Treibhauspotentiale (Global Warming Potential, GWP) ausgewählter Verbindungen und deren Gemische gemäß Viertem (AR4) und Fünftem (AR5) Sachstandsbericht des IPCC bezogen auf einen Zeitraum von 100 Jahren

Tabelle 1: Treibhauspotentiale (GWP_{100}) teil(chlor)fluorierter und perfluorierter Kohlenwasserstoffe (HFKW, HFCKW und FKW) sowie anderer perfluorierter Verbindungen

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
Teil(chlor) fluorierte Kohlenwasserstoffe (HFKW und HFCKW)				
HFKW-23	Trifluormethan	CHF_3	14 800	12 400
HFKW-32	Difluormethan	CH_2F_2	675	677
HFKW-41	Fluormethan	CH_3F	92	116
HFKW-125	1,1,1,2,2-Pentafluorethan	CF_3-CHF_2	3 500	3 170
HFKW-134	1,1,2,2-Tetrafluorethan	CHF_2-CHF_2	1 100	1 120
HFKW-134a	1,1,1,2-Tetrafluorethan	CF_3-CH_2F	1 430	1 300
HFKW-143	1,1,2-Trifluorethan	CHF_2-CH_2F	353	328
HFKW-143a	1,1,1-Trifluorethan	CF_3-CH_3	4 470	4 800
HFKW-152	1,2-Difluorethan	CH_2F-CH_2F	53	16
HFKW-152a	1,1-Difluorethan	CHF_2-CH_3	124	138
HFKW-161	Fluorethan	CH_2F-CH_3	12	4
HFKW-227ea	1,1,1,2,3,3,3-Heptafluorpropan	CF_3-CHF-CF_3	3 220	3 350
HFKW-236cb	1,1,1,2,2,3-Hexafluorpropan	CF_3-CF_2-CH_2F	1 340	1 210
HFKW-236ea	1,1,1,2,3,3-Hexafluorpropan	CF_3-CHF-CHF_2	1 370	1 330
HFKW-236fa	1,1,1,3,3,3-Hexafluorpropan	CF_3-CH_2-CF_3	9 810	8 060
HFKW-245ca	1,1,2,2,3-Pentafluorpropan	CHF_2-CF_2-CH_2F	693	716
HFKW-245fa	1,1,1,3,3-Pentafluorpropan	CF_3-CH_2-CHF_2	1 030	858
HFKW-365mfc	1,1,1,3,3-Pentafluorbutan	CF_3-CH_2-CF_2-CH_3	794	804
HFKW-43-10mee	1,1,1,2,2,3,4,5,5,5-Decafluorpentan	CF_3-CF_2-CHF-CHF-CF_3	1 640	1 650

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
HCKW-1130 (E)	trans-1,2-Dichlorethen	CHCl=CHCl		1
HFKW-1132 (E)	trans-1,2-Difluorethen	CHF=CHF		1
HFKW-1132a	1,1-Difluorethen	$CH_2=CF_2$		1
HFCKW-1224yd (Z)	cis-1-Chlor-2,3,3,3-Tetrafluorprop-1-en	$CHCl=CF-CF_3$ (Z)		1
HFCKW-1233zd (E)	trans-1-Chlor-3,3,3-Trifluorprop-1-en	$CHCl=CH-CF_3$ (E)	4,5 [2]	1
HFKW-1234yf	2,3,3,3-Tetrafluorprop-1-en	$CH_2=CF-CF_3$	4 [2]	1
HFKW-1234ze (E)	trans-1,3,3,3-Tetrafluorprop-1-en	$CHF=CH-CF_3$ (E)	7 [2]	1
HFKW-1336mzz (Z)	cis-1,1,1,4,4,4-Hexafluorbut-2-en	$CF_3-CH=CH-CF_3$ (Z)	9 [2]	2
Perfluorierte Kohlenwasserstoffe (FKW)				
FKW-14	Tetrafluormethan (Perfluormethan)	CF_4	7 390	6 630
FKW-116	Hexafluorethan (Perfluorethan)	C_2F_6	12 200	11 100
FKW-c-216	Hexaafluorcyclopropan (Perfluorcyclopropan)	$c-C_3F_6$	17 340	9 200
FKW-218	Oktafluorpropan (Perfluorpropan)	C_3F_8	8 830	8 900
FKW-c-318	Octafluorcyclobutan (Perfluorcyclobutan)	$c-C_4F_8$	10 300	9 540
FKW-3-1-10	Decafluorbutan (Perfluorbutan)	C_4F_{10}	8 860	9 200
FKW-4-1-12	Dodecafluorpentan (Perfluorpentan)	C_5F_{12}	9 160	8 550
FKW-5-1-14	Tetradecafluorhexan (Perfluorhexan)	C_6F_{14}	9 300	7 910
FKW-9-1-18	Octadecafluordecalin (Perfluordecalin)	$C_{10}F_{18}$	7 500	7 190
Andere perfluorierte Verbindungen				
	Schwefelhexafluorid	SF_6	22 800	23 500
	Stickstofftrifluorid	NF_3	17 200	16 100
	Trifluormethylschwefelpentafluorid	SF_5CF_3	17 700	17 400
	Sulfuryldifluorid	SO_2F_2		4 090
	Trifluoriodmethan	CF_3I	0,4	

Tabelle 2: Treibhauspotentiale (GWP_{100}) (chlor)fluorierter Ether (HFE, HCFE), fluorierter Alkohole und Perfluorpolyether (PFPE)

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
(Chlor)Fluorierte Ether (HFE und HCFE)				
HFE-125		CHF_2-O-CF_3	14 900	12 400
HFE-134 (HG-00)		CHF_2-O-CHF_2	6 320	5 560
HFE-143a		CH_3-O-CF_3	756	523
HFE-227ea		CF_3-CHF-O-CF_3	1 540	6 450
HCFE-235ca2 (Enfluran)		CHF_2-O-CF_2-CHFCl		583
HCFE-235da2 (Isofluran)		CHF_2-O-CHCl-CF_3	350	491
HFE-236ca12 (HG-10)		CHF_2-O-CF_2-O-CHF_2	2 800	5 350
HFE-236ea2 (Desfluran)		CHF_2-O-CHF-CF_3	989	1 790
HFE-236fa		CF_3-CH_2-O-CF_3	487	979
HFE-245cb2		CF_3-CF_2-O-CH_3	708	654
HFE-245fa1		CHF_2-CH_2-O-CF_3	286	828
HFE-245fa2		CHF_2-O-CH_2-CF_3	659	812
HFE-254cb1		CH_3-O-CF_2-CHF_2	359	301
HFE-263mf		CF_3-CH_2-O-CH_3	11	1
HFE-329mcc2		CF_3-CF_2-O-CF_2-CHF_2	919	3 070
HFE-338mcf2		CF_3-CH_2-O-CF_2-CF_3	552	929
HFE-338mmz1		$(CF_3)_2$CH-O-CHF_2	380	2 620
HFE-338pcc13 (HG-01)		CHF_2-O-CF_2-CF_2-O-CHF_2	1 500	2 910
HFE-347mcc3 (HFE-7000)		CH_3-O-CF_2-CF_2-CF_3	575	530
HFE-347mcf2		CHF_2-CH_2-O-CF_2-CF_3	374	854
HFE-347mmy1		$(CF_3)_2$CF-O-CH_3	343	363
HFE-347mmz1 (Sevofluran)		CH_2F-O-$CH(CF_3)_2$		216
HFE-347pcf2		CHF_2-CF_2-O-CH_2-CF_3	580	889
HFE-356mec3		CH_3-O-CF_2-CHF-CF_3	101	387
HFE-356mm1		$(CF_3)_2$CH-O-CH_3	27	14

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
HFE-356pcc3		CH_3-O-CF_2-CF_2-CHF_2	110	413
HFE-356pcf2		CHF_2-CH_2-O-CF_2-CHF_2	265	719
HFE-356pcf3		CHF_2-O-CH_2-CF_2-CHF_2	502	446
HFE-365mcf3		CF_3-CF_2-CH_2-O-CH_3	11	1
HFE-374pc2		CHF_2-CF_2-O-CH_2-CH_3	557	627
HFE-449s1 (HFE-7100)		C_4F_9-O-CH_3	297	421
HFE-569sf2 (HFE-7200)		C_4F_9-O-C_2H_5	59	57
HFE-43-10pccc124 (H-Galden 1040x)		CHF_2-O-CF_2-O-C_2F_4-O-CHF_2	1 870	2 820
Fluorierte Alkohole				
	2,2,3,3,3-Pentafluorpropan-1-ol	CF_3-CF_2-CH_2-OH	42	19
	Bis(trifluormethyl)methanol	$(CF_3)_2$CH-OH	195	182
	Octafluortetramethylen-hydroxymethyl-Gruppe	-$(CF_2)_4$CH(OH)-	73	13
Perfluorpolyether (PFPE)				
PFPMIE	Perfluorpolymethylisopropylether	CF_3(O-CF(CF_3)CF_2)$_n$-(O-CF_2)$_m$-O-CF_3 (n,m=1)	10 300	9 710

Tabelle 3: Treibhauspotentiale (GWP_{100}) von HFKW-Gemischen / Kältemittelblends

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R404A		HFKW-125 (CHF_2-CF_3): 44% HFKW-134a (CH_2F-CF_3): 4% HFKW-143a (CH_3-CF_3): 52%	3 922	3 943
R407A		HFKW-32 (CH_2F_2): 20% HFKW-125 (CHF_2-CF_3): 40% HFKW-134a (CF_3-CH_2F):40%	2 107	1 923
R407B		HFKW-32 (CH_2F_2): 10% HFKW-125 (CHF_2-CF_3): 70% HFKW-134a (CF_3-CH_2F): 20%	2 804	2 547
R407C		HFKW-32 (CH_2F_2): 23% HFKW-125 (CHF_2-CF_3): 25% HFKW-134a (CH_2F-CF_3): 52%	1 774	1 624
R407D		HFKW-32 (CH_2F_2): 15% HFKW-125 (CHF_2-CF_3): 15% HFKW-134a (CF_3-CH_2F): 70%	1 627	1 487
R407E		HFKW-32 (CH_2F_2): 25% HFKW-125 (CHF_2-CF_3): 15% HFKW-134a (CF_3-CH_2F): 60%	1 552	1 425
R407F		HFKW-32 (CH_2F_2): 30% HFKW-125 (CHF_2-CF_3): 30% HFKW-134a (CF_3-CH_2F): 40%	1 825	1 674
R407G		HFKW-32 (CH_2F_2): 2,5% HFKW-125 (CHF_2-CF_3): 2,5% HFKW-134a (CF_3-CH_2F): 95%	1 463	1 331
R407H		HFKW-32 (CH_2F_2): 32,5% HFKW-125 (CHF_2-CF_3): 15% HFKW-134a (CF_3-CH_2F): 52,5%	1 495	1 378
R407I		HFKW-32 (CH_2F_2): 19,5% HFKW-125 (CHF_2-CF_3): 8,5% HFKW-134a (CF_3-CH_2F): 72%	1 459	1 337
R410A		HFKW-32 (CH_2F_2): 50% HFKW-125 (CHF_2-CF_3): 50%	2 088	1 924
R410B		HFKW-32 (CH_2F_2): 45% HFKW-125 (CHF_2-CF_3): 55%	2 229	2 048
R413A		HFKW-134a (CH_2F-CF_3): 88% FKW-218 (CF_3-CF_2-CF_3): 9% R600a ($(CH_3)_2CH$-CH_3) [1]: 3%	2 053	1 945 [1]
R417A		HFKW-125 (CHF_2-CF_3): 46,6% HFKW-134a (CH_2F-CF_3): 50% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 3,4%	2 346	2 127 [1]

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R417B		HFKW-125 (CHF_2-CF_3): 79% HFKW-134a (CH_2F-CF_3): 18,3% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 2,7%	3 027	2 742 [1]
R417C		HFKW-125 (CHF_2-CF_3): 19,5% HFKW-134a (CH_2F-CF_3): 78,8% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 1,7%	1 809	1 643 [1]
R419A		HFKW-125 (CHF_2-CF_3): 77% HFKW-134a (CF_3-CH_2F): 19% RE170 (CH_3-O-CH_3) [1]: 4%	2 967	2 688 [1]
R419B		HFKW-125 (CHF_2-CF_3): 48,5% HFKW-134a (CF_3-CH_2F): 48% RE170 (CH_3-O-CH_3) [1]: 3,5%	2 384	2 161 [1]
R421A		HFKW-125 (CHF_2-CF_3): 58% HFKW-134a (CF_3-CH_2F): 42%	2 631	2 385
R421B		HFKW-125 (CHF_2-CF_3): 85% HFKW-134a (CF_3-CH_2F): 15%	3 190	2 890
R422A		HFKW-125 (CHF_2-CF_3): 85,1% HFKW-134a (CF_3-CH_2F): 11,5% R600a ($(CH_3)_2CH$-CH_3) [1]: 3,4%	3 143	2 847 [1]
R422B		HFKW-125 (CHF_2-CF_3): 55% HFKW-134a (CF_3-CH_2F): 42% R600a ($(CH_3)_2CH$-CH_3) [1]: 3%	2 526	2 290 [1]
R422C		HFKW-125 (CHF_2-CF_3): 82% HFKW-134a (CF_3-CH_2F): 15% R600a ($(CH_3)_2CH$-CH_3) [1]: 3%	3 085	2 794 [1]
R422D		HFKW-125 (CHF_2CF_3): 65,1% HFKW-134a (CF_3-CH_2F): 31,5% R600a ($(CH_3)_2CH$-CH_3) [1]: 3,4%	2 729	2 473 [1]
R422E		HFKW-125 (CHF_2CF_3): 58% HFKW-134a (CF_3-CH_2F): 39,3% R600a ($(CH_3)_2CH$-CH_3) [1]: 2,7%	2 592	2 350 [1]
R423A		HFKW-134a (CF_3-CH_2F): 52,5% HFKW-227ea (CF_3-CHF-CF_3): 47,5%	2 280	2 274
R424A		HFKW-125 (CHF_2-CF_3): 50,5% HFKW-134a (CF_3-CH_2F): 47% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 1% R600a ($(CH_3)_2CH$-CH_3) [1]: 0,9% R601a ($(CH_3)_2CH$-CH_2-CH_3) [4]: 0,6%	2 440 [4]	2 212 [1,4]
R425A		HFKW-32 (CH_2F_2): 18,5% HFKW-134a (CF_3-CH_2F): 69,5% HFKW-227ea (CF_3-CHF-CF_3): 12%	1 505	1 431

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R426A		HFKW-125 (CHF_2-CF_3): 5,1% HFKW-134a (CF_3-CH_2F): 93% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 1,3% R601a ($(CH_3)_2CH$-CH_2-CH_3) [4]: 0,6%	1 508 [4]	1 371 [1,4]
R427A		HFKW-32 (CH_2F_2): 15% HFKW-125 (CHF_2-CF_3): 25% HFKW-134a (CF_3-CH_2F): 50% HFKW-143a (CH_3-CF_3): 10%	2 138	2 024
R427C		HFKW-32 (CH_2F_2): 25% HFKW-125 (CHF_2-CF_3): 25% HFKW-134a (CF_3-CH_2F): 40% HFKW-143a (CH_3-CF_3): 10%	2 063	1 962
R428A		HFKW-125 (CHF_2-CF_3): 77,5% HFKW-143a (CH_3-CF_3): 20% R290 (CH_3-CH_2-CH_3) [1]: 0,6% R600a ($(CH_3)_2CH$-CH_3) [1]: 1,9%	3 607	3 417 [1]
R429A		HFKW-152a (CHF_2-CH_3): 10% RE170 (CH_3-O-CH_3) [1]: 60% R600a ($(CH_3)_2CH$-CH_3) [1]: 30%	14	15 [1]
R430A		HFKW-152a (CHF_2-CH_3): 76% R600a ($(CH_3)_2CH$-CH_3) [1]: 24%	95	106 [1]
R431A		HFKW-152a (CHF_2-CH_3): 29% R290 (CH_3-CH_2-CH_3) [1]: 71%	38	42 [1]
R434A		HFKW-125 (CHF_2-CF_3): 63,2% HFKW-134a (CF_3-CH_2F): 16% HFKW-143a (CH_3-CF_3): 18% R600a ($(CH_3)_2CH$-CH_3) [1]: 2,8%	3 245	3 076 [1]
R435A		HFKW-152a (CHF_2-CH_3): 20% RE170 (CH_3-O-CH_3) [1]: 80%	26	28 [1]
R437A		HFKW-125 (CHF_2-CF_3): 19,5% HFKW-134a (CF_3-CH_2F): 78,5% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 1,4% R601 (CH_3-CH_2-CH_2-CH_2-CH_3) [4]: 0,6%	1 805 [4]	1 639 [1,4]
R438A		HFKW-32 (CH_2F_2): 8,5% HFKW-125 (CHF_2-CF_3): 45% HFKW-134a (CF_3-CH_2F): 44,2% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 1,7% R601a ($(CH_3)_2CH$-CH_2-CH_3) [4]: 0,6%	2 265 [4]	2 059 [1,4]
R439A		HFKW-32 (CH_2F_2): 50% HFKW-125 (CHF_2-CF_3): 47% R600a ($(CH_3)_2CH$-CH_3) [1]: 3%	1 983	1 828 [1]
R440A		HFKW-134a (CF_3-CH_2F): 1,6% HFKW-152a (CHF_2-CH_3): 97,8% R290 (CH_3-CH_2-CH_3) [1]: 0,6%	144	156 [1]

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R442A		HFKW-32 (CH_2F_2): 31% HFKW-125 (CHF_2-CF_3): 31% HFKW-134a (CF_3-CH_2F): 30% HFKW-152a (CHF_2-CH_3): 3% HFKW-227ea (CF_3-CHF-CF_3): 5%	1 888	1 754
R444A		HFKW-32 (CH_2F_2): 12% HFKW-152a (CHF_2-CH_3): 5% HFKW-1234ze (CHF=CH-CF_3) [2]: 83%	93 [2]	89
R444B		HFKW-32 (CH_2F_2): 41,5% HFKW-152a (CHF_2-CH_3): 10% HFKW-1234ze (CHF=CH-CF_3) [2]: 48,5%	296 [2]	295
R445A		HFKW-134a (CF_3-CH_2F): 9% HFKW-1234ze (CHF=CH-CF_3) [2]: 85% R744 (CO_2): 6%	135 [2]	118
R446A		HFKW-32 (CH_2F_2): 68% HFKW-1234ze (CHF=CH-CF_3) [2]: 29% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 3%	461 [2]	461 [1]
R447A		HFKW-32 (CH_2F_2): 68% HFKW-125 (CHF_2-CF_3): 3,5% HFKW-1234ze (CHF=CH-CF_3) [2]: 28,5%	583 [2]	572
R447B		HFKW-32 (CH_2F_2): 68% HFKW-125 (CHF_2-CF_3): 8% HFKW-1234ze (CHF=CH-CF_3) [2]: 24%	741 [2]	714
R448A		HFKW-32 (CH_2F_2): 26% HFKW-125 (CHF_2-CF_3): 26% HFKW-134a (CF_3-CH_2F): 21% HFKW-1234yf (CH_2=CF-CF_3) [2]: 20% HFKW-1234ze (CHF=CH-CF_3) [2]: 7%	1 387 [2]	1 273
R448B		HFKW-32 (CH_2F_2): 21% HFKW-125 (CHF_2-CF_3): 21% HFKW-134a (CF_3-CH_2F): 31% HFKW-1234yf (CH_2=CF-CF_3) [2]: 20% HFKW-1234ze (CHF=CH-CF_3) [2]: 7%	1 321 [2]	1 211
R449A		HFKW-32 (CH_2F_2): 24,3% HFKW-125 (CHF_2-CF_3): 24,7% HFKW-134a (CF_3-CH_2F): 25,7% HFKW-1234yf (CH_2=CF-CF_3) [2]: 25,3%	1 397 [2]	1 282
R449B		HFKW-32 (CH_2F_2): 25,2% HFKW-125 (CHF_2-CF_3): 24,3% HFKW-134a (CF_3-CH_2F): 27,3% HFKW-1234yf (CH_2=CF-CF_3) [2]: 23,2%	1 412 [2]	1 296

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R449C		HFKW-32 (CH_2F_2): 20% HFKW-125 (CHF_2-CF_3): 20% HFKW-134a (CF_3-CH_2F): 29% HFKW-1234yf (CH_2=CF-CF_3) [2]: 31%	1 251 [2]	1 147
R450A		HFKW-134a (CF_3-CH_2F): 42% HFKW-1234ze (CHF=CH-CF_3) [2]: 58%	605 [2]	547
R451A		HFKW-134a (CF_3-CH_2F): 10,2% HFKW-1234yf (CH_2=CF-CF_3) [2]: 89,8%	149 [2]	133
R451B		HFKW-134a (CF_3-CH_2F): 11,2% HFKW-1234yf (CH_2=CF-CF_3) [2]: 88,8%	164 [2]	146
R452A		HFKW-32 (CH_2F_2): 11% HFKW-125 (CHF_2-CF_3): 59% HFKW-1234yf (CH_2=CF-CF_3) [2]: 30%	2 140 [2]	1 945
R452B		HFKW-32 (CH_2F_2): 67% HFKW-125 (CHF_2-CF_3): 7% HFKW-1234yf (CH_2=CF-CF_3) [2]: 26%	698 [2]	676
R452C		HFKW-32 (CH_2F_2): 12,5% HFKW-125 (CHF_2-CF_3): 61% HFKW-1234yf (CH_2=CF-CF_3) [2]: 26,5%	2 220 [2]	2 019
R453A		HFKW-32 (CH_2F_2): 20% HFKW-125 (CHF_2-CF_3): 20% HFKW-134a (CF_3-CH_2F): 53,8% HFKW-227ea (CF_3-CHF-CF_3): 5% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 0,6% R601a ((CH_3)$_2$CH-CH_2-CH_3) [4]: 0,6%	1 765 [4]	1 636 [1,4]
R454A		HFKW-32 (CH_2F_2): 35% HFKW-1234yf (CH_2=CF-CF_3) [2]: 65%	239 [2]	238
R454B		HFKW-32 (CH_2F_2): 68,9% HFKW-1234yf (CH_2=CF-CF_3) [2]: 31,1%	466 [2]	467
R454C		HFKW-32 (CH_2F_2): 21,5% HFKW-1234yf (CH_2=CF-CF_3) [2]: 78,5%	148 [2]	146
R455A		HFKW-32 (CH_2F_2): 21,5% HFKW-1234yf (CH_2=CF-CF_3) [2]: 75,5% R744 (CO_2): 3%	148 [2]	146
R456A		HFKW-32 (CH_2F_2): 6% HFKW-134a (CF_3-CH_2F): 45% HFKW-1234ze (CHF=CH-CF_3) [2]: 49%	687 [2]	626
R457A		HFKW-32 (CH_2F_2): 18% HFKW-152a (CHF_2-CH_3): 12% HFKW-1234yf (CH_2=CF-CF_3) [2]: 70%	139 [2]	139
R457B		HFKW-32 (CH_2F_2): 35% HFKW-152a (CHF_2-CH_3): 10% HFKW-1234yf (CH_2=CF-CF_3) [2]: 55%	251 [2]	251

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R458A		HFKW-32 (CH_2F_2): 20,5% HFKW-125 (CHF_2-CF_3): 4% HFKW-134a (CF_3-CH_2F): 61,4% HFKW-227ea (CF_3-CHF-CF_3): 13,5% HFKW-236fa (CF_3-CH_2-CF_3): 0,6%	1 650	1 564
R459A		HFKW-32 (CH_2F_2): 68% HFKW-1234yf (CH_2=CF-CF_3) [2]: 26% HFKW-1234ze (CF_3-CH=CHF) [2]: 6%	460 [2]	461
R459B		HFKW-32 (CH_2F_2): 21% HFKW-1234yf (CH_2=CF-CF_3) [2]: 69% HFKW-1234ze (CF_3-CH=CHF) [2]: 10%	145 [2]	143
R460A		HFKW-32 (CH_2F_2): 12% HFKW-125 (CHF_2-CF_3): 52% HFKW-134a (CF_3-CH_2F): 14% HFKW-1234ze (CHF=CH-CF_3) [2]: 22%	2 103 [2]	1 912
R460B		HFKW-32 (CH_2F_2): 28% HFKW-125 (CHF_2-CF_3): 25% HFKW-134a (CF_3-CH_2F): 20% HFKW-1234ze (CHF=CH-CF_3) [2]: 27%	1 352 [2]	1 242
R460C		HFKW-32 (CH_2F_2): 2,5% HFKW-125 (CHF_2-CF_3): 2,5% HFKW-134a (CF_3-CH_2F): 46% HFKW-1234ze (CHF=CH-CF_3) [2]: 49%	766 [2]	695
R461A		HFKW-125 (CHF_2-CF_3): 55% HFKW-134a (CH_2F-CF_3): 32% HFKW-143a (CH_3-CF_3): 5% HFKW-227ea (CF_3-CHF-CF_3): 5% R600a ($(CH_3)_2CH$-CH_3) [1]: 3%	2 767	2 567 [1]
R462A		HFKW-32 (CH_2F_2): 9% HFKW-125 (CHF_2-CF_3): 42% HFKW-134a (CH_2F-CF_3): 44% HFKW-143a (CH_3-CF_3): 2% R600 (CH_3-CH_2-CH_2-CH_3) [1]: 3%	2 249	2 060 [1]
R463A		HFKW-32 (CH_2F_2): 36% HFKW-125 (CHF_2-CF_3): 30% HFKW-134a (CH_2F-CF_3): 14% HFKW-1234yf (CH_2=CF-CF_3) [2]: 14% R744 (CO_2): 6%	1 494 [2]	1 377
R464A		HFKW-32 (CH_2F_2): 27% HFKW-125 (CHF_2-CF_3): 27% HFKW-227ea (CF_3-CHF-CF_3): 6% HFKW-1234ze (CHF=CH-CF_3) [2]: 40%	1 323 [2]	1 240

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R465A		HFKW-32 (CH_2F_2): 21% HFKW-1234yf (CH_2=CF-CF_3) [2]: 71,1% R290 (CH_3-CH_2-CH_3) [1]: 7,9%	145 [2]	143 [1]
R466A		HFKW-32 (CH_2F_2): 49% HFKW-125 (CHF_2-CF_3): 11,5% CF_3I [1]: 39,5%	733	696 [1]
R467A		HFKW-32 (CH_2F_2): 22% HFKW-125 (CHF_2-CF_3): 5% HFKW-134a (CF_3-CH_2F): 72,4% R600a ((CH_3)$_2$CH-CH_3) [1]: 0,6%	1 359	1 249 [1]
R468A		HFKW-32 (CH_2F_2): 21,5% HFKW-1234yf (CH_2=CF-CF_3) [2]: 75% HFKW-1132a (CH_2=CF_2) [3]: 3,5%	148 [2,3]	146
R468B		HFKW-32 (CH_2F_2): 13% HFKW-1234yf (CH_2=CF-CF_3) [2]: 81% HFKW-1132a (CH_2=CF_2) [3]: 6%	91 [2,3]	89
R468C		HFKW-32 (CH_2F_2): 42% HFKW-1234yf (CH_2=CF-CF_3) [2]: 52% HFKW-1132a (CH_2=CF_2) [3]: 6%	286 [2,3]	285
R469A		HFKW-32 (CH_2F_2): 32,5% HFKW-125 (CHF_2-CF_3): 32,5% R744 (CO_2): 35%	1 357	1 251
R470A		HFKW-32 (CH_2F_2): 17% HFKW-125 (CHF_2-CF_3): 19% HFKW-134a (CF_3-CH_2F): 7% HFKW-227ea (CF_3-CHF-CF_3): 3% HFKW-1234ze (CHF=CH-CF_3) [2]: 44% R744 (CO_2): 10%	980 [2]	909
R470B		HFKW-32 (CH_2F_2): 11,5% HFKW-125 (CHF_2-CF_3): 11,5% HFKW-134a (CF_3-CH_2F): 3% HFKW-227ea (CF_3-CHF-CF_3): 7% HFKW-1234ze (CHF=CH-CF_3) [2]: 57% R744 (CO_2): 10%	753 [2]	717
R471A		HFKW-227ea (CF_3-CHF-CF_3): 4,3% HFKW-1234ze (CHF=CH-CF_3) [2]: 78,7% HFKW-1336mzz (CHF_2-CF_3) [2]: 17,0%	145 [2]	145
R472A		HFKW-32 (CH_2F_2): 12% HFKW-134a (CF_3-CH_2F): 19% R744 (CO_2): 69%	353	329
R472B		HFKW-32 (CH_2F_2): 10% HFKW-134a (CF_3-CH_2F): 32% R744 (CO_2): 58%	526	484

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]	GWP AR5 [3]
R473A		HFKW-23 (CHF_3): 10% HFKW-125 (CHF_2-CF_3): 10% HFKW-1132a (CH_2=CF_2) [3]: 20% R744 (CO_2): 60%	1 831 [3]	1 558
R475A		HFKW-134a (CF_3-CH_2F): 43% HFKW-1234yf (CH_2=CF-CF_3) [2]: 45% HFKW-1234ze (CF_3-CH=CHF) [2]: 12%	618 [2]	560
R507A		HFKW-125 (CHF_2-CF_3): 50% HFKW-143a (CH_3-CF_3): 50%	3 985	3 985
R508A		HFKW-23 (CHF_3): 39% FKW-116 (C_2F_6): 61%	13 214	11 607
R508B		HFKW-23 (CHF_3): 46% FKW-116 (C_2F_6): 54%	13 396	11 698
R511A		HFKW-152a (CHF_2-CH_3): 5% R290 (CH_3-CH_2-CH_3) [1]: 95%	9	10 [1]
R512A		HFKW-134a (CF_3-CH_2F): 5% HFKW-152a (CHF_2-CH_3): 95%	189	196
R513A		HFKW-134a (CF_3-CH_2F): 44% HFKW-1234yf (CH_2=CF-CF_3) [2]: 56%	631 [2]	573
R513B		HFKW-134a (CF_3-CH_2F): 41,5% HFKW-1234yf (CH_2=CF-CF_3) [2]: 58,5%	596 [2]	540
R514A		HFKW-1336mzz (CF_3-CH=CH-CF_3) [2]: 74,7% HCKW-1130 (CHCl=CHCl) [3]: 25,3%	7 [2,3]	2
R515A		HFKW-227ea (CF_3-CHF-CF_3): 12% HFKW-1234ze (CHF=CH-CF_3) [2]: 88%	393 [2]	403
R515B		HFKW-227ea (CF_3-CHF-CF_3): 8,9% HFKW-1234ze (CHF=CH-CF_3) [2]: 91,1%	293 [2]	299
R516A		HFKW-134a (CF_3-CH_2F): 8,5% HFKW-152a (CHF_2-CH_3): 14% HFKW-1234yf (CH_2=CF-CF_3) [2]: 77,5%	142 [2]	131
Isceon® MO89		HFKW-125 (CF_3-CHF_2): 86% FKW-218 (CF_3-CF_2-CF_3): 9% R290 (CH_3-CH_2-CH_3) [1]: 5%	3 805	3 527 [1]

Tabelle 4: Treibhauspotentiale (GWP_{100}) halogenfreier Stoffe

Industrielle Bezeichnung	Chemische Bezeichnung	Chemische Formel / Zusammensetzung	GWP AR4 [1]
	Methan	CH_4	25
R170	Ethan	CH_3-CH_3	6
R290	Propan	CH_3-CH_2-CH_3	3
R600	n-Butan	CH_3-CH_2-CH_2-CH_3	4
R600a	i-Butan (Isobutan)	$(CH_3)_2CH$-CH_3	3
R601	n-Pentan	CH_3-CH_2-CH_2-CH_2-CH_3	5 [4]
R601a	i-Pentan (Isopentan)	$(CH_3)_2CH$-CH_2-CH_3	5 [4]
RE170	Dimethylether (DME)	CH_3-O-CH_3	1
R610	Diethylether	CH_3-CH_2-O-CH_2-CH_3	4
R611	Methylformiat	$HCOOCH_3$	25
R702	Wasserstoff	H_2	6
R717	Ammoniak	NH_3	0
R718	Wasser	H_2O	0
R723	Dimethylether-Ammoniak-Gemisch	R717 (NH_3): 60% RE170 (CH_3-O-CH_3): 40%	1
R744	Kohlendioxid	CO_2	1
R1150	Ethen (Ethylen)	CH_2=CH_2	4
R1270	Propen (Propylen)	CH_2=CH-CH_3	2

[1] GWP_{100} aus: Climate Change 2007: *The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp.

[2] GWP_{100} aus: WMO (World Meteorological Organization), Scientific Assessment of Ozone Depletion: 2010, Global Ozone Research and Monitoring Project–Report No. 52, Geneva, Switzerland, 2010.

[3] GWP_{100} aus: Climate Change 2013: *The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

[4] Standardwert aufgrund des GWP_{100} anderer Kohlenwasserstoffe.

Kontakt:
Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Telefon: (0340) 2103 – 0
info@umweltbundesamt.de
www.umweltbundesamt.de

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