

The Urban Air Initiative (UAI) would like to thank the Coordinated Research Council (CRC) for its recent study that shows simply adding an oxygenate lowers tailpipe emissions. This recent CRC study, [Report No. E-129](#), titled *ALTERNATIVE OXYGENATE EFFECTS ON EMISSIONS*, simply added various oxygenates like ethanol to a single base gasoline and tested vehicle tailpipe emissions.

This study shows a clear and consistent reduction in emissions by diluting the higher emitting components of gasoline commonly referred to as aromatics.

This is one of the first studies by CRC regarding tailpipe emissions that simply adds an oxygenated fuel to the same fuel. Prior studies by CRC kept changing the gasoline baseline fuel when adding oxygenates such as ethanol, which means it's difficult to isolate ethanol's effect on emissions.

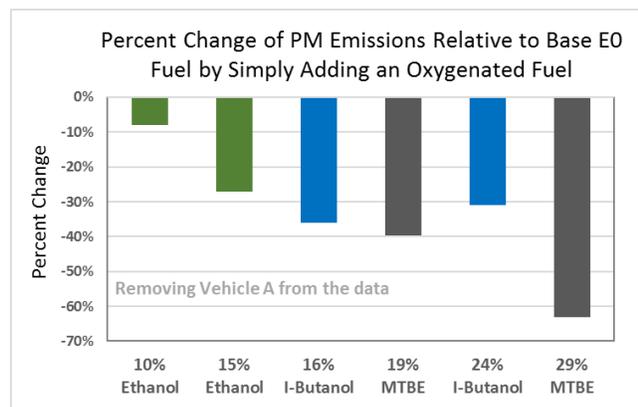
There is a clear difference in blending test fuels when comparing past CRC and Environmental Protection Agency (EPA) studies to those studies conducted by the automobile industry. The parameters set for blending test fuels often determines the studies outcome for or against the benefits of ethanol.

What is even more encouraging is that CRC blended a baseline gasoline (E0) that was a very low emission fuel when compared to market survey data for real world fuels. This means that ethanol blended fuels will offer an ever-higher environmental advantage when blended with median or high emissions fuels from survey data.

On inspection, one of the vehicles in the E-129 data set exhibited some issues that required additional testing during the course of the study. Vehicle computer data presented in the study also confirm that this vehicle was not adapting well between fuel changes. If this vehicle is removed from the data set, the Particulate Matter (PM) reduction trend is stronger when an oxygenated fuel is added to the E0 gasoline.

The figure to the right charts the reduction of PM emissions with the faulty vehicle removed from the data set. Fuels are charted left to right by the amount of dilution that occurred by simply adding an oxygenated fuel.

Again, UAI is appreciative that CRC undertook this study where just one component was used as a variable - the oxygenate addition. UAI believes that in many prior studies, changes in the gasoline components in blends used for comparison influence the emissions so that the benefits of ethanol cannot be modeled independently.



Urban Air Initiative created this figure by modeling emission data found in the CRC E-129 study but removed Vehicle A due to vehicle mechanic issues.