosphate data were compared in twelve types of microcosms, based on a combination of volume of added water (0, 0.2 and 1.2%  $v/v$ ) and ethanol concentration in the fuel-blend (0, 10, 15 and 20 %  $v/v$ ; E-0, E-10, E-15 & E-20). Triplicate microcosms were prepared for each water/ethanol-blend combination.

Although the aqueous-phase ethanol concentrations under the E-10, E-15 and E-20 fuels were consistently  $30\pm 5\%$ , the ATP biomass increased with initial ethanol concentration in the fuel-phase. Culture data were uniformly below detection limits for all microcosms.