

# A-Gas' Guide to Calculating CO2 Equivalent

## GWP REFRIGERANTS LIST

### HFC REFRIGERANTS GWP BELOW 2500



| ASHREA NUMBER | BRAND NAME             | GWP (AR4) |
|---------------|------------------------|-----------|
| R134a         | Suva 134a              | 1430      |
| R245FA        | Genetron 245fa         | 1030      |
| R32           |                        | 675       |
| R407A         |                        | 2107      |
| R407C         | Klea66, Suva 9000      | 1774      |
| R407F         | Performax LT           | 1825      |
| R410A         | AZ20                   | 2088      |
| R417A         | Isceon 59 / Solvay 22M | 2346      |
| R423A         | Isceon 39tc            | 2060      |
| R424A         | RS44                   | 2440      |
| R426A         | RS24                   | 1508      |
| R427A         | FX100                  | 2138      |
| R437A         | Isceon 49 plus         | 1805      |
| R438A         | Isceon 99              | 2252      |
| R442A         | RS50                   | 1888      |
| R448A         | Solstice® N40          | 1387      |
| R449A         | OPTEON® XP40           | 1397      |
| R450A         | Solstice® N13          | 604       |
| R452A         | OPTEON® XP44           | 2140      |
| R452B         | OPTEON® XL55           | 676       |
| R453A         | RS70                   | 1765      |
| R454A         | Opteon® XL40           | 238       |

### HFO REFRIGERANTS

| ASHREA NUMBER  | BRAND NAME   | GWP (AR4) |
|----------------|--------------|-----------|
| HFO1234yf      | XL10         | 4         |
| HFO1234ze      |              | 7         |
| HFO1233zd( E ) |              | 4.5       |
| HFO1233zd( E ) | Genesolv PFC | 4.5       |
| HFO1233zd( E ) | Genesolv LBA | 4.5       |

### NATURAL REFRIGERANTS

| ASHREA NUMBER | BRAND NAME     | GWP (AR4) |
|---------------|----------------|-----------|
| R170          | Ethane         | 6         |
| R290          | Care 40        | 3         |
| R600a         | Care 10        | 4         |
| R717          | Ammonia        | 0         |
| R744          | Carbon Dioxide | 1         |
| R1150         | Ethylene       | 4         |
| R1270         | Care 45        | 2         |
|               | Care 30        | 3         |
|               | Care 50        | 7         |

### HFC REFRIGERANTS GWP ABOVE 2500



| ASHREA NUMBER | BRAND NAME        | GWP (AR4) |
|---------------|-------------------|-----------|
| R23           |                   | 14800     |
| R404A         | FX70, HP62        | 3922      |
| R422A         | Isceon 79         | 3143      |
| R422D         | Isceon 29         | 2729      |
| R428A         | RS52              | 3607      |
| R434A         | RS45              | 3238      |
| R507          | Isceon 507 (AZ50) | 3985      |
| R508A         |                   | 13214     |
| R508B         | Suva 95           | 13396     |
|               | Isceon 89         | 3805      |



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Use the **GWP List** to calculate the CO2 equivalent with this formula **Charge x GWP ÷ 1000 = System charge in t CO2 eq**  
For example the CO2 equivalent of 10kg of 404A is calculated as follows:

|               |        |
|---------------|--------|
| Refrigerant   | R404A  |
| GWP           | 3922   |
| System charge | 10 kgs |
| Kg in 1 ton   | 1000   |

## Example

$$10 \times 3922 \div 1000 = 3.922 \text{ t CO2 eq}$$

Leak testing frequencies can be found using our [Leak Testing Guide](#).

GWP Values in accordance with IPCC Fourth Assessment Report (AR4).