## CLAIMS

What is claimed is:

1. A composition comprising one of:

composition (i) comprising one of (a) difluoromethane (HFC-32) and pentafluoroethane (HFC-125), or (b) R-410A (50% HFC-125 / 50% HFC-32); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22) and 1,1,1,2-tetrafluoroethane (HFC-134a); or

composition (ii) comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125) and 1,1,1,2-tetrafluoroethane (HFC-134a), or (b) R-407C (25% HFC-125 / 23% HFC-32 / 52% HFC-134a); and at least one residual refrigerant of chlorodifluoromethane (HCFC-22); or

composition (iii) comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-452B (67% HFC-32 / 7% HFC-125 / 26% HFO-1234yf); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), 1,1,1,2-tetrafluoroethane (HFC-134a) and $CO_2$; or

composition (iv) comprising one of (a) difluoromethane (HFC-32) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-454B (68.9% HFC-32 / 31.1% HFO-1234yf); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and $CO_2$; or

composition (v) comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125) and 1,1,1,2-tetrafluoroethane (HFC-134a), or (b) R-407A (20% HFC-32 / 40% HFC-125 / 40% HFC-134a); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22) and 1,1,1-trifluoroethane (HFC-143a); or

composition (vi) comprising a mixture of R-407A (20% HFC-32 / 40% HFC-125 / 40% HFC-134a) and R-407C (25% HFC-125 / 23% HFC-32 / 52% HFC-134a); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22) and 1,1,1-trifluoroethane (HFC-143a);

and optionally one or more members selected from the group consisting of R-407B, R-407D, R-407E, R-407F, R-407G, R-407H and R-407I; or

composition (vii) comprising one of (a) difluoromethane (HFC-32), $CO_2$ and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-455A (21.5% HFC-32 / 3% $CO_2$ / 75.5% HFO-1234yf); and at least one residual refrigerant selected from the group consisting of pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a), chlorodifluoromethane (HCFC-22), chloropentafluoroethane (CFC-115), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and 1,1,1-trifluoroethane (HFC-143a); or

composition (viii) comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a), 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze), or (b) R-448A (26% HFC-32 / 26% HFC-125 / 21% HFC-134a / 20% HFO-1234yf / 7% E-HFO-1234ze); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), chloropentafluoroethane (CFC-115) and 1,1,1-trifluoroethane (HFC-143a); or

composition (ix) comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-449A (24.3% HFC-32 / 24.7% HFC-125 / 25.7% HFC-134a / 25.3% HFO-1234yf); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), chloropentafluoroethane (CFC-115), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and 1,1,1-trifluoroethane (HFC-143a); or

composition (x) comprising one of (a) 1,1,1-trifluoroethane (HFC-143a), pentafluoroethane (HFC-125) and 1,1,1,2-tetrafluoroethane (HFC-134a), or (b) R-404A (44% HFC-125 / 4% HFC-134a / 52% HFC-143a), and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22) and chloropentafluoroethane (CFC-115); or

composition (xi) comprising one of (a) 1,1,1-trifluoroethane (HFC-143a) and pentafluoroethane (HFC-125), or (b) R-507 (50% HFC-125 / 50% HFC-143a); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22) and chloropentafluoroethane (CFC-115); or

composition (xii) comprising one of (a) difluoromethane (HFC-32) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-454A (35% HFC-32 / 65% HFO-1234yf), or (c) R-454C (21.5% HFC-32 / 78.5% HFO-1234yf); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xiii) comprising one of (a) 1,1,1,2,3,3,3-heptafluoropropane (HFC-227ea), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and E-1,1,1,4,4,4-hexafluoro-2-butene (E-HFO-1336mzz), or (b) R-471A (4.3% HFC-227ea / 78.7% HFO-1234ze(E) / 17% HFO-1336mzz(E)); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xiv) comprising one of (a) 1,1,1,2-tetrafluoroethane (HFC-134a), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and E-1,1,1,4,4,4-hexafluoro-2-butene (E-HFO-1336mzz), or (b) R-476A (10% HFC-134a / 78% HFO-1234ze(E) / 12% HFO-1336mzz(E)); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xv) comprising one of (a) 1,1,1,2-tetrafluoroethane (HFC-134a), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and Z-1-chloro-2,3,3,3-tetrafluoropropene (Z-HFO-1224yd), or (b) R-482A (10% HFC-134a / 83.5% HFO-1234ze(E) / 6.5% HFO-1224yd(Z)); and at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xvi) comprising one of (a) 1,1,1,2,3,3,3-heptafluoropropane (HFC-227ea) and E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze), or (b) R-

515B (8.9% HFC-227ea / 91.1% E-HFO-1234ze); and at least one residual refrigerant selected from the group consisting of trichlorofluoromethane (CFC-11) and 1,1,1,2-tetrafluoroethane (HFC-134a); or

composition (xvii) comprising one of (a) Z-1,1,1,4,4,4-hexafluoro-2-butene (Z-HFO-1336mzz) and trans-1,2-dichloroethylene (t-DCE), or (b) R-514A (74.7% Z-HFO-1336mzz / 25.3% t-DCE); and at least one residual refrigerant selected from the group consisting of trichlorofluoromethane (CFC-11) and 1,1-dichloro-2,2,2-trifluoroethane (HFC-123); or

composition (xviii) comprising one of (a) difluoromethane (HFC-32), 1,1-difluoroethane (HFC-152a), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze), or (b) R-444A (12% HFC-32 / 5% HFC-152a / 83% E-HFO-1234ze); and at least one residual refrigerant selected from the group consisting of dichlorodifluoromethane (CFC-12), 1,1,1,2-tetrafluoroethane (HFC-134a) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf).

2. The composition of claim 1, wherein:

the composition (i) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; and (B) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the composition (ii) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (C) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the composition (iii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from

the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; and (C) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC-236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the composition (iv) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; and (B) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC-236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the composition (v) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (C) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the composition (vi) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (C) at least one additional compound

selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the composition (vii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of $N_2$, Ar, CO and $O_2$; and (C) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the composition (viii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (C) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; (D) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; and (E) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; or

the composition (ix) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (C) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (D) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the composition (x) further comprises (A) at least one residual refrigerant selected from the group consisting of chlorodifluoromethane (HCFC-22) and chloropentafluoroethane (CFC-115); (B) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (C) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (D) at least one additional compound selected from the group consisting of CFC-115, HFC-134a, HFC-152a, HCFC-22, CFC-12, HCFC-124, CFC-114a and HCFC-133a; or

the composition (xi) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; and (B) at least one additional compound selected from the group consisting of CFC-115, HFC-134a, HFC-152a, HCFC-22, CFC-12, HCFC-124, CFC-114a and HCFC-133a; or

the composition (xii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-

22, CFC-12 and HCC-40; and (B) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC-236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40;

the composition (xiii) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, FC-1216, HFC-143a, HFC-134a, HCFC-22, HCFC-124, FC-218, HFC-236fa and HFO-1225zc; (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; and (C) at least one additional compound selected from the group consisting of C-30, HCFC-114, HCFC-114a, HCFC-133, HCFC-133a, HFC-245fa, HFC-338mee, HFC-338mf, HFC-347mef, HCO-1140, HCFO-1224 isomers, HCFO-1224yd, HCFO-1224yb, HCFO-1233xf, HCFO-1233zd, HFO-1243zf, HFO-1327mz, HFO-1336ft and HCFO-1326mxz; or

the composition (xiv) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; and (C) at least one additional compound selected from the group consisting of C-30, HCFC-114, HCFC-114a, HCFC-133, HCFC-133a, HFC-245fa, HFC-338mee, HFC-338mf, HFC-347mef, HCO-1140, HCFO-1224 isomers, HCFO-1224yd, HCFO-1224yb, HCFO-1233xf,

HCFO-1233zd, HFO-1243zf, HFO-1327mz, HFO-1336ft and HCFO-1326mxz; or

the composition (xv) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; and (C) at least one additional compound selected from the group consisting of HFO-1234yf, HFO-1234ze(E), HFO-1243zf, HFC-263fb, HFC-254eb, HFO-1215yb, HCFC-244bb, HCFO-1224yd(E) , HCFO-1224 isomer(s), CFO-1112a,  HFC-225ca, HFC-225cb and HFC-234bb; or

the composition (xvi) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, FC-1216, HFC-143a, HFC-134a, HCFC-22, HCFC-124, FC-218, HFC-236fa and HFO-1225zc; and (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; or

the composition (xvii) further comprises (A) at least one additional compound selected from the group consisting of HFO-1326mxzE, HFO-1326nxzZ, HFC-346mdf, HFC-356mff and HFO-1336mzz(E); and (B) at least one additional compound selected from the group consisting of HCC-2120, HCC-1140, HCO-1130a, HCC-30, HCC-150a, cis-DCE, HCC-20, HCC-140a and HCO-1120; or

the composition (xviii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-

134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-161, HCC-40, isobutane, HCO-1140, HCC-160 and CFC-114a; and (C) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134.

3. The composition of claim 1 or claim 2, wherein a total amount of the residual refrigerants is from about 0.00001 to about 2 weight percent, based on a total weight of the composition.

4. A heat transfer system comprising the composition of any one of claims 1 to 3.

5. The heat transfer system of claim 4, wherein said heat transfer system is designed for use with or previously contained at least one of the residual refrigerants.

6. The heat transfer system of claim 4 or claim 5, wherein the heat transfer system comprises at least one member selected from the group consisting of air conditioners, freezers, refrigerators, heat pumps, water chillers, flooded evaporator chillers, direct expansion chillers, walk-in coolers, heat pumps, mobile refrigerators, mobile air conditioning units and combinations thereof.

7. The heat transfer system of claim 4 or claim 5, wherein the heat transfer system comprises at least one member selected from the group consisting of a commercial refrigeration system, a medium temperature refrigeration system, a low temperature refrigeration system, a residential refrigerator, a residential freezer, a heat pump, a high temperature heat pump, a chiller, an air conditioning system and an automotive air conditioning system.

8. The composition of any one of claims 1 to 7, wherein the composition is selected from the group consisting of spent thermal management fluid, used thermal management fluid, recovered thermal management fluid, recycled thermal management fluid and reclaimed thermal management fluid.

9. A method of obtaining the composition of any one of claims 1 to 3, the method comprising removing the composition from a heat transfer system.

10. A method of reclaiming refrigerant, the method comprising:

removing a refrigerant composition from a heat transfer system, the refrigerant composition being one of the compositions of claim 1;

performing at least one treatment selected from transferring, blending, distillation, nitrogen purging, filtration, dehydration, caustic scrubbing, moisture removal, acid removal, oil removal, decanting, composition ratio adjustment and combinations thereof to form a partially reclaimed refrigerant composition or a reclaimed refrigerant composition, wherein the at least one treatment does not involve removal or separation of the residual refrigerants; and

either storing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition in a container for use in another system or introducing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition back into the heat transfer system.

11. A method of reclaiming refrigerant, the method comprising:

removing a refrigerant composition from a heat transfer system, the refrigerant composition being one of the compositions of claim 1;

performing at least one treatment selected from transferring, blending, distillation, nitrogen purging, filtration, dehydration, caustic scrubbing, moisture removal, acid removal, oil removal, decanting, composition ratio adjustment and combinations thereof to form a partially reclaimed refrigerant composition or a reclaimed refrigerant composition, wherein the at least one treatment does not involve separation of a second refrigerant portion from a first refrigerant portion; and

either storing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition in a container for use in another system or introducing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition back into the heat transfer system.

12. A composition comprising one of:

composition (i) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32) and pentafluoroethane (HFC-125), or (b) R-410A (50% HFC-125 / 50% HFC-32); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22) and 1,1,1,2-tetrafluoroethane (HFC-134a); or

composition (ii) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125) and 1,1,1,2-tetrafluoroethane (HFC-134a), or (b) R-407C (25% HFC-125 / 23% HFC-32 / 52% HFC-134a); and a second refrigerant portion comprising at least chlorodifluoromethane (HCFC-22); or

composition (iii) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-452B (67% HFC-32 / 7% HFC-125 / 26% HFO-1234yf); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), 1,1,1,2-tetrafluoroethane (HFC-134a) and $CO_2$; or

composition (iv) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-454B (68.9% HFC-32 / 31.1% HFO-1234yf); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and $CO_2$; or

composition (v) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125) and 1,1,1,2-tetrafluoroethane (HFC-134a), or (b) R-407A (20% HFC-32 / 40% HFC-125 / 40% HFC-134a); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22) and 1,1,1-trifluoroethane (HFC-143a); or

composition (vi) comprising a first refrigerant portion comprising a mixture of R-407A (20% HFC-32 / 40% HFC-125 / 40% HFC-134a) and R-407C (25% HFC-125 / 23% HFC-32 / 52% HFC-134a); and a second refrigerant portion

comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22) and 1,1,1-trifluoroethane (HFC-143a); or

composition (vii) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32), $CO_2$ and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-455A (21.5% HFC-32 / 3% $CO_2$ / 75.5% HFO-1234yf); and a second refrigerant portion comprising at least one compound selected from the group consisting of pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a), chlorodifluoromethane (HCFC-22), chloropentafluoroethane (CFC-115), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and 1,1,1-trifluoroethane (HFC-143a); or

composition (viii) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a), 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze), or (b) R-448A (26% HFC-32 / 26% HFC-125 / 21% HFC-134a / 20% HFO-1234yf / 7% E-HFO-1234ze); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), chloropentafluoroethane (CFC-115) and 1,1,1-trifluoroethane (HFC-143a); or

composition (ix) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-449A (24.3% HFC-32 / 24.7% HFC-125 / 25.7% HFC-134a / 25.3% HFO-1234yf); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), chloropentafluoroethane (CFC-115), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and 1,1,1-trifluoroethane (HFC-143a); or

composition (x) comprising a first refrigerant portion comprising one of (a) 1,1,1-trifluoroethane (HFC-143a), pentafluoroethane (HFC-125) and 1,1,1,2-tetrafluoroethane (HFC-134a), or (b) R-404A (44% HFC-125 / 4% HFC-134a / 52% HFC-143a); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22) and chloropentafluoroethane (CFC-115); or

composition (xi) comprising a first refrigerant portion comprising one of (a) 1,1,1-trifluoroethane (HFC-143a) and pentafluoroethane (HFC-125), or (b) R-507 (50% HFC-125 / 50% HFC-143a); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22) and chloropentafluoroethane (CFC-115); or

composition (xii) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf), or (b) R-454A (35% HFC-32 / 65% HFO-1234yf), or (c) R-454C (21.5% HFC-32 / 78.5% HFO-1234yf); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xiii) comprising a first refrigerant portion comprising one of (a) 1,1,1,2,3,3,3-heptafluoropropane (HFC-227ea), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and E-1,1,1,4,4,4-hexafluoro-2-butene (E-HFO-1336mzz), or (b) R-471A (4.3% HFC-227ea / 78.7% HFO-1234ze(E) / 17% HFO-1336mzz(E)); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125), 1,1,1,2-tetrafluoroethane (HFC-134a) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xiv) comprising a first refrigerant portion comprising one of (a) 1,1,1,2-tetrafluoroethane (HFC-134a), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and E-1,1,1,4,4,4-hexafluoro-2-butene (E-HFO-1336mzz), or (b) R-476A (10% HFC-134a / 78% HFO-1234ze(E) / 12% HFO-1336mzz(E)); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xv) comprising a first refrigerant portion comprising one of (a) 1,1,1,2-tetrafluoroethane (HFC-134a), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze) and Z-1-chloro-2,3,3,3-tetrafluoropropene (Z-HFO-1224yd), or

(b) R-482A (10% HFC-134a / 83.5% HFO-1234ze(E) / 6.5% HFO-1224yd(Z)); and a second refrigerant portion comprising at least one compound selected from the group consisting of chlorodifluoromethane (HCFC-22), dichlorodifluoromethane (CFC-12), chloropentafluoroethane (CFC-115), pentafluoroethane (HFC-125) and 1,1,1-trifluoroethane (HFC-143a); or

composition (xvi) comprising a first refrigerant portion comprising one of (a) 1,1,1,2,3,3,3-heptafluoropropane (HFC-227ea) and E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze), or (b) R-515B (8.9% HFC-227ea / 91.1% E-HFO-1234ze); and a second refrigerant portion comprising at least one compound selected from the group consisting of trichlorofluoromethane (CFC-11) and 1,1,1,2-tetrafluoroethane (HFC-134a); or

composition (xvii) comprising a first refrigerant portion comprising one of (a) Z-1,1,1,4,4,4-hexafluoro-2-butene (Z-HFO-1336mzz) and trans-1,2-dichloroethylene (t-DCE), or (b) R-514A (74.7% Z-HFO-1336mzz / 25.3% t-DCE); and a second refrigerant portion comprising at least one compound selected from the group consisting of trichlorofluoromethane (CFC-11) and 1,1-dichloro-2,2,2-trifluoroethane (HFC-123); or

composition (xviii) comprising a first refrigerant portion comprising one of (a) difluoromethane (HFC-32), 1,1-difluoroethane (HFC-152a), E-1,3,3,3-tetrafluoro-1-propene (E-HFO-1234ze), or (b) R-444A (12% HFC-32 / 5% HFC-152a / 83% E-HFO-1234ze); and a second refrigerant portion comprising at least one compound selected from the group consisting of dichlorodifluoromethane (CFC-12), 1,1,1,2-tetrafluoroethane (HFC-134a) and 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf).

13. The composition of claim 12, wherein:

the first refrigerant portion of composition (i) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; and (B) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the first refrigerant portion of composition (ii) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-

32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (C) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the first refrigerant portion of composition (iii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; and (C) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the first refrigerant portion of composition (iv) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; and (B) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the first refrigerant portion of composition (v) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-143a, HFO-

1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (C) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the first refrigerant portion of composition (vi) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (C) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; or

the first refrigerant portion of composition (vii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of $N_2$, Ar, CO and $O_2$; and (C) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the first refrigerant portion of composition (viii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (C) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31,

CFC-114, CFC-114a and HCO-1140; (D) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC-236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; and (E) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; or

the first refrigerant portion of composition (ix) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (C) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (D) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the first refrigerant portion of composition (x) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-143a, HFO-

1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; and (C) at least one additional compound selected from the group consisting of CFC-115, HFC-134a, HFC-152a, HCFC-22, CFC-12, HCFC-124, CFC-114a and HCFC-133a; or

the first refrigerant portion of composition (xi) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, HFC-32, HFC-143a, HFC-134a, CFC-115, CFO-1113 and HCC-40; and (B) at least one additional compound selected from the group consisting of CFC-115, HFC-134a, HFC-152a, HCFC-22, CFC-12, HCFC-124, CFC-114a and HCFC-133a; or

the first refrigerant portion of composition (xii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; and (B) at least one additional compound selected from the group consisting of HFO-1225ye, HFO-1243zf, E-HFO-1234ze, HFC-236ea, HCFC-244bb, HFC-245fa, HFC-245eb, HFC-245cb, 3,3,3-trifluoropropyne, HFC-152a, FO-1114, HFO-1123, HCFO-1131a, trans-HCFO-1131, HCO- 1140, HCFO-1214ya, HFO-1216, HCFO-1224yd, HFO-1252 isomers, HFC-143a, HCFC-225 isomers, HFC-254eb, HFC-263fb, HFC- 236fa, HCFC-142b, HCFC-244cc, HCFO-1223, HFO-1132a and HCC-40; or

the first refrigerant portion of composition (xiii) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, FC-1216, HFC-143a, HFC-134a, HCFC-22, HCFC-124, FC-218, HFC-236fa and HFO-1225zc; (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; and (C) at least one additional compound selected from the group consisting of C-30, HCFC-114, HCFC-114a, HCFC-133, HCFC-133a, HFC-245fa, HFC-338mee, HFC-338mf, HFC-347mef, HCO-1140, HCFO-1224 isomers, HCFO-1224yd, HCFO-1224yb, HCFO-1233xf,

HCFO-1233zd, HFO-1243zf, HFO-1327mz, HFO-1336ft and HCFO-1326mxz; or

the first refrigerant portion of composition (xiv) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; and (C) at least one additional compound selected from the group consisting of C-30, HCFC-114, HCFC-114a, HCFC-133, HCFC-133a, HFC-245fa, HFC-338mee, HFC-338mf, HFC-347mef, HCO-1140, HCFO-1224 isomers, HCFO-1224yd, HCFO-1224yb, HCFO-1233xf, HCFO-1233zd, HFO-1243zf, HFO-1327mz, HFO-1336ft and HCFO-1326mxz; or

the first refrigerant portion of composition (xv) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFO-1225zc, HFC-245cb, HFC-134, HFC-152a, HFO-1225ye, HFC-161, E-HFO-1234ze, HCFC-22, HFO-1243zf, CHFC-124, HCC-40, CHFO-1122, HCFC-31, CFC-114, CFC-114a and HCO-1140; (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; and (C) at least one additional compound selected from the group consisting of HFO-1234yf, HFO-1234ze(E), HFO-1243zf, HFC-263fb, HFC-254eb, HFO-1215yb, HCFC-244bb, HCFO-1224yd(E) , HCFO-1224 isomer(s), CFO-1112a, HFC-225ca, HFC-225cb and HFC-234bb; or

the first refrigerant portion of composition (xvi) further comprises (A) at least one additional compound selected from the group consisting of HFC-23, FC-

1216, HFC-143a, HFC-134a, HCFC-22, HCFC-124, FC-218, HFC-236fa and HFO-1225zc; and (B) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134; or

the first refrigerant portion of composition (xvii) further comprises (A) at least one additional compound selected from the group consisting of HFO-1326mxzE, HFO-1326nxzZ, HFC-346mdf, HFC-356mff and HFO-1336mzz(E); and (B) at least one additional compound selected from the group consisting of HCC-2120, HCC-1140, HCO-1130a, HCC-30, HCC-150a, cis-DCE, HCC-20, HCC-140a and HCO-1120; or

the first refrigerant portion of composition (xviii) further comprises (A) at least one additional compound selected from the group consisting of HFC-143a, HFC-41, HFC-134a, HCFC-22, CFC-12 and HCC-40; (B) at least one additional compound selected from the group consisting of HFC-161, HCC-40, isobutane, HCO-1140, HCC-160 and CFC-114a; and (C) at least one additional compound selected from the group consisting of HFO-1234yf, HFC-245cb, HFO-1225ye(E), HFO-1225ye(Z), HFO-1225zc, HFC-236fa, HFC-152a, HFC-143a, HFC-125, HFC-134a, HFO-1234zc, HFO-1233xf, HFO-1233zd, CFC-114, HCFC-124, 3,3,3-trifluoropropyne, HFO-1234ze(Z), HFC-245fa, HFC-227ea, HFO-1243zf, HFC-263fb and HFC-134.

14. The composition of claim 12 or claim 13, wherein an amount of the second refrigerant portion is from about 0.00001 to about 0.5 weight percent, based on a total weight of the composition.

15. A heat transfer system comprising the composition of any one of claims 12 to 14.

16. The heat transfer system of claim 15, wherein said heat transfer system is designed for use with or previously contained at least one of the residual refrigerants.

17. The heat transfer system of claim 15 or claim 16, wherein the heat transfer system comprises at least one member selected from the group consisting of air conditioners, freezers, refrigerators, heat pumps, water chillers, flooded evaporator chillers, direct expansion chillers, walk-in coolers, heat pumps, mobile refrigerators, mobile air conditioning units and combinations thereof.

18. The heat transfer system of claim 15 or claim 16, wherein the heat transfer system comprises at least one member selected from the group consisting of a commercial refrigeration system, a medium temperature refrigeration system, a low temperature refrigeration system, a residential refrigerator, a residential freezer, a heat pump, a high temperature heat pump, a chiller, an air conditioning system and an automotive air conditioning system.

19. The composition of any one of claims 12 to 14, wherein the composition is selected from the group consisting of spent thermal management fluid, used thermal management fluid, recovered thermal management fluid, recycled thermal management fluid and reclaimed thermal management fluid.

20. A method of obtaining the composition of any one of claims 12 to 14, the method comprising removing the composition from a heat transfer system.

21. A method of reclaiming refrigerant, the method comprising:

removing a refrigerant composition from a heat transfer system, the refrigerant composition being one of the compositions of claim 1;

performing at least one treatment selected from transferring, blending, distillation, nitrogen purging, filtration, dehydration, caustic scrubbing, moisture removal, acid removal, oil removal, decanting, composition ratio adjustment and combinations thereof to form a partially reclaimed refrigerant composition or a reclaimed refrigerant composition, wherein the at least one treatment does not involve removal or separation of the residual refrigerants; and

either storing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition in a container for use in another system or introducing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition back into the heat transfer system.

22. A method of reclaiming refrigerant, the method comprising:

removing a refrigerant composition from a heat transfer system, the refrigerant composition being one of the compositions of claim 12;

performing at least one treatment selected from transferring, blending, distillation, nitrogen purging, filtration, dehydration, caustic scrubbing, moisture removal, acid removal, oil removal, decanting, composition ratio adjustment and combinations thereof to form a partially reclaimed refrigerant composition or a reclaimed refrigerant composition, wherein the at least one treatment does not involve separation of the second refrigerant portion from the first refrigerant portion; and

either storing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition in a container for use in another system or introducing the partially reclaimed refrigerant composition or the reclaimed refrigerant composition back into the heat transfer system.

23. A method for replacing an original refrigerant with a replacement refrigerant in a heat transfer system that uses, used or was designed to use the original refrigerant, the method comprising charging the heat transfer system with the replacement refrigerant, wherein at least some of the original refrigerant remains in the heat transfer system as a residual refrigerant, and wherein:

(i) the original refrigerant comprises, consists essentially of or consists of at least one of HCFC-22, HFC-32, HFC-125 and combinations thereof; and the replacement refrigerant comprises, consists essentially of or consists of at least R-410A;

(ii) the original refrigerant comprises, consists essentially of or consists of at least HCFC-22, HFC-32, HFC-125, HFC-134a, HFC-143a and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least one of R-407C, R-404A, R-507 and combinations thereof;

(iii) the original refrigerant comprises, consists essentially of or consists of at least one of HCFC-22, HFC-32, HFC-125, HFC-134a, HFC-143a, HFO-1234yf and combinations thereof, and the replacement refrigerant

comprises, consists essentially of or consists of at least one of R-452B, R-454B and combinations thereof;

(iv) the original refrigerant comprises, consists essentially of or consists of at least one of CFC-12, HFC-134a, HFO-1234yf and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least R-513A;

(v) the original refrigerant comprises, consists essentially of or consists of at least one of CFC-12, HFC-32, HFC-134a, HFC-227ea, E-HFO-1234ze, HFO-1234yf, E-HFO-1336mzz, Z-HFO-1224yd and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least one of R-454A, R-454C, R-471A, R-476A, R-482A and combinations thereof;

(vi) the original refrigerant comprises, consists essentially of or consists of HCFC-22, CFC-115, CFC-125, HFC-134a, HFC-143a and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least one of R-404A, R-507 and combinations thereof;

(vii) the original refrigerant comprises, consists essentially of or consists of at least one of CFC-11, HFC-134a, HFO-1234yf and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least one of R-513A, R-515B and combinations thereof;

(viii) the original refrigerant comprises, consists essentially of or consists of at least one of HFC-32, HFC-125, HFC-134a, E-HFO-1234ze, HCFC-22, CFC-115, HFC-143a, HFO-1234yf and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least R-455A;

(ix) the original refrigerant comprises, consists essentially of or consists of at least one of HCFC-22, CFC-115, HFC-32, HFC-143a, HFC-125, HFC-134a, HFO-1234yf, E-HFO-1234ze, CO2 and combinations thereof, and the replacement refrigerant comprises, consists essentially

of or consists of at least one of R-448A, R-449A, R-407 and combinations thereof;

(x) the original refrigerant comprises, consists essentially of or consists of at least one of HCFC-22, CFC-115, HFC-143a, HFC-125, HFC-134a, E-HFO-1234ze, HFC-32, HFO-1234yf, CO2 and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least one of R-454C, R-455A, R-454A, and combinations thereof;

(xi) the original refrigerant comprises, consists essentially of or consists of at least one of CFC-11, HCFC-123, t-DCE, Z-HFO-1336mzz and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least R-514A; or

(xii) the original refrigerant comprises, consists essentially of or consists of at least one of CFC-12, HFC-32, HFC-134a, HFC-152a, HFO-1234yf, HFO-1132(E), E-HFO-1234ze and combinations thereof, and the replacement refrigerant comprises, consists essentially of or consists of at least R-444A.