

TYPE	CHEMICAL NAME OR COMPONENTS	% PER COMPONENT
<b>HCFC</b>	<b>EPA Technician Certification required to purchase HCFC refrigerants</b>	
R-22	Chlorodifluoromethane	R-22 (100%)
R-123	Dichlorotrifluoroethane	R-123 (100%)
R-124	1-Chloro-1,2,2,2-Tetrafluoroethane	R-124 (100%)
R-401A	Chlorodifluoromethane, 1-Chloro-1,2,2,2-Tetrafluoroethane, 1,1-Difluoroethane	R-22 (53%), R-124 (34%), R-152a (13%)
R-401B	Chlorodifluoromethane, 1-Chloro-1,2,2,2-Tetrafluoroethane, 1,1-Difluoroethane	R-22 (61%), R-124 (28%), R-152a (11%)
R-402A	Pentafluoroethane, Chlorodifluoromethane, Propane	R-125 (60%), R-22 (38%), R-290 (2%)
R-402B	Chlorodifluoromethane, Pentafluoroethane, Propane	R-22 (60%), R-125 (38%), R-290 (2%)
R-408A	Chlorodifluoromethane, 1,1,1-Trifluoroethane, Pentafluoroethane	R-22 (47%), R-143a (46%), R-125 (7%)
R-409A	Chlorodifluoromethane, 1-Chloro-1,2,2,2-Tetrafluoroethane, 1-Chloro-1,1 Difluoroethane	R-22 (60%), R-124 (25%), R-142b (15%)
R-412A	Chlorodifluoromethane, 1-Chloro-1,1-Difluoroethane, Octafluoropropane	R-22 (70%), R-142b (25%), R-218 (5%)
R-414B	Chlorodifluoromethane, 1-Chloro-1,2,2,2-Tetrafluoroethane, 1-Chloro-1,1 Difluoroethane, n-Butane	R-22 (50%), R-124 (39%), R-142b (9.5%), R-600 (1.5%)
R-416A	1,1,1,2-Tetrafluoroethane, 1-Chloro-1,2,2,2-Tetrafluoroethane, n-Butane	R-134a (59%), R-124 (39.5%), R-600 (1.5%)

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<b>HFC</b>	<b>NO EPA Technician Certification needed to purchase HFC refrigerants</b>	
R-14	Tetrafluoromethane	R-14 (100%)
R-23	Trifluoromethane	R-23 (100%)
R-116	Hexafluoroethane	R-116 (100%)
R-134a	1,1,1,2-Tetrafluoroethane	R-134a (100%)
R-404A	1,1,1-Trifluoroethane, Pentafluoroethane, 1,1,1,2-Tetrafluoroethane	R-143a (52%), R-125 (44%), R-134a (4%)
R-407A	Pentafluoroethane, 1,1,1,2-Tetrafluoroethane, Difluoromethane	R-125 (40%), R-134a (40%), R-32 (20%)
R-407B	Pentafluoroethane, 1,1,1,2-Tetrafluoroethane, Difluoromethane	R-125 (70%), R-134a (20%), R-32 (10%)
R-407C	1,1,1,2-Tetrafluoroethane, Pentafluoroethane, Difluoromethane	R-134a (52%), R-125 (25%), R-32 (23%)
R-407F	1,1,1,2-Tetrafluoroethane, Difluoromethane, Pentafluoroethane	R-134a (40%), R-32 (30%), R-125 (30%)
R-410A	Difluoromethane, Pentafluoroethane	R-32 (50%), R-125 (50%)
R-417A	Pentafluoroethane, 1,1,1,2-Tetrafluoroethane, n-Butane	R-125 (46.6%), R-134a (50%), R-600 (3.4%)
R-421A	Pentafluoroethane, 1,1,1,2-Tetrafluoroethane	R-125 (58%), R-134a (42%)
R-422A	Pentafluoroethane, 1,1,1,2-Tetrafluoroethane, Isobutane	R-125 (85.1%), R-134a (11.5%), R-600a (3.4%)
R-422D	Pentafluoroethane, 1,1,1,2-Tetrafluoroethane, Isobutane	R-125 (65.1%), R-134a (31.5%), R-600a (3.4%)
R-423A	1,1,1,2-Tetrafluoroethane, 1,1,1,2,3,3,3-Heptafluoropropane	R-134a (52.5%), R-227ea (47.5%)
R-427A	1,1,1,2-Tetrafluoroethane, Pentafluoroethane, Difluoromethane	R-134a (50%), R-125 (25%), R-32 (15%)
R-438A	Pentafluoroethane, 1,1,1,2-Tetrafluoroethane, Difluoromethane, n-Butane, Isopentane	R-125 (45%), R-134a (44.2%), R-32 (8.5%), R-600 (1.7%), R-600a (.6%)
R-507	Pentafluoroethane, 1,1,1-Trifluoroethane	R-125 (50%), R-143a (50%)
R-508A	Hexafluoroethane, Trifluoromethane	R-116 (61%), R-23 (39%)
R-508B	Hexafluoroethane, Trifluoromethane	R-116 (54%), R-23 (46%)

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<b>CFC</b>	<b>EPA Technician Certification required to purchase CFC refrigerant</b>	
R-11	Trichlorofluoromethane	R-11 (100%)
R-12	Dichlorodifluoromethane	R-12 (100%)
R-13	Chlorotrifluoromethane	R-13 (100%)
R-13B1	Bromotrifluoromethane	R-13B1 (100%)
R-113	Trichlorotrifluoroethane	R-113 (100%)
R-114	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	R-114 (100%)
R-500	Dichlorodifluoromethane, 1,1-Difluoroethane	R-12 (73.8%), R-152a (26.2%)
R-502	Chloropentafluoroethane, Chlorodifluoromethane	R-115 (51.2%), R-22 (48.8%)
R-503	Chlorotrifluoromethane, Trifluoromethane	R-13 (59.9%), R-23 (40.1%)

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<b>HFO</b>	<b>NO EPA Technician Certification needed to purchase HFO refrigerants</b>	
R-1234yf	2,3,3,3-Tetrafluoroprop-1-ene	R-1234yf (100%)
R-448A	Difluoromethane, Pentafluoroethane, 1,1,1,2-Tetrafluoroethane, 2,3,3,3-Tetrafluoroprop-1-ene, Trans-1,3,3,3-Tetrafluoroprop-1-ene	R-32 (26%), R-125 (26%), R-134a (21%), R-1234yf (20%), R-1234ze (7%)
R-449A	1,1,1,2-Tetrafluoroethane, 2,3,3,3-Tetrafluoroprop-1-ene, Pentafluoroethane, Difluoromethane	R-134a (25.7%), R-1234yf (25.3%), R-125 (24.7%), R-32 (24.3%)
R-450A	Trans-1,3,3,3-Tetrafluoroprop-1-ene, 1,1,1,2-Tetrafluoroethane	R-1234ze (58%), R-134a (42%)
R-452A	Pentafluoroethane, 2,3,3,3-Tetrafluoroprop-1-ene, Difluoromethane	R-125 (59%), R-1234yf (30%), R-32 (11%)
R-513A	2,3,3,3-Tetrafluoroprop-1-ene, 1,1,1,2-Tetrafluoroethane	R-1234yf (56%), R-134a (44%)

ASHRAE #	COMPONENT CHEMICAL NAME
R-12	Dichlorodifluoromethane
R-13	Chlorotrifluoromethane
R-22	Chlorodifluoromethane
R-23	Trifluoromethane
R-32	Difluoromethane
R-115	Chloropentafluoroethane
R-116	Hexafluoroethane
R-124	1-Chloro-1,2,2,2-Tetrafluoroethane
R-125	Pentafluoroethane
R-134a	1,1,1,2-Tetrafluoroethane
R-142b	1-Chloro-1,1-Difluoroethane
R-143a	1,1,1-Trifluoroethane
R-152a	1,1-Difluoroethane
R-218	Octafluoropropane
R-227ea	1,1,1,2,3,3,3, Heptafluoropropane (Replaces R-114 Fire Extinguishing)
R-290	Propane (Refrigerant Grade)
R-600	n-Butane
R-600a	Isobutane (2-Methylpropane)
R-1234yf	2,3,3,3-Tetrafluoroprop-1-ene
R-1234ze	Trans-1,3,3,3-Tetrafluoroprop-1-ene