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Submission on application number:	APP202547
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The EPA is likely to post your submission on its website at www.epa.govt.nz. We also may make your submission available in response to a request under the Official Information Act 1982.

I support the application

The reasons for making my submission are:

Who do I represent:

VASA is the peak body representing automotive air-conditioning, cooling and auto-electrical technicians in Australasia. I am the NZ representative on the VASA Board and wish to ensure that our member's viewpoint is recognised.

Why the application should be approved and the challenges we have faced without it:

Original vehicle manufacturers (OEM) have adopted HFO1234yf as the refrigerant of choice for replacing R134a refrigerant in **specifically designed** automotive air-conditioning systems to meet international requirements to reduce the greenhouse gas emissions of motor vehicles.

Parallel-imported European cars with air-conditioning containing HFO1234yf have been in New Zealand for several years and NZ-new models are beginning to appear with this refrigerant since 2014.

The refrigerant used in these systems has not been available to buy, creating issues when service to the air-conditioning has been required.

Our members have encountered vehicles in need of re-gassing with HFO1234yf following accident, mechanical or air-conditioning repairs for which no refrigerant is available.

The automotive air-conditioning industry has a seasonal peak from October to March and this season our members will encounter even more vehicles with this refrigerant in need of attention.

HFO1234yf systems cannot be retrofitted to use any other refrigerant; in accordance with manufacturer specifications, design standards, component manufacturer warranty, to ensure the reliability and longevity of the system and for consumer protection; but this is the situation we find ourselves in without alternative, unless this application is promptly approved.

What the introduction of HFO1234yf to NZ does not mean:

For clarification we wish to ensure the EPA is aware that it is not proposed that existing, non-HFO1234yf systems would use this refrigerant at any stage.

No OEM endorses the use of any refrigerant other than the refrigerant used at manufacture (except R134a retrofit of R12 systems in vehicles manufactured prior to 1994-1995 following proper protocols).

The EPA may want to consider ensuring HFO1234yf is only used by properly qualified and equipped people in systems designed for its use.

Other risks:

That HFO1234yf is 'HIGHLY FLAMMABLE' as stipulated on the application should not be mistaken to mean that the use of other non-OEM-approved, highly flammable substances should be considered acceptable in automotive applications in New Zealand.

(In other jurisdictions, the ASHRAE A2L (low flammability) class was proposed to accommodate the refrigerant HFO1234yf to significantly differentiate its mild flammability from other more highly flammable (A2) refrigerants, including hydrocarbons. This classification is not available in NZ).

There is a danger that the high price of HFO1234yf (mentioned in application) and the increasingly higher price of R134a; as the effects of the NZ Emissions Trading Scheme become more evident; mean price sensitive individuals will be lured into believing that alternatives like highly flammable LPG or iso-butane/propane blends could be used in lieu of the approved refrigerant in **any** system.

The Australian experience has been that price has certainly encouraged the use of non-approved, low global warming potential hydrocarbons as refrigerants in automotive applications with sometimes disastrous results for people and vehicles.

Tests have demonstrated low flammability properties for HFO1234yf acceptable to the OEMs that are not found in hydrocarbons – the use of which has been ruled out by OEMs in automotive applications in their quest for an appropriate replacement for R134a at present.

The endorsed release of this new product

We note that the application is for the 'release' of this novel substance, HFO1234yf. We would like to advise that the initial advice relating to CFC and HFC refrigerants was that release was acceptable. This stance was subsequently found to be incorrect due to unacceptable environmental effects of ozone depletion and the contribution to global warming, resulting in laws and taxes designed to curtail emissions. Best practice would be to recover the new refrigerant whenever possible as we do not know what the future holds with respect to the as yet unknown impacts of this substance and economically, it makes good sense to do so.

Current legislation relating to refrigerant handling

Despite the Ozone Protection Act 1996 and the Climate Change Response Act 2002 making preventable release of ODS and GWP refrigerants an offence in NZ, the practice of re-gassing poorly performing motor vehicle air-conditioning with no adequate attempt at leak identification or repair is rife in the automotive industry.

Also, it is possible to purchase do-it-yourself cans of R134a to refill your own air-conditioning system. There is no methodology to prevent loss to the atmosphere in this situation where the only process is that you apply the can to the system and stop adding it when you think there is enough inside.

There has been a patent lack of enforcement of these two Acts designed to protect the environment. Re-gassing, in many cases will reinstate operation without other necessary repairs, until sufficient refrigerant has leaked out to the atmosphere again, causing it to stop. But reinstating operation does not mean that losses are tolerable or cannot be prevented. In the case of R12 and R134a refrigerants, the damage incurred is to the environment as we have seen and to the consumer's pocket, as system failure; rendering the system beyond economical repair; can result from serial re-gassing.

However, with the addition of flammable refrigerant to motor vehicles it is essential that proper enforcement of these laws be applied. With a flammable refrigerant the practice of re-gassing leaking air-conditioning systems without proper diagnosis and repair places an increased risk to the consumer and individuals working on the vehicle, even though the flammability risk presented by HFO1234yf is low. By applying enforcement of these two acts to existing refrigerants, poor practices by unskilled, ill-equipped individuals may be curtailed with a positive flow on effect to new refrigerant systems when handled with a similar level of care and responsibility.

Proper automotive air-conditioning service and repair requires a subset of equipment, many items of which people simply re-gassing vehicles do not possess, and car owners buying cans of refrigerant certainly do not have, like refrigerant leak detectors (appropriately sensitive to detect small, but significant leaks that will harm the system and the environment over time if not identified and fixed), refrigerant identifiers so contaminated refrigerant is not applied to air-conditioning systems causing poor performance and premature failure, like appropriately designed recovery and recharging equipment designed to safely handle approved, flammable refrigerant without risk to the operator. Aspects such as the possession and use of these pieces of equipment should be considered when determining whether someone is a properly qualified person to be working on mobile air-conditioning systems.

Recovery of refrigerant from a vehicle into a compressed gas cylinder requires that the operator is an approved filler under the Compressed Gases Regulation of the Hazardous Substances and New Organisms Act. More enforcement of this is also required as many people offering re-gassing

services will not have the approved filler certificate (or even recovery equipment). Not all vehicles they encounter could be completely devoid of refrigerant!

Internationally-referenced SAE standards prescribe standards applicable to mobile air-conditioning systems, including HFO1234yf system design, component manufacture, acceptable leakage rates (ie none), service procedures, equipment requirements and these should be considered mandatorily for use in the HFO1234yf environment for the safety of all participants, including consumers. (<http://www.standards.sae.org>).

I wish for the EPA to make the following decision:

Promptly approve the application for the importation of HFO1234yf in NZ (before October 2016) for use in systems for which it is specifically designed.

To work with the relevant government agencies to ban the importation, sale and/or distribution of DIY cans of R134a as the use of this product would contravene the Climate Change Response Act 2002 as the person using the product would not be qualified to determine whether the system has a preventable refrigerant leak, in most cases.

Ensure motor vehicles being imported into New Zealand are correctly labelled in accordance with relevant SAE standards so the in use refrigerant can be easily determined (members have seen vehicles with HFO1234yf inside and R134a service ports attached, from factory).

To work with the relevant government agencies to enforce the Climate Change Response Act 2002 and Ozone Protection Acts 1996 and the Compressed Gases Regulations of the HSNO Act.

Actively ensure that changes in the marketplace do not have the undesired consequence of encouraging the use of non-approved hydrocarbon refrigerants (such as were used in the Tamahere cool store) in system's not designed for their use placing the automotive repair industry and consumers at risk.