

Product information

| Refrigerants | Other common names | Environmental Impact | | EU F-gas regulation 517/2014 | | | Leak Detection ³ Refrigerant Charge (kg) | | |
|--------------|--------------------|----------------------|----------|-------------------------------|----------------------------|--|---|-----------------------|------------------------|
| | | GWP | GWP Band | Refrigeration Maintenance Ban | | | 5T CO ₂ e | 50T CO ₂ e | 500T CO ₂ e |
| | | | | Impacted? ¹ | 40T CO ₂ e (kg) | Potential Retrofit Alternatives ² | | | |
| R23 | | 14800 | High | Yes | 2,7 | None available | 0,3 | 3,4 | 34 |
| R32 | | 675 | Medium | No | - | - | 7,4 | 74,1 | 741 |
| R134a | | 1430 | Medium | No | - | XP10, HFO blends | 3,5 | 35,0 | 350 |
| R404A | | 3922 | High | Yes | 10,2 | R407A/F, R442A, R449A | 1,3 | 12,7 | 127 |
| R407A | | 2107 | Medium | No | - | R449A, HFO blends | 2,4 | 23,7 | 237 |
| R407C | | 1774 | Medium | No | - | R449A, HFO blends | 2,8 | 28,2 | 282 |
| R407F | Performax™ LT | 1825 | Medium | No | - | R449A, HFO blends | 2,7 | 27,4 | 274 |
| R410A | | 2088 | Medium | No | - | HFO blends | 2,4 | 24,0 | 240 |
| R417A | ISCEON® M059 | 2346 | Medium | No | - | - | 2,1 | 21,3 | 213 |
| R422A | ISCEON® M079 | 3143 | High | Yes | 12,7 | R427A, R438A | 1,6 | 15,9 | 159 |
| R422D | ISCEON® M029 | 2729 | High | Yes | 14,7 | R424A, R427A, R438A | 1,8 | 18,3 | 183 |
| R423A | ISCEON® 39TC | 2280 | Medium | No | - | - | 2,2 | 21,9 | 219 |
| R424A | RS-44 | 2440 | Medium | No | - | - | 2,0 | 20,5 | 205 |
| R426A | RS-24 | 1508 | Medium | No | - | - | 3,3 | 33,1 | 331 |
| R428A | RS-52 | 3607 | High | Yes | 11,1 | R427A, R438A | 1,4 | 13,9 | 139 |
| R434A | RS-45 | 3245 | High | Yes | 12,3 | Under development | 1,5 | 15,4 | 154 |
| R437A | ISCEON® M049Plus | 1805 | Medium | No | - | - | 2,8 | 27,7 | 277 |
| R438A | ISCEON® M099 | 2265 | Medium | No | - | - | 2,2 | 22,1 | 221 |
| R442A | RS-50 | 1888 | Medium | No | - | R449A, HFO blends | 2,6 | 26,5 | 265 |
| R448A | Solstice | 1387 | Medium | No | - | - | 3,6 | 36,05 | 360 |
| R449A | Opteon® XP-40 | 1397 | Medium | No | - | - | 3,6 | 35,8 | 358 |
| R450A | Solstice N13 | 605 | Medium | No | - | - | 8,26 | 82,64 | 826 |
| R452A | Opteon® XP-44 | 2141 | Medium | No | 18,7 | - | 2,3 | 23,4 | 234 |
| R507A | R507 | 3985 | High | Yes | 10,0 | R407A, R407F, R442A | 1,3 | 12,5 | 125 |
| R508B | SUVA® 95 | 13396 | High | Yes | 3,0 | None available | 0,4 | 3,7 | 37 |
| R513A | Opteon® XP-10 | 631 | Medium | No | 63,4 | - | 7,9 | 79,2 | 792 |
| M089 | | 3805 | High | Yes | 10,5 | None available | 1,3 | 13,1 | 131 |

¹ Service and maintenance ban impacts the use of gases with GWP 2500+ in Refrigeration equipment from 2020. Some exemptions apply. See f-gas regulations documents for more information.

² Suitability of potential retrofit replacements will depend on system design & cooling requirements. Not all systems will be suited to the retrofit gases. See retrofit guides for more details.

³ These gases often operate at temperatures below -50C. In these cases they will be suitable for an exemption from the service & maintenance ban.

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