



Hot Air

NEWSLETTER

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The Automotive Air-conditioning, Electrical and Cooling Technicians of Australasia

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The hiccup for the new replacement refrigerant R1234yf

What's the real reason for Daimler's change of heart?

It was all going so smoothly, despite the delays in supply, until one of the world's biggest car makers, Daimler Mercedes-Benz, stunned the automotive community by declaring that the new refrigerant which was supposed to save the planet with its incredibly low global warming potential, R1234yf, just wasn't good enough. Worse – it was downright dangerous.

As a rather annoyed and surprised DuPont pointed out, it was Daimler who co-authored the extensive industry evaluations on the new refrigerant on behalf of the German auto makers, which concluded, 'R1234yf-equipped vehicles are as safe as those using R134a – for occupants, mechanics, first emergency responders and fire fighters.'

The new refrigerant was the result of a scientific collaboration between DuPont and Honeywell.

R1234yf had become universally adopted by all major car makers and environmental and engineering authorities as the ideal replacement for R134a.

However, in the unexpected global announcement, Daimler said a new investigation (of theirs) raised questions on the safe usage of R1234yf.

Daimler carried out a series of additional tests on the new

refrigerant as part of a new real-life test scenario developed in-house which went above and beyond the legally prescribed requirements.

The refrigerant was dynamically dispersed at high pressure near to hot components of the test vehicle's exhaust system, corresponding to a serious head-on collision in which the refrigerant line is severed and the reproducible results demonstrate that refrigerant which is otherwise difficult to ignite under laboratory conditions can indeed prove to be flammable in a hot engine compartment.

Due to the new findings and in view of the high safety demands at Mercedes-Benz, R1234yf will not be used in its products, Daimler announced.

Daimler says it will stick with R134a

The company said it will stick with R134a. This would seem to be difficult considering the phase out of the chemical in the European Union, and the gradual shutting down of production lines.

Daimler said it would share its test results with everyone.

Both Honeywell and DuPont have responded with surprise, stressing that the global association of auto engineers and several independent institutes

had signed off on the safety of R1234yf. In one test, an oxy torch couldn't make the leaking refrigerant burn.

VASA has been told that recent trade show workshops in Germany on the new refrigerant left more questions than answers, mainly about transport requirements and price.

There are unconfirmed reports that the new refrigerant will be very expensive initially.

While one would think that Daimler would hardly make such a damaging claim without backing it with hard evidence, there are plenty in the industry who will say that the big car maker has an agenda of its own.

CO₂ air conditioning systems for automotive, which the German plants spent a lot of money investigating, have been ruled out because of the extra costs it would load onto every vehicle. Maybe, as one VASA cynic said, it was a timely ploy to get the price of the refrigerant down to a respectable level.

Where Daimler's decision leaves the rest of the auto world is yet to play out. GM in Canada are already planning to have R1234yf in their vehicles by next year.

VASA will post developments at www.vasa.org.au.

Pressure mounts to steer clear of alternatives

News is coming in from around Australia of workshops, some which used to claim to be professional repairers, offering their customers a cheaper alternative refrigerant option to the higher priced R134a.

VASA's view has always been that only the refrigerant specified by the vehicle or air conditioning system manufacturer should be used. It has been a mystery why car makers and others who deal in refrigerants have been reluctant to make it clear that alternative refrigerants should not be used in car systems.

But, it seems, the latest disturbing trends have stirred a sense of responsibility in a growing number of companies – among them Heatcraft.

Heatcraft has broadcast widely that it is totally opposed to the retrofit of existing refrigeration systems that currently use CFC, HCFC or HFC refrigerants with flammable refrigerants.

'It is Heatcraft's position that these existing systems were not designed with the extra safety factors and/or features required for the safe use of flammable refrigerants. (continued page 3)