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# SAE International Re-Confirms R-1234yf "Safe and Acceptable" and Finds Daimler Claims to the Contrary "Unrealistic"

Washington, DC 13 February 2013 - SAE International (formerly known as the Society of Automotive Engineers) has reconfirmed that R-1234yf is a safe and acceptable alternative to the super-greenhouse gas HFC-134a now used in automobile air conditioners in a recent announcement. R1234yf has a global warming potential (GWP) of just 4 compared to the 1,430 GWP of HFC-134a.

HFC-1234yf has been approved as a refrigerant in motor vehicle AC by the United States Environmental Protection Agency (EPA), the Japan Ministry of Economy, Trade, and Industry (METI) and the European Commission (EC).

SAE International is an independent, global association of more than 133,000 engineering experts in the aerospace, automobile, and commercial-vehicle sectors.

The SAE announcement is the second response to claims by Daimler that their engineers were incapable of designing Mercedes Benz cars to safely use the refrigerant (The first response can be found here). Daimler has not committed to use non-flammable CO2 air conditioning. The SAE technical committee coming to these decisive conclusions includes representatives of automakers from France, Italy, Japan, Korea, United Kingdom, and the United States (Chrysler/Fiat, Ford, General Motors, Honda, Hyundai, Jaguar Land Rover, Mazda, Peugeot Citroën, Renault and Toyota). The committee plans to complete its work and publish the final report in the second quarter of 2013.

This week SAE reconfirmed their earlier findings that R-1234yf poses no greater risk than other engine compartment fluids such as hydraulic fluid, antifreeze, brake fluid, and windshield wiper fluid. SAE concluded that Daimler had ignited R-1234yf in an experiment with unrealistic combinations of temperature, air velocity and turbulence, and refrigerant distribution and atomization, which are highly improbable to occur in real-world collisions.

"The fact that R-1234yf is mildly flammable has been known for years," said Dr. Stephen O. Andersen, Director of Research at the Institute for Governance and Sustainable Development (IGSD) and former co-chair of the U.S. EPA Mobile Air Conditioning Climate Protection Partnership. "Following SAE standards, auto manufacturers throughout the world are designing vehicles to use this refrigerant safely."

Daimler has notified the European Commission that they will defy the regulation prohibiting HFC-134a in new cars sold in Europe by 2017 (2006 Directive 2006/40/EC). HFC-134a is also proposed for phaseout in the United States on a similar schedule [link to NRDC/IGSD/EIA story on petition to un-SNAP]. BMW, Audi, and Volkswagen have joined Daimler in questioning the flammability of R-1234yf, but have not been as brazen as Daimler in flaunting the law.

IGSD and the Natural Resources Defense Council (NRDC) have urged the European Community to stick to its schedule for the refrigerant transition required to be complete by 2017.

"NRDC and IGSD recommend that European environmental authorities act quickly to make it clear that Daimler or any other company violating the F-gas Directive will be required to pay appropriate penalties," said Durwood Zaelke, President of IGSD "In addition to the climate damage Daimler is causing, the EC should investigate the damage Daimler caused to their suppliers of R-1234yf components and systems as well as the loss of business by companies supplying service equipment, training, and other support for R-1234yf technologies."

For example, Daimler could provide offsetting carbon pollution reductions, which could be accomplished by

accelerating fuel economy improvements.

“The science is clear that super-greenhouse gases like HFC-134a must be phased-down as fast as possible,” said Zaelke. “It’s not acceptable to have a car company thumbing its nose at the EC regulations and ignoring the welfare of ours and future generations.”

Mobile air conditioning is the largest use and emission source for HFC-134a. In addition mobile air conditioners use from 3 percent up to 20 percent of motor fuel, depending on the regional climate where the vehicles are driven.

The First SAE announcement is here.

The Second SAE Announcement is here.

The Mobile Air Conditioning Society Action magazine with MACs, EC, and NRDC/IGSD is here.