



Refrigerants with the Future in Mind

Honeywell Refrigerants Products Guide

| | | Replaces | ASHRAE Number | GWP | | Chemical Name | Blend Components | Molecular Weight (g/mol) | Boiling Point @ 1 Atm,* (°F) | Critical Temperature* (°F) (ASTM D-1321) | Critical Pressure* (psia) | Saturated Liquid Density @ 86°F* (lb/ft³) | Specific Heat of Liquid @ 86°F* (Btu/lb • °F) | Specific Heat of Vapor @ Constant Pressure* (Cp), @ 86° and 1 Atm, (Btu/lb • °F) | ANSI / ASHRAE Standard 34-1992 Safety Group Classification |
|--|---|-----------------|-----------------|------|------|---|---|--------------------------|------------------------------|--|---------------------------|---|---|--|--|
| Commercial Refrigeration | | | | | | | | | | | | | | | |
| Solstice® N40 | Nonflammable, reduced GWP replacement for R404A or R22 in new or retrofit commercial refrigeration applications, especially low- and medium-temperature refrigeration, as well as transport refrigeration. | R-404A | R-448A | 1387 | 1273 | Difluoromethane Pentafluoroethane Tetrafluoroethane Trans-1,3,3,3-tetrafluoroprop-1-ene 2,3,3,3-Tetrafluoroprop-1-ene | R-32 / R-125 / R-134a / R-1234ze / R-1234yf | 86.3 | -50.6 | 178.9 | 648.6 | 67.1 | 0.371 | 0.20 | A1 |
| Solstice N13 | Nonflammable, reduced GWP replacement for R134a in medium-temperature applications like heat pumps, air-cooled and water-cooled chillers, district heating and cooling systems, vending machines and beverage dispensers, CO ₂ cascade systems and transport refrigeration. | R-134a | R-450A | 604 | 547 | Tetrafluoroethane Trans-1,3,3,3-tetrafluoroprop-1-ene | R-134a / R-1234ze | 108.7 | -10.1 | 220.0 | 553.8 | 72.4 | 0.335 | 0.21 | A1 |
| Genetron® 134a | Replaces CFC-12 in auto air conditioning and in residential, commercial and industrial refrigeration systems. Scheduled for phaseout in certain applications according to U.S. EPA Rule 20. Phaseout dates are specific to the application. | CFC-12 | R-134a | 1430 | 1300 | Tetrafluoroethane | — | 102.0 | -14.9 | 213.91 | 588.75 | 74.1 | 0.35 | 0.18 | A1 |
| Genetron 404A | A non-ozone-depleting replacement for R502 in low- and medium-temperature commercial refrigeration systems. Scheduled for phaseout in certain applications according to U.S. EPA Rule 20. R-404A is unacceptable in retrofit supermarkets as of July 20, 2016, and unacceptable in new supermarkets as of January 1, 2017. Other phaseout dates are specific to the application. | R-502 R-22 | R-404A | 3922 | 3943 | Pentafluoroethane Trifluoroethane Tetrafluoroethane | HFC-125 / HFC-143a / HFC-134a | 97.6 | -51.2‡ | 161.7 | 540.8 | 63.6 | 0.38 | 0.21 | A1 |
| Genetron Performax® LT | Non-ozone-depleting replacement for R22 and R-404A in low- and medium-temperature commercial refrigeration systems. | R-22 | R-407F | 1824 | 1674 | Difluoromethane Pentafluoroethane Tetrafluoroethane | HFC-32 / HFC-125 / HFC-134a | 82.1 | -50.9 | 181.7 | 622.9 | 64.8 | 0.35 | 0.19 | A1 |
| Genetron AZ-50® | A non-ozone-depleting azeotropic mixture of HFC-125 and HFC-143a, primarily designed to replace R502 in low- and medium-temperature commercial refrigeration applications such as supermarket display cases and ice machines. Scheduled for phaseout in certain applications according to U.S. EPA Rule 20. R-507 is unacceptable in retrofit supermarkets as of July 20, 2016, and unacceptable in new supermarkets as of January 1, 2017. Other phaseout dates are specific to the application. | R-502 R-22 | R-507 R-507A | 3985 | 3985 | Pentafluoroethane Trifluoroethane | HFC-125 / HFC-143a | 98.9 | -52.2‡ | 159.1 | 537.4 | 63.8 | 0.38 | 0.21 | A1 |
| Genetron 22 | Operating pressures are slightly lower than R-404A, R-407F and Solstice N40 (R-448A). Popular in residential, commercial and industrial applications. Will be phased out in the U.S. by 2020. | CFC-12 R-502 | R-22 | 1810 | 1760 | Chlorodifluoromethane | — | 86.5 | -41.5 | 205.1 | 723.7 | 73.1 | 0.31 | 0.16 | A1 |
| Vending Machines, Plug-ins and Domestic Refrigeration | | | | | | | | | | | | | | | |
| Solstice yf | A near drop-in replacement for R134a in automobile A/C and vending machines plug-ins and domestic refrigeration. | R-134a | R-1234yf | 4 | <1 | 2,3,3,3-Tetrafluoroprop-1-ene | — | 114 | -21 | 202.5 | 490.6 | 67 | 0.339 | 0.218 | A2L |
| Solstice ze | An energy-efficient, ultra-low GWP refrigerant replacement for R134a in medium temperature applications like heat pumps, air-cooled and water-cooled chillers, district heating and cooling systems, vending machines, plug-ins and domestic refrigeration, beverage dispensers, CO ₂ cascade systems and transport refrigeration. | R-134a | R-1234ze | 6 | <1 | Trans-1,3,3,3-tetrafluoroprop-1-ene | — | 114 | -2.2 | 228.9 | 527.2 | 71.6 | 0.335 | 0.214 | A2L |
| Organic Rankine Cycle | | | | | | | | | | | | | | | |
| Solstice zd | Nonflammable, ultra-low GWP replacement for R-123 for low pressure centrifugal chillers. Can also be used as a working fluid in ORC waste heat recovery applications. | R-123 | R-1233zd | <5 | 1 | Trans-1-chloro-3,3,3-trifluoropropene | — | 130.5 | 65 | 330 | 518 | 78 | 0.293 | 0.198 | A1 |
| Genetron 245fa | A low-temperature (90-350°C) working fluid for ORC. | CFC-11 | R-245fa | 1030 | 858 | Pentafluoropropane | — | 134 | 58.8 | 309.29 | 527.94 | 82.7 | 0.32 | 0.20 | A1 |

* NIST REFPROP 9.1 unless noted otherwise. ‡ Bubble point temperature. † N.C. Not Classified.

Honeywell Refrigerants Products Guide

| | | | Replaces | ASHRAE Number | GWP | | Chemical Name | Blend Components | Molecular Weight (g/mol) | Boiling Point @ 1 Atm,* (°F) | Critical Temperature* (°F) (ASTM D-1321) | Critical Pressure* (psia) | Saturated Liquid Density @ 86°F,* (lb/ft³) | Specific Heat of Liquid @ 86°F,* (Btu/lb • °F) | Specific Heat of Vapor @ Constant Pressure* (Cp), @86° and 1 Atm, (Btu/lb • °F) | ANSI / ASHRAE Standard 34-1992 Safety Group Classification |
|--|-----------------------|--|-----------------|---------------|------|------|---|------------------------------------|--------------------------|------------------------------|--|---------------------------|--|--|---|--|
| Mobile Air Conditioning | | | | | | | | | | | | | | | | |
| | Solstice® yf | A near drop-in replacement for R134a in automobile A/C applications. | R-134a | R-1234yf | 4 | <1 | 2,3,3,3-Tetrafluoroprop-1-ene | — | 114 | -21 | 202.5 | 490.6 | 67 | 0.339 | 0.218 | A2L |
| | Genetron® 134a | Replaces CFC-12 in auto air conditioning and in residential, commercial and industrial refrigeration systems. R134a is identified as a high GWP HFC refrigerant in the U.S. EPA's Rule 20 Proposal to be prohibited in certain applications. Scheduled for phaseout in mobile air conditioning. Unacceptable as of: - Model Year (MY) 2021, except where allowed under a narrowed use limit through MY 2025. - Acceptable, subject to narrowed use limits, for vehicles exported to countries with insufficient servicing infrastructure to support other alternatives, for MY 2021 through MY 2025. - MY 2026 for all newly manufactured vehicles. | CFC-12 | R-134a | 1430 | 1300 | Tetrafluoroethane | — | 102.0 | -14.9 | 213.91 | 588.75 | 74.1 | 0.35 | 0.18 | A1 |
| Air Conditioning and Heat Pumps | | | | | | | | | | | | | | | | |
| | Solstice N13 | Nonflammable, reduced GWP replacement for R134a in medium temperature applications like heat pumps, air-cooled and water-cooled chillers, district heating and cooling systems, vending machines and beverage dispensers, CO ₂ cascade systems. | R-134a | R-450A | 604 | 547 | Tetrafluoroethane Trans-1,3,3,3-tetrafluoroprop-1-ene | R-134a / R-1234ze | 108.7 | -10.1 | 220.0 | 553.8 | 72.4 | 0.335 | 0.21 | A1 |
| | Solstice ze | An energy-efficient, ultra-low GWP refrigerant replacement for R134a in medium temperature applications like heat pumps, air-cooled and water-cooled chillers, district heating and cooling systems, vending machines and beverage dispensers, CO ₂ cascade systems and transport refrigeration. | R-134a | R-1234ze | 6 | <1 | Trans-1,3,3,3-tetrafluoroprop-1-ene | — | 114 | -2.2 | 228.9 | 527.2 | 71.6 | 0.335 | 0.214 | A2L |
| | Genetron 407C | A non-ozone-depleting replacement for R22 in various air-conditioning applications, as well as in positive displacement refrigeration systems. | R-22 | R-407C | 1774 | 1624 | Difluoromethane Pentafluoroethane Tetrafluoroethane | HFC-32 / HFC-125 / HFC-134a | 86.2 | -46.5 [‡] | 186.9 | 671.4 | 69.6 | 0.38 | 0.20 | A1 |
| | Genetron 422D | A non-ozone-depleting replacement for R22 for residential A/C systems. No oil change is required. | R-22 | R-422D | 2733 | 2473 | Pentafluoroethane Tetrafluoroethane Isobutane | HFC-125 / HFC-134a / HC-600a | 109.9 | -45.8 [‡] | 175.2 | 566.4 | 69.9 | 0.35 | 0.20 | A1 |
| | Genetron AZ-20 | Leading refrigerant in residential and commercial A/C. | R-22 | R-410A | 2088 | 1923 | Difluoromethane Pentafluoroethane | HFC-32 / HFC-125 | 72.6 | -60.6 | 160.4 | 711.0 | 64.5 | 0.42 | 0.20 | A1 |
| | Genetron 22 | Operates with higher system pressures but low compressor displacement. Popular in residential, commercial and industrial applications. | CFC-12 R-502 | R-22 | 1810 | 1760 | Chlorodifluoromethane | — | 86.5 | -41.5 | 205.1 | 723.7 | 73.1 | 0.31 | 0.16 | A1 |
| | Genetron 134a | Replaces CFC-12 in auto air conditioning and in residential, commercial and industrial refrigeration systems. Scheduled for phaseout in certain applications according to U.S. EPA Rule 20. Phaseout dates are specific to the application. | CFC-12 | R-134a | 1430 | 1300 | Tetrafluoroethane | — | 102.0 | -14.9 | 213.91 | 588.75 | 74.1 | 0.35 | 0.18 | A1 |
| Chillers | | | | | | | | | | | | | | | | |
| | Solstice zd | Nonflammable, ultra-low GWP replacement for R-123 for low pressure centrifugal chillers. Can also be used as a working fluid in ORC waste heat recovery applications. | R-123 | R-1233zd | <5 | 1 | Trans-1-chloro-3,3,3-trifluoropropene | — | 130.5 | 65 | 330 | 518 | 78 | 0.293 | 0.198 | A1 |
| | Solstice ze | An energy-efficient, ultra-low GWP refrigerant replacement for R134a in medium temperature applications like heat pumps, air-cooled and water-cooled chillers, district heating and cooling systems, vending machines and beverage dispensers, CO ₂ cascade systems and transport refrigeration. | R-134a | R-1234ze | 6 | <1 | Trans-1,3,3,3-tetrafluoroprop-1-ene | — | 114 | -2.2 | 228.9 | 527.2 | 71.6 | 0.335 | 0.214 | A2L |
| | Solstice N13 | Nonflammable, reduced GWP replacement for R134a in medium temperature applications like heat pumps, air-cooled and water-cooled chillers, district heating and cooling systems, vending machines and beverage dispensers, CO ₂ cascade systems. | R-134a | R-450A | 604 | 547 | Tetrafluoroethane Trans-1,3,3,3-tetrafluoroprop-1-ene | R-134a / R-1234ze | 108.7 | -10.1 | 220.0 | 553.8 | 72.4 | 0.335 | 0.21 | A1 |
| | Genetron 134a | Replaces CFC-12 in auto air conditioning and in residential, commercial and industrial refrigeration systems. Scheduled for phaseout in certain applications according to U.S. EPA Rule 20. Phaseout dates are specific to the application. | CFC-12 | R-134a | 1430 | 1300 | Tetrafluoroethane | — | 102.0 | -14.9 | 213.91 | 588.75 | 74.1 | 0.35 | 0.18 | A1 |
| | Genetron 245fa | A non-ozone-depleting replacement for CFC-11 in centrifugal chillers. | CFC-11 | R-245fa | 1030 | 858 | Pentafluoropropane | — | 134 | 58.8 | 309.29 | 527.94 | 82.7 | 0.32 | 0.20 | A1 |
| | Genetron 123 | A very low ozone-depleting replacement for CFC-11 in centrifugal chillers. Scheduled for phaseout by 1/1/2020. | CFC-11 | R-123 | 77 | 79 | Dichlorotrifluoroethane | — | 152.9 | 82.1 | 362.6 | 531.1 | 90.6 | 0.25 | 0.17 | B1 |
| | Genetron 124 | A medium-pressure refrigerant for chiller applications. | CFC-12 | R-124 | 609 | 527 | Chlorotetrafluoroethane | — | 136.5 | 10.5 | 252.1 | 525.7 | 83.5 | 0.27 | 0.18 | N.C. [†] |

* NIST REFPROP 9.1 unless noted otherwise. ‡ Bubble point temperature. † N.C. Not Classified.

Honeywell Refrigerants Vapor Pressures

| Solstice® | | | | | | Genetron® | | | | | | | | | | | | | |
|------------|---------|---------|-----------------|--------------|-----------------|--------------|-------|-------|-------|-----------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------|----------------|----------------|
| Temp °F | R1234yf | R1234ze | N40 | | N13 | | 124 | 134a | 22 | 422D | | 407C | | Performax® LT | | 404A | | AZ-50® 507A | AZ-20® 410A |
| | | | Bubble (liq) | Dew (vap) | Bubble (liq) | Dew (vap) | | | | Bubble (liq) | Dew (vap) | Bubble (liq) | Dew (vap) | Bubble (liq) | Dew (vap) | Bubble (liq) | Dew (vap) | | |
| -40 | 11.5 | 19.1 | 4.7 | 0.4 | 16.6 | 17.0 | 22.1 | 14.8 | 0.6 | 2.4 | 2.3 | 2.7 | 4.6 | 4.9 | 0.5 | 4.9 | 4.3 | 5.4 | 0.8 |
| -35 | 8.9 | 17.4 | 7.3 | 1.9 | 14.5 | 14.9 | 20.9 | 12.5 | 2.6 | 4.6 | 0.8 | 5.1 | 0.9 | 7.5 | 1.9 | 7.5 | 6.8 | 8.1 | 4.1 |
| -30 | 6.0 | 15.4 | 10.2 | 4.2 | 12.2 | 12.7 | 19.4 | 9.8 | 4.9 | 7.1 | 3.0 | 7.7 | 1.6 | 10.4 | 4.2 | 10.3 | 9.6 | 11.0 | 17.8 |
| -25 | 2.8 | 13.3 | 13.3 | 6.8 | 9.6 | 10.2 | 17.8 | 6.9 | 7.4 | 9.9 | 5.4 | 10.6 | 3.9 | 13.6 | 6.8 | 13.4 | 12.7 | 14.1 | 21.9 |
| -20 | 0.4 | 10.9 | 16.7 | 9.6 | 6.7 | 7.3 | 16.0 | 3.7 | 10.2 | 12.9 | 8.1 | 13.7 | 6.5 | 17.1 | 9.7 | 16.8 | 16.0 | 17.6 | 26.3 |
| -15 | 2.3 | 8.2 | 20.4 | 12.7 | 3.5 | 4.2 | 14.0 | 0.1 | 3.2 | 16.2 | 11.0 | 17.2 | 9.3 | 20.9 | 12.9 | 20.5 | 19.7 | 21.4 | 31.2 |
| -10 | 4.4 | 5.3 | 24.5 | 16.1 | 0.0 | 0.8 | 11.8 | 1.9 | 16.5 | 19.8 | 14.3 | 20.9 | 12.3 | 25.1 | 16.4 | 24.6 | 23.6 | 25.5 | 36.5 |
| -5 | 6.7 | 2.0 | 28.9 | 19.8 | 1.9 | 1.5 | 9.3 | 4.1 | 20.1 | 23.7 | 17.8 | 25.0 | 15.7 | 29.6 | 20.2 | 28.9 | 27.9 | 30.0 | 42.2 |
| 0 | 9.2 | 0.8 | 33.7 | 23.9 | 4.0 | 3.6 | 6.6 | 6.5 | 24.0 | 27.9 | 21.7 | 29.5 | 19.4 | 34.5 | 24.4 | 33.7 | 32.6 | 34.8 | 48.4 |
| 5 | 12.0 | 2.7 | 38.9 | 28.3 | 6.4 | 5.8 | 3.6 | 9.1 | 28.3 | 32.5 | 25.8 | 34.3 | 23.5 | 39.8 | 28.9 | 38.8 | 37.7 | 40.1 | 55.2 |
| 10 | 14.9 | 4.8 | 44.5 | 33.1 | 8.9 | 8.3 | 0.3 | 11.9 | 32.8 | 37.5 | 30.4 | 39.5 | 27.9 | 45.6 | 33.9 | 44.3 | 43.1 | 45.7 | 62.4 |
| 15 | 18.1 | 7.2 | 50.6 | 38.4 | 11.6 | 11.0 | 1.6 | 15.0 | 37.8 | 42.8 | 35.3 | 45.2 | 32.7 | 51.8 | 39.3 | 50.2 | 49.0 | 51.8 | 70.3 |
| 20 | 21.6 | 9.7 | 57.1 | 44.0 | 14.6 | 13.9 | 3.6 | 18.4 | 43.1 | 48.5 | 40.7 | 51.2 | 37.9 | 58.5 | 45.1 | 56.6 | 55.3 | 58.3 | 78.7 |
| 25 | 25.4 | 12.5 | 64.0 | 50.1 | 17.9 | 17.1 | 5.7 | 22.1 | 48.8 | 54.7 | 46.4 | 57.7 | 43.5 | 65.6 | 51.4 | 63.4 | 62.1 | 65.3 | 87.7 |
| 30 | 29.4 | 15.4 | 71.5 | 56.6 | 21.4 | 20.6 | 8.0 | 26.1 | 55.0 | 61.3 | 52.6 | 64.7 | 49.6 | 73.3 | 58.2 | 70.7 | 69.3 | 72.7 | 97.4 |
| 35 | 33.8 | 18.7 | 79.5 | 63.7 | 25.3 | 24.4 | 10.5 | 30.4 | 61.5 | 68.4 | 59.3 | 72.2 | 56.1 | 81.5 | 65.5 | 78.6 | 77.1 | 80.7 | 107.7 |
| 40 | 38.4 | 22.2 | 88.0 | 71.2 | 29.4 | 28.4 | 13.2 | 35.0 | 68.6 | 75.9 | 66.4 | 80.2 | 63.2 | 90.3 | 73.4 | 86.9 | 85.4 | 89.3 | 118.8 |
| 45 | 43.4 | 26.0 | 97.1 | 79.3 | 33.8 | 32.8 | 16.1 | 40.1 | 76.1 | 84.0 | 74.0 | 88.8 | 70.7 | 99.7 | 81.8 | 95.8 | 94.2 | 98.3 | 130.6 |
| 50 | 48.8 | 30.0 | 106.8 | 88.0 | 38.6 | 37.5 | 19.3 | 45.4 | 84.1 | 92.6 | 82.2 | 97.9 | 78.8 | 109.7 | 90.8 | 105.3 | 103.6 | 108.0 | 143.2 |
| 55 | 54.5 | 34.4 | 117.1 | 97.3 | 43.7 | 42.5 | 22.7 | 51.2 | 92.6 | 101.7 | 90.9 | 107.6 | 87.5 | 120.4 | 100.5 | 115.3 | 113.6 | 118.3 | 156.5 |
| 60 | 60.6 | 39.1 | 128.0 | 107.2 | 49.2 | 47.9 | 26.3 | 57.4 | 01.6 | 111.4 | 100.2 | 117.9 | 96.8 | 131.7 | 110.8 | 126.0 | 124.2 | 129.2 | 170.7 |
| 65 | 67.0 | 44.1 | 139.6 | 117.7 | 55.1 | 53.7 | 30.2 | 64.0 | 111.2 | 121.7 | 110.1 | 128.9 | 106.7 | 143.7 | 121.8 | 137.3 | 135.5 | 140.8 | 185.8 |
| 70 | 73.9 | 49.5 | 151.9 | 129.0 | 61.4 | 59.9 | 34.4 | 71.1 | 121.4 | 132.6 | 120.7 | 140.5 | 117.3 | 156.4 | 133.5 | 149.3 | 147.4 | 153.0 | 201.8 |
| 75 | 81.3 | 55.2 | 164.9 | 140.9 | 68.1 | 66.5 | 38.9 | 78.7 | 132.2 | 144.1 | 131.8 | 152.8 | 128.6 | 169.9 | 146.0 | 162.0 | 160.1 | 165.9 | 218.7 |
| 80 | 89.0 | 61.3 | 178.6 | 153.6 | 75.2 | 73.5 | 43.7 | 86.7 | 143.6 | 156.3 | 143.7 | 165.8 | 140.5 | 184.1 | 159.2 | 175.4 | 173.4 | 179.6 | 236.5 |
| 85 | 97.2 | 67.8 | 193.1 | 167.0 | 82.8 | 81.0 | 48.8 | 95.2 | 155.7 | 169.2 | 156.2 | 179.6 | 153.2 | 199.1 | 173.3 | 189.5 | 187.5 | 194.1 | 255.4 |
| 90 | 105.9 | 74.8 | 208.4 | 181.2 | 90.9 | 89.0 | 54.3 | 104.3 | 168.4 | 182.8 | 169.5 | 194.1 | 166.7 | 215.0 | 188.2 | 204.5 | 202.4 | 209.3 | 275.4 |
| 95 | 115.1 | 82.1 | 224.4 | 196.3 | 99.4 | 97.4 | 60.1 | 113.9 | 181.8 | 197.1 | 183.6 | 209.4 | 181.0 | 231.7 | 203.9 | 220.2 | 218.1 | 225.4 | 296.4 |
| 100 | 124.9 | 89.9 | 241.4 | 212.3 | 108.5 | 106.4 | 66.2 | 124.2 | 195.9 | 212.2 | 198.4 | 225.5 | 196.1 | 249.3 | 220.6 | 236.8 | 234.6 | 242.3 | 318.6 |
| 105 | 135.1 | 98.2 | 259.1 | 229.1 | 118.0 | 115.8 | 72.7 | 135.0 | 210.8 | 228.0 | 214.0 | 242.4 | 212.1 | 267.8 | 238.3 | 254.2 | 252.1 | 260.1 | 341.9 |
| 110 | 145.9 | 106.9 | 277.8 | 246.9 | 128.2 | 125.8 | 79.6 | 146.4 | 226.4 | 244.7 | 230.5 | 260.3 | 229.0 | 287.2 | 256.9 | 272.5 | 270.4 | 278.8 | 366.4 |
| 115 | 157.3 | 116.1 | 297.4 | 265.7 | 138.9 | 136.4 | 86.9 | 158.4 | 242.8 | 262.3 | 247.9 | 279.0 | 246.9 | 307.6 | 279.6 | 291.8 | 289.6 | 298.5 | 392.3 |
| 120 | 169.2 | 125.9 | 317.9 | 285.6 | 150.2 | 147.6 | 94.6 | 171.2 | 260.0 | 280.7 | 266.3 | 298.6 | 265.8 | 329.0 | 297.4 | 312.1 | 309.9 | 319.2 | 419.4 |
| 125 | 181.8 | 136.2 | 339.4 | 306.5 | 162.1 | 159.4 | 102.8 | 184.6 | 278.0 | 300.0 | 285.5 | 319.2 | 285.7 | 351.5 | 319.3 | 333.3 | 331.2 | 340.9 | 447.9 |
| 130 | 195.0 | 147.0 | 362.0 | 328.5 | 174.6 | 171.8 | 111.3 | 198.7 | 296.9 | 320.2 | 305.8 | 340.7 | 306.7 | 375.0 | 342.4 | 355.7 | 353.5 | 363.8 | 477.9 |
| 135 | 208.9 | 158.4 | 385.5 | 351.8 | 187.8 | 184.9 | 120.4 | 213.6 | 316.7 | 341.5 | 327.2 | 363.3 | 328.8 | 399.7 | 366.8 | 379.1 | 377.0 | 387.8 | 509.4 |
| 140 | 223.4 | 170.5 | 410.2 | 376.3 | 201.7 | 198.7 | 129.9 | 229.2 | 337.4 | 363.7 | 349.6 | 387.0 | 352.1 | 425.4 | 392.4 | 403.7 | 401.7 | 413.0 | 542.5 |
| 145 | 238.7 | 183.1 | 435.9 | 402.1 | 216.2 | 213.1 | 139.9 | 245.7 | 359.0 | 387.0 | 373.3 | 411.7 | 376.6 | 452.4 | 419.5 | 429.6 | 427.7 | 439.5 | 577.3 |
| 150 | 254.7 | 196.4 | 462.8 | 429.4 | 231.5 | 228.3 | 150.4 | 262.9 | 381.7 | 411.4 | 398.2 | 437.5 | 402.5 | 480.6 | 448.0 | 456.8 | 455.1 | 467.4 | 613.9 |

High Boiling Temperature

| Temp °F | 123 | 245fa | R1233zd | Temp °F | 123 | 245fa | R1233zd |
|------------|-------|-------|---------|------------|-------|-------|---------|
| 35 | 19.5 | 13.1 | 14.7 | 170 | 50.5 | 90.5 | 73.2 |
| 40 | 18.2 | 10.8 | 12.8 | 175 | 55.3 | 98.2 | 79.4 |
| 45 | 16.68 | .4 | 10.7 | 180 | 60.3 | 106.3 | 86.0 |
| 50 | 15.05 | .7 | 8.3 | 185 | 65.6 | 114.8 | 92.9 |
| 55 | 13.22 | .7 | 5.8 | 190 | 71.2 | 123.7 | 100.1 |
| 60 | 11.2 | 0.2 | 3.0 | 195 | 77.0 | 133.1 | 107.7 |
| 65 | 9.0 | 2.00 | .0 | 200 | 83.2 | 143.0 | 115.7 |
| 70 | 6.6 | 3.91 | .6 | 205 | 89.7 | 153.4 | 124.1 |
| 75 | 4.0 | 5.93 | .4 | 210 | 96.4 | 164.2 | 132.9 |
| 80 | 1.2 | 8.25 | .3 | 215 | 103.5 | 175.6 | 142.0 |
| 85 | 0.9 | 10.67 | .3 | 220 | 111.0 | 187.5 | 151.6 |
| 90 | 2.5 | 13.29 | .5 | 225 | 118.7 | 200.0 | 161.6 |
| 95 | 4.2 | 16.0 | 11.9 | 230 | 126.9 | 213.0 | 172.1 |
| 100 | 6.1 | 19.0 | 14.4 | 235 | 135.4 | 226.6 | 183.1 |
| 105 | 8.1 | 22.3 | 17.1 | 240 | 144.2 | 240.8 | 194.5 |
| 110 | 10.3 | 25.8 | 20.0 | 245 | 153.5 | 255.7 | 206.4 |
| 115 | 12.6 | 29.5 | 23.1 | 250 | 163.1 | 271.1 | 218.8 |
| 120 | 15.1 | 33.5 | 26.5 | 255 | 173.2 | 287.3 | 231.7 |
| 125 | 17.7 | 37.8 | 30.0 | 260 | 183.6 | 304.1 | 245.2 |
| 130 | 20.6 | 42.4 | 33.8 | 265 | 194.5 | 321.7 | 259.2 |
| 135 | 23.6 | 47.2 | 37.8 | 270 | 205.8 | 340.0 | 273.8 |
| 140 | 26.8 | 52.4 | 42.0 | 275 | 217.6 | 359.1 | 289.0 |
| 145 | 30.2 | 57.9 | 46.5 | 280 | 229.9 | 379.0 | 304.8 |
| 150 | 33.8 | 63.7 | 51.3 | 285 | 242.6 | 399.8 | 321.2 |
| 155 | 37.6 | 69.9 | 56.3 | 290 | 255.8 | 421.5 | 338.3 |
| 160 | 41.7 | 76.4 | 61.6 | 295 | 269.6 | 444.1 | 356.1 |
| 165 | 46.0 | 83.3 | 67.2 | 300 | 283.8 | 467.9 | 374.6 |

Pressure: Psig
inches mercury vacuum

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Honeywell Refrigerants representative

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115 Tabor Road
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Mississauga, Ontario
L5L 3S6
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Fax: 905-608-6327

Asia-Pacific

Honeywell (China) Co., Ltd.
No 430, Li Bing Road
Zhang Jiang Hi-Tech Park
Pudong New Area, Shanghai 201203
China
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Fax: 86-21-5855-2719

Honeywell Japan Inc.
New Pier Takeshiba
South Tower Building, 20th Floor
1-16-1 Kaigan, Minato-ku,
Tokyo 050022, Japan
Phone: 81-3-6730-7000
Fax: 81-3-6730-7221

Honeywell Chemicals, Korea
6F Janghakjaedan, B/D 44-1
Bangpo-Dong, Seocho-Ku
Seoul137040, Korea
Phone: 8-22-595-0204
Fax: 8-22-595-4964

Honeywell Specialty Chemicals
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17 Changi Business Park Central 1
Honeywell Building
Singapore 486073
Phone: 65-6355-2828
Fax: 65-6783-2947

Honeywell Polymers (Australia) Pty.
Limited
Gr. Lvl. 71 Queens Road
Melbourne. 3002
Australia
Phone: 61-3-9529-1411
Fax: 61-3-9510-9837

Northern, Central, and Eastern Europe, Middle East and Africa

Honeywell Belgium N.V.
Interleuvenlaan 15i 3001 Heverlee,
Belgium
Phone: 32 16 391 212
Fax: 32 16 391 371
E-mail: fluorines.europe@honeywell.com

Southern Europe, Turkey and Israel

Honeywell Fluorine Products Italia Srl
V. Le Milanofiori El
20090 Assago - MI - Italia
Phone: 39-02-892589600
Fax: 39-02-57500815

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Southern Europe, Middle East
and Africa

Phone: +39-02-9379-6777
ext. 24 / 25 and 26
Fax: +39-02-9379-6761

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Phone: 1-973-455-6300
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