

How do I know if my refrigerant is an HCFC?

By Phil Chambers

Reg 29 of the Environmental Protection (Controls on Ozone-Depleting Substances) Regs 2002 (Amended 2008) (commonly called the F Gas Regulations) requires all people to ensure that all HCFCs in refrigeration or air-conditioning equipment are removed by 1st January 2015.

There is evidence that HCFCs (hydrochlorofluorocarbons) damage the ozone layer, hence the reasons for reducing and eventually removing them. [Note that, at present, HFCs (hydrofluorocarbons) are acceptable.] But how do we know if we are using HCFCs?

The table below lists common refrigerants and what they are. Simply refer to markings on your equipment to determine which refrigerant is installed. This will be stated either on the equipment external label (typically with air conditioning equipment) or on a vessel within the equipment (typically with chillers). Alternatively check with the supplier, stating the model and serial numbers.

If the refrigerant is an HCFC, then arrange for it to be removed by a person competent to do this and replaced by an acceptable alternative. Note that it must be collected and disposed of correctly, not vented to atmosphere (which would negate the reason for doing this.)

Beware that replacements might have compatibility problems with seals and lubricants, and also may not be as efficient as the present refrigerant. You need to seek advice on this.

Refrigerant	Composition	Type
R-11	R-11	CFC
R-12	R-12	CFC
R-13	R-13	CFC
R-14	R-14	PFC
R-22	R-22	HCFC
R-23	R-23	HFC
R-30	R-30	HCC
R-32	R-32	HFC
R-114	R-114	CFC
R-115	R-115	CFC
R-123	R-123	HCFC
R-124	R-124	HCFC
R-125	R-125	HFC
R-143a	R-125	HFC
R-134a	R-134a	PFC
R-141b	R-141b	HCFC
R-142b	R-142b	HCFC
R-143a	R-143a	HFC
R-152a	R-152a	HFC
R-290 (propane)	R-290 (propane)	
R-401A, B or C	R-22/152a/124	HCFC
R-402A or B	R-125/290/22	HCFC
R-403A	R-290/22/218	HCFC
R-404A	R-125/143a/134a	HFC
R-405A	R-22/152a/142b/C318	HCFC
R-406A	R-22/600a/142b	HCFC
R-407A, B, C, D or E	R-32/125/134a	HFC
R-408A	R-125/143a/22	HCFC
R-409A or B	R-22/124/142b	HCFC
R-410A or B	R-32/125	HFC
R-411A or B	R-1270/22/152a	HCFC
R-412A	R-22/218/142b	HCFC

Continued

Refrigerant	Composition	Type
R-413A	R-218/134a/600a	HFC
R-414A or B	R-22/124/600a/142b	HCFC
R-415A	R-22/152a	HCFC
R-416A	R-134a/124/600	HFC
R-417A	R-125/134a/600	HFC
R-500	R-12/152a	HFC
R-501	R-22/12	HCFC
R-502	R-22/115	HCFC
R-503	R-23/13	HCFC
R-504	R-32/115	HFC
R-505	R-12/31	HFC
R-506	R-31/114	HFC
R-507A	R-125/143a	HFC
R-508A or B	R-23/116	HFC
R-600	R-600 (butane)	

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