

**Erratum to Refrigerant Report 18 (09.2014)**

09.14

Refrigerant type	Composition (Formula)	Substitute / Alternative for	Application range	ODP [R11=1,0]	GWP <sub>(100a)</sub> <sup>⑤⑥</sup> [CO <sub>2</sub> =1,0]	Safety group <sup>④</sup>	Practical limit [kg/m <sup>3</sup> ] <sup>⑤</sup>
<b>HCFC-Refrigerants</b>							
R22	CHClF <sub>2</sub>	R502 (R12 <sup>①</sup> )	see page 40	0.055	1810	A1	0.3
R124	CHClFCF <sub>3</sub>	R114 <sup>①</sup> , R12B1		0.022	609	A1	0.11
R142b	CClF <sub>2</sub> CH <sub>3</sub>			0.065	2310	A2	0.066
<b>HFC Single-component Refrigerants</b>							
R134a	CF <sub>3</sub> CH <sub>2</sub> F	R12 (R22 <sup>①</sup> )	see page 40	0	1430	A1	0.25
R152a	CHF <sub>2</sub> CH <sub>3</sub>	mainly used as part components for blends			124	A2	0.027
R125	CF <sub>3</sub> CHF <sub>2</sub>				3500	A1	0.39
R143a	CF <sub>3</sub> CH <sub>3</sub>				4470	A2	0.056
R32	CH <sub>2</sub> F <sub>2</sub>				675	A2L	0.061
R227ea	CF <sub>3</sub> -CHF-CF <sub>3</sub>				R12B1, R114 <sup>①</sup>	3220	A1
R236fa	CF <sub>3</sub> -CH <sub>2</sub> -CF <sub>3</sub>	R114	9810	A1		0.59	
R23	CHF <sub>3</sub>	R13 (R503)		14800	A1	0.68	
<b>HFC Blends</b>							
R404A	R143a/125/134a	R22 (R502)	see page 40	0	3922	A1	0.52
R507A	R143a/125				3985	A1	0.53
R407A	R32/125/134a				2107	A1	0.33
R407F	R32/125/134a				1825	A1	0.29
R422A	R125/134a/600a				3143	A1	0.29
R437A	R125/134a/600/601	R12 (R500)				1805	A1
R407C	R32/125/134a	R22		1774	A1	0.31	
R417A	R125/134a/600		2346	A1	0.15		
R417B	R125/134a/600		2920	A1	0.07		
R422D	R125/134a/600a		2729	A1	0.26		
R427A	R32/125/143a/134a		2138	A1	0.28		
R438A	R32/125/134a/600/601a		2264	A1	0.08		
R410A	R32/125	R22 <sup>①</sup> (R13B1 <sup>②</sup> )		2088	A1	0.44	
ISCEON MO89	R125/218/290	R13B1 <sup>②</sup>		3805	N/A	N/A	
R508A	R23/116	R503		13214	A1	0.23	
R508B	R23/116		13396	A1	0.2		
<b>HFO and HFO/HFCBlends</b>							
R1234yf	CF <sub>3</sub> CF=CH <sub>2</sub>	R134a	see page 40	0	4	A2L	0.058
R1234ze(E)	CF <sub>3</sub> CH=CHF				7	A2L	N/A
R513A (XP10)	R1234yf/134a				631	A1	0.35
R450A (N-13)	R1234ze(E)/134a				601	A1	N/A
R448A (N-40)	R32/125/1234yf/1234ze(E)/134a	R404A, R507A		1386	A1	N/A	
R449A (XP40)	R32/125/1234yf/134a		1397	A1	N/A		
<b>Halogen free Refrigerants</b>							
R717	NH <sub>3</sub>	R404A (R22)	see page 41	0	0	B2	0.00035
R723	NH <sub>3</sub> /R-E170	R404A (R22)			8	B2	N/A
R600a	C <sub>4</sub> H <sub>10</sub>	R134a <sup>①</sup>			3	A3	0.011
R290	C <sub>3</sub> H <sub>8</sub>	R404A (R22)			3	A3	0.008
R1270	C <sub>3</sub> H <sub>6</sub>	R404A (R22)			3	A3	0.008
R170 <sup>③</sup>	C <sub>2</sub> H <sub>6</sub>	R23				3	A3
R744	CO <sub>2</sub>	various		1	A1	0.07	

**Fig. 33** Refrigerant properties (continued on Fig. 34)

These statements are valid subject to reservations; they are based on information published by various refrigerant manufacturers.

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| ① Alternative refrigerant has larger deviation in refrigerating capacity and pressure | ③ Also proposed as a component in R290/600a-Blends (direct alternative to R12) | ⑥ AR4: according to IPCC IV – time horizon 100 years – also basis for EU F-Gas Regulation 517/2014 |
| ② Alternative refrigerant has larger deviation below -60°C evaporating temperature    | ④ Classification according to EN378-1 and ASHRAE 34                            | N/A Data not yet published.  |
|   | ⑤ According to EN 378-1: 2008 + A2: 2012, Annex E                              |  |