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SAE endorses Honeywell refrigerant

Honeywell's low-global-warming-potential refrigerant HFO-1234yf has been endorsed over CO₂ by the highly influential Society of Automobile Engineers' International Cooperative Research Program.

The independent testing body, which launched an investigation in 2007 to meet new, more stringent regulations set down by the European Union, considers Honeywell's HFO-1234yf offers a "superior environmental performance". It added, in a powerfully worded statement, that the alternative refrigerant has been judged to have the lowest risk for use in mobile air conditioning (MAC) systems. "Of all the proposed alternatives considered, HFO1234yf has significant environmental benefits compared with current refrigerants, and additionally poses no significant safety concerns, thus offering the greatest potential to meet environmental and consumer needs", the SAE said.

Current MAC systems use HFC-134a (global-warming potential (GWP) 1,430); however HFO-1234yf has a GWP of four.

Extensive tests revealed that HFO-1234yf is highly efficient, meaning vehicles use less fuel and emit fewer greenhouse gases than alternatives. The program also found that CO₂ is less efficient than 1234yf even though it has a GWP of 1.

Rene Mueller, MD for Europe, Middle East and Africa for Honeywell Fluorine products echoed the views of car manufacturers when he said HFO-1234yf is a "safe and better" solution than CO₂ to meet the mobile air conditioning directive.

"Because 1234yf, unlike CO₂, is efficient and effective in even the hottest regions, it is a truly global solution".

Mueller added: "HFO-1234yf is a near drop-in-replacement for current refrigerants, meaning it does not require a complete redesign of current air conditioning systems."

SAE is a global association of 115,000 engineers and technical experts.