MECA Releases New Report on Health Impacts of Ultrafine Particulates, Importance of Advanced Emission Control Technology

Washington, D.C. – The Manufacturers of Emission Controls Association (MECA) today released a new report outlining the health impacts of ultrafine particulates (UFPs) from cars, trucks, and off-road equipment and the benefits of reducing both the mass and number of particulate matter (PM) emissions through the use of advanced emission control technology – namely, particulate filters. The report, “Ultrafine Particulate Matter and the Benefits of Reducing Particle Numbers in the United States,” is available on MECA’s website at: www.meca.org (under Resources >> Reports). The report was prepared for MECA by experts at Gladstein, Neandross & Associates, including Senior Vice President Rich Kassel.

Specifically, the report summarizes the current understanding of the potential adverse health impacts of UFPs; outlines the various control strategies and technologies that can be used to meet current and upcoming U.S. EPA and California ARB emission standards; and documents the success story of using diesel particulate filters (DPFs) to meet and exceed U.S. and European emission standards. Notably, the report highlights a correlation between particle number (PN) and PM that can be used in conjunction with PM-based health data to estimate the health benefits and indicates that a PN measurement may offer a more robust unit for determining compliance at very low PM mass levels. In addition, the report quantifies the health benefits of the additional emission reductions that are realized when DPFs or gasoline particulate filters (GPFs) are used compared to only engine-based strategies.

At the end of the report, MECA makes several recommendations for EPA and ARB to consider to help achieve the maximum environmental and health benefits from their current and upcoming on-road and off-road emission standards:
• EPA and ARB should add a PN limit to its regulatory structure for mobile sources;
• EPA and ARB should consider a new set of heavy-duty diesel engine PM standards that would be equivalent in stringency to ARB’s future LEV III standards for light-duty vehicles;
• EPA should increase its in-use compliance monitoring of nonroad diesel engines that are certified without DPFs;
• EPA and ARB should coordinate activities to develop a methodology for measuring UFP emissions and particle numbers;
• Environmental agencies around the world should follow the U.S. lead and tighten evaporative emission limits as a way to control secondary organic aerosols; and
• Federal and state governments should play a greater role in accelerating the retirement or retrofitting of older, dirtier diesel engines and the introduction of cleaner diesel replacements.

“EPA and ARB have taken major strides over the past few years to make on-road and off-road vehicles and equipment cleaner and more fuel-efficient. However, there is growing concern in the public health community about the contribution of UFPs to the overall health impacts of PM. As this report shows, DPFs are capable of reducing both UFPs and total PM by well over 90%. In fact, DPFs are the only emission control technology currently able to consistently demonstrate high levels of reduction for all types of diesel PM that concern regulators – PM mass, ultrafine and nano-sized particles, overall particle numbers, and black carbon. It is clear that using DPFs, as well as GPFs, creates emission reductions beyond what is required by emissions standards – a bonus that translates directly into additional, quantifiable health benefits enjoyed by all Americans,” said MECA’s Executive Director, Joseph Kubsh. “We hope that this report helps EPA and ARB, as well as other regulators and interested stakeholders around the world, develop more effective policies to reduce PM emissions from mobile sources.”

Founded in 1976, MECA is a national association of companies that manufacture a variety of emission control technologies for cars, trucks, buses, and off-road vehicles and equipment, as well as stationary internal combustion engines. For more information on exhaust and evaporative emission control technologies, please visit MECA’s website at: www.meca.org. (Note: The MECA website has been recently redesigned to improve the look and functionality of the site, as well as to provide easier access to the latest MECA news and site updates.)