

| Refrigerant (ASHRAE#) | Refrigerant Supplier(s) | Refrigerant Reference(s) | Alternate for:             | Type                     | Refrigerant Components   | Refrigerant Composition (%) | Type        | ODP   | GWP    | Vapor Pressure (DP) PSIG |                      |                      | Compatible Lubricants* |
|-----------------------|-------------------------|--------------------------|----------------------------|--------------------------|--------------------------|-----------------------------|-------------|-------|--------|--------------------------|----------------------|----------------------|------------------------|
|                       |                         |                          |                            |                          |                          |                             |             |       |        | -10°F                    | +45°F                | +130°F               |                        |
| R12                   | Various                 |                          | N/A                        | CFC                      | 12                       | 100                         | Pure Fluid  | 1.000 | 2400   | 4.49                     | 41.68                | 181.01               | <i>MO, SA</i>          |
| R500                  | Various                 |                          |                            |                          | 12/152a                  | 74/26                       | Azeotrope   | 0.630 | 7900   | 7.76                     | 51.85                | 218.20               | <i>MO, SA</i>          |
| R502                  | Various                 |                          |                            |                          | 22/115                   | 49/51                       | Azeotrope   | 0.230 | 4500   | 22.56                    | 88.72                | 320.84               | <i>MO, SA</i>          |
| R22                   | Various                 |                          | R12                        | HCFC                     | 22                       | 100                         | Pure Fluid  | 0.050 | 1700   | 16.47                    | 76.02                | 296.80               | <i>MO, SA, POE</i>     |
| <b>R134a</b>          | Various                 |                          |                            | HFC                      | 134a                     | 100                         | Pure Fluid  | 0.000 | 1300   | 1.98                     | 39.98                | 198.92               | <i>POE, PVE</i>        |
| R513A                 | Chemours                | XP10                     |                            | HFO                      | R1234yf/134a             | 56/44                       | Azeotrope   | 0.000 | 573    | 4.53                     | 45.38                | 207.48               | <i>POE</i>             |
| R1234yf               | Honeywell               |                          |                            |                          | R1234yf                  | 100                         | Pure Fluid  | 0.000 | 4      | 4.40                     | 43.41                | 195.02               | <i>POE</i>             |
| R401A                 | Dupont/Allied           | MP39                     |                            | HCFC                     | 22/152a/124              | 53/13/34                    | Zeotrope    | 0.030 | 1100   | 2.40                     | 40.54                | 197.50               | <i>SA, MO</i>          |
| R401B                 | Dupont/Allied           | MP66                     |                            |                          | 22/152a/124              | 61/11/28                    |             | 0.035 | 1200   | 3.50                     | 44.00                | 210.00               | <i>SA, MO</i>          |
| R406A                 | Ind. Ref. Prod.         | GHG-12                   |                            |                          | 22/142b/600a             | 55/41/4                     |             | 0.036 | 1900   | 1.87                     | 37.33                | 179.00               | <i>MO, SA</i>          |
| R409A                 | Elf-Atochem             | FX56                     |                            |                          | 22/142b/124              | 60/15/25                    |             | 0.050 | 1500   | 2.15                     | 40.01                | 199.00               | <i>MO, SA</i>          |
| R414B                 | ICOR                    | Hot Shot                 |                            |                          | 22/124/600a/142b         | 50/39/1.5/9.5               | 0.031       | 1300  | 0.8**  | 35.40                    | 179.50               | <i>MO, SA</i>        |                        |
| <b>R290+</b>          | Various                 | Propane                  |                            | HC                       | N/A                      | 100                         | Pure Fluid  | 0.000 | 0      | 31.40                    | 85.40                | 273.30               | <i>POE, MO, SA</i>     |
| <b>R600a+</b>         | Various                 | Isobutane                | N/A                        |                          | 100                      | 0.000                       |             | 3     | 9.00   | 29.20                    | 110.50               | <i>MO, SA</i>        |                        |
| R402A                 | Dupont                  | HP80                     | R502                       | HCFC                     | 22/125/290               | 38/60/2                     | N-Azeotrope | 0.020 | 2700   | 26.00                    | 100.00               | 370.00               | <i>SA, POE</i>         |
| R402B                 | Dupont                  | HP81                     |                            |                          | 22/125/290               | 60/38/2                     |             | 0.030 | 2300   | 22.66                    | 91.67                | 345.00               | <i>SA, POE</i>         |
| R403B                 | Rhone-Poulenc           | R69L                     |                            |                          | 22/218/290               | 56/39/5                     |             | 0.025 | 4300   | 29.60                    | 103.50               | 362.80               | <i>MO, SA, POE</i>     |
| R408A                 | Elf-Atochem             | FX10                     |                            | HFC                      | 22/143a/125              | 47/46/7                     | Azeotrope   | 0.016 | 3000   | 19.40                    | 86.20                | 332.10               | <i>MO, SA, POE</i>     |
| <b>R404A</b>          | Various                 | HP62, FX70               |                            |                          | 125/143a/134a            | 44/52/4                     |             | 0.000 | 3800   | 23.96                    | 94.54                | 353.07               | <i>POE, PVE</i>        |
| <b>R507</b>           | Allied                  | AZ50                     |                            | HFC                      | 125/143a                 | 50/50                       | Zeotrope    | 0.000 | 3900   | 25.90                    | 98.90                | 367.80               | <i>POE</i>             |
| <b>R422C</b>          | ICOR                    | One Shot C               |                            |                          | 125/134a/600a            | 82/15/3                     |             | 0.000 | 3033   | 20.40                    | 88.70                | 354.10               | <i>POE, (MO, SA)</i>   |
| <b>R407A</b>          | Various                 | KLEA-60                  |                            |                          | 32/125/134a              | 20/40/40                    |             | 0.000 | 2000   | 29.90                    | 92.80                | 343.60               | <i>POE</i>             |
| <b>R407B</b>          | ICI                     | KLEA-61                  |                            |                          | 32/125/134a              | 10/70/20                    |             | 0.000 | 2700   | 20.77                    | 90.87                | 362.46               | <i>POE</i>             |
| R448A                 | Honeywell               | Solstice N20             |                            | HFO                      | 32/125/134/1234yf/1234ze | 26/26/21/7/20               | Zeotrope    | 0.000 | 1273   | 16.10                    | 79.40                | 329.00               | <i>POE</i>             |
| R449A                 | Chemours                | Opteon XP-40             | 32/125/134/1234yf          |                          | 24/25/26/25              | 0.000                       |             | 1397  | 31.32  | 93.19                    | 338.79               | <i>POE</i>           |                        |
| R452A #               | Chemours                | Opteon XP-44             |                            | 32/125/1234yf            | 11/59/30                 | 0.000                       | 2141        | 35.56 | 101.70 | 356.80                   | <i>POE</i>           |                      |                        |
| <b>R407C</b>          | Various                 | AC9000, KLEA-66          | R22                        | HFC                      | 32/125/134a              | 23/25/52                    | Zeotrope    | 0.000 | 1700   | 12.16                    | 69.86                | 303.43               | <i>POE, PVE, (SA)</i>  |
| <b>R410A</b>          | Various                 | AC9100, AZ20             |                            |                          | 32/125                   | 50/50                       | 0.000       | 2000  | 37.74  | 132.34                   | 478.87               | <i>POE, PVE</i>      |                        |
| <b>R404A</b>          | Various                 | HP62, FX70               |                            |                          | 125/143a/134a            | 44/52/4                     | 0.000       | 3800  | 23.96  | 94.54                    | 353.07               | <i>POE, PVE</i>      |                        |
| <b>R507</b>           | Allied                  | AZ50                     |                            |                          | 125/143a                 | 50/50                       | 0.000       | 3900  | 25.90  | 98.90                    | 367.80               | <i>POE</i>           |                        |
| <b>R417A</b>          | Various                 | NU22, Isceon MO59        |                            |                          | 125/134a/600             | 47/50/3                     | 0.000       | 1950  | 11.30  | 62.60                    | 260.00               | <i>POE, (MO, SA)</i> |                        |
| <b>R422A</b>          | Isceon                  | One Shot MO79            |                            |                          | 125/134a/600a            | 85/12/3                     | 0.000       | 2530  | 23.90  | 94.00                    | 351.60               | <i>POE, (MO, SA)</i> |                        |
| <b>R422B</b>          | Enuro                   | NU22B                    |                            |                          | 125/134a/600a            | 55/42/3                     | 0.000       | 2080  | 17.10  | 77.40                    | 300.60               | <i>POE, (MO, SA)</i> |                        |
| <b>R422C</b>          | ICOR                    | One Shot C               |                            |                          | 125/134a/600a            | 82/15/3                     | 0.000       | 3033  | 20.40  | 88.70                    | 354.10               | <i>POE, (MO, SA)</i> |                        |
| <b>R422D</b>          | Isceon                  | MO29                     |                            |                          | 125/134a/600a            | 65/32/3                     | 0.000       | 2700  | 19.80  | 84.20                    | 320.20               | <i>POE, (MO, SA)</i> |                        |
| <b>R427A</b>          | Forane                  | FX100                    |                            |                          | 32/125/143a/134a         | 15/25/10/50                 | 0.000       | 1830  | 10.80  | 65.60                    | 289.50               | <i>POE, (MO, SA)</i> |                        |
| <b>R438A</b>          | Dupont/Isceon           | MO99                     | 32/125/134a/600/601a       | 8/45/44/2/1              | 0.000                    | 2264                        | 11.60       | 67.70 | 292.00 | <i>POE, (MO, SA)</i>     |                      |                      |                        |
| <b>R407A</b>          | Various                 | KLEA-60                  | 32/125/134a                | 20/40/40                 | 0.000                    | 2107                        | 23.20       | 94.60 | 357.94 | <i>POE</i>               |                      |                      |                        |
| <b>R453A</b>          | Various                 | RS-70                    | 134a/32/125/227ea/600a/600 | 53.8/20/20/51.6/6        | 0.000                    | 1765                        | 10.68       | 64.15 | 282.56 | <i>POE, (MO, SA)</i>     |                      |                      |                        |
| R421A                 | Choice Ref.             |                          |                            | 125/134a                 | 58/42                    | 0.000                       | 2600        | 16.50 | 76.20  | 298.90                   | <i>POE, (MO, SA)</i> |                      |                        |
| R424A                 | Ref. Products           | RS-44                    |                            | 125/134a/600/600a/601a   | 50/47/11/1/1             | 0.000                       | 2011        | 5.80  | 51.20  | 245.70                   | <i>POE, (MO, SA)</i> |                      |                        |
| <b>R407A</b>          | Various                 | KLEA-60                  | R404A                      | HFC                      | 32/125/134a              | 20/40/40                    | Zeotrope    | 0.000 | 2000   | 29.90                    | 92.80                | 343.60               | <i>POE</i>             |
| R448A                 | Honeywell               | Solstice N20             |                            | 32/125/134/1234yf/1234ze | 26/26/21/7/20            | 0.000                       |             | 1273  | 16.10  | 79.40                    | 329.00               | <i>POE</i>           |                        |
| R449A                 | Chemours                | Opteon XP-40             |                            | 32/125/134/1234yf        | 24/25/26/25              | 0.000                       |             | 1397  | 31.32  | 93.19                    | 338.79               | <i>POE</i>           |                        |
| R452A #               | Chemours                | Opteon XP-44             |                            | 32/125/1234yf            | 11/59/30                 | 0.000                       |             | 2141  | 35.56  | 101.70                   | 356.80               | <i>POE</i>           |                        |

\* Compatible Lubricant: MO = Mineral Oil; SA = Synthetic Alkylate (also referred to as AB or Alkylbenze); POE = Polyol Ester; PVE = Polyvinyl Ether

Lubricants shown in **BOLD ITALIC** are recommended for use with the corresponding refrigerants. Consult Tecumseh's Policy Bulletin PB105 to verify approved compressor lubricants.

\*\* Inches of mercury below atmospheric pressure.

+ Local regulations apply to the use of Hydrocarbon refrigerants.

# U.S. EPA SNAP Approved for remote condensing unit applications.

**Notes:**

1. This listing is for reference only and does not represent an endorsement by Tecumseh Products Company LLC of any particular refrigerant supplier.
2. GWP, Global Warming Potential (for 100 year integration)

Tecumseh approved alternate R22 refrigerant, guidelines available  
 Tecumseh guidelines are available for these additional listed refrigerants

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