



DKV (Deutscher Feuerwehr Verband – German Fireworkers’ Association) is clear on risk of new refrigerant R 1234yf in cars

A danger for fire workers?

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DKV has looked into the question whether there will be increased danger for the fire workers once the new refrigerant R 1234yf will be integrated into cars’ air conditioning systems.

In the future, the new refrigerant R 1234yf will replace the existing refrigerant R 134a in all new car models; as of January 1st 2017 this will apply to all new cars. The German Automotive Association (VDA: Verband der Automobilindustrie – Association of the automotive industry) has informed DFV about the properties of R 1234yf extensively and has compared it with R 134a. Partly these data were obtained via specific tests that the fire workers’ association had suggested.

In conversations with the VDA, Members of the German Fireworkers’ Association could gain insight and are now convinced that the new refrigerant R 1234yf has the same safety standards as R 134a.

The German Fireworkers’ Association concludes:

- The very low toxicity of both products is comparable
- There is no higher risk with fire in closed buildings and parking buildings
- The usage of the refrigerant is safe for passengers and first-aiders

- The producers of the refrigerant will provide a Safety Data Sheet which will be based on comprehensive internal and external research. It will contain directions about the usage of breathing protective device (not dependent on external air) and personal protection clothing.
- The normal guidelines for assignments need to be observed as well as the guidelines for the prevention of incidents.

R 1234yf is easier to inflame as R 134a. However, a high energy is necessary to inflame R 1234yf (> 1 000mJ). Inflammation on a hot surface needs temperatures above 650 degree centigrade (conservative estimates: 550 degrees centigrade).

TÜV characterizes R 1234yf as “very difficult to ignite in reality.”

As of 2011 new car models in the European Union (EU) must use a refrigerant with a global warming potential (GWP) of 150 and below. As of January 2017 this will apply to all new cars. The GWP of R 134a is 1 430, whereas R 1234yf has a GWP of 4.

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