



More

## ASTM calls new 100 octane fuel spec groundbreaking

By Susanne Retka Schill | March 16, 2017

ASTM announced the completion of a groundbreaking new standard that supports 100 octane fuel. The D8076 standard responds to an effort by engine manufacturers and others to create a broadly accepted specification for this higher-octane fuel which can withstand higher compressions before igniting, thus extracting more energy from a given quantity of fuel.

ASTM International member Robert McCormick noted that car engine manufacturers are looking to reduce gasoline consumption by developing engines with: higher compression ratios, higher power densities, increase turbocharger boost pressures, smaller swept displacement volume (downsizing), and lower engine speeds (downspeeding).

“Engines that use these technologies require a significantly higher octane fuel than what is widely available to consumers today to achieve their full efficiency potential,” said McCormick, principal engineer at the U.S. DOE National Renewable Energy Laboratory. “Automakers must design their engines to operate on a common fuel that is broadly available in the marketplace, and this new specification is a crucial step toward commercialization.”

The American Coalition for Ethanol applauded the new standard, saying it could not only drive innovation in the auto industry, as cars with higher performance engines are introduced into the global marketplace, but growth within the ethanol industry, as these engines can utilize ethanol’s powerful octane boost with fuel blends between 25 and 40 percent.

The new standard, D8076-17, Specification for 100 Research Octane Number Test Fuel for Automotive Spark-Ignition Engines, follows a year-long joint effort by the DOE, engine manufacturers, agricultural supporters and others who contributed to ASTM International and the committee that developed the standard, Committee D02 on Petroleum Products, Liquid Fuels and Lubricants. The standard defines an ASTM test fuel specification for 100 research octane number (RON) fuel that contains upwards of 25 to 40 percent ethanol.

“By itself, it might seem like we just got a high-octane test fuel approved, but the process indicates automakers are serious about moving toward higher compression, high-efficiency engines that require high-octane fuel, and could benefit from the specific type of high octane offered by ethanol,” said Ron Lamberty, ACE senior vice president. “This new ASTM standard shows that we are making progress toward a future where ethanol’s value as a source of affordable octane is recognized, and it is a visible example of why it’s important that we’re involved in that group.”

Growth Energy CEO Emily Skor called the new standard a significant milestone that fulfills a high priority for the organization. “This new specification is a great sign for what’s to come with higher blends. Moving forward, optimizing engines to use up to 50 percent ethanol will be a victory for engine performance, the environment, and the American consumer,” she said in a statement.

“The ASTM process is rigorous and requires the review and approval of premier automotive and fuel experts from around the globe, so it is very common for new standards and specifications to take up to five years to be fully developed and reach publication status. Specification D8076 went from concept to completion in record time at ASTM due to the tremendous partnership among the automotive, agriculture and ethanol industries,” Skor said. “I also want to give a special thanks to Dr. Robert McCormick of the National Renewable Energy Laboratory, for leading the effort to get this standard published.”



### Related Articles



AgMRC looks at ethanol production, gross margin, projections



Ethanol groups back new review of fuel economy, GHG rules



Company hopes to make cellulosic ethanol at under \$1 per gallon



Economists: Octane premium offsets ethanol energy penalty



Webinars planned to train the trainers for ethanol emergencies



US ethanol exports on record pace after strong 2016