

# Halocarbon 41 (Methyl Fluoride)



| Grade           | Semicon 4N | ULSI 4N5       |
|-----------------|------------|----------------|
| Purity, %       | 99.99      | 99.995         |
| Oxygen          | ≤20 ppmv   | < 5 ppmv       |
| Nitrogen        | ≤70 ppmv   | < 20 ppmv      |
| Carbon Dioxide  |            | < 10 ppmv      |
| Carbon Monoxide |            | < 10 ppmv      |
| Methane         |            | < 5 ppmv       |
| Water           | ≤10 ppmv   | < 2 ppmv       |
| Acidity as HF   |            | Please Inquire |

- A lot analysis is provided for each order. – Individual analysis is also available upon request.
- Pneumatic valves and JIS connections are available upon request.

| CYLINDER | Internal Volume                | Liters | 43.8      | 17.1      | 7.3       |
|----------|--------------------------------|--------|-----------|-----------|-----------|
|          | <b>Cylinder Sizes &gt;&gt;</b> |        | <b>QF</b> | <b>GF</b> | <b>UF</b> |
|          | Content                        | lbs    | 18        | 7         | 3         |
|          |                                | kg     | 8.2       | 3.2       | 1.4       |
|          | Change Point*                  | lbs    | 8.4       | 3.3       | 1.4       |

\*Recommended Cylinder Change Point at NTP, based on Phase Break, or the amount of product left in the cylinder when the liquid phase has completely evaporated and only gaseous product is left (estimate based on ideal gas behavior).

| SHIP | DOT Shipping Name  | Methyl Fluoride     | UN Number    | UN 2810      | Shipped as |
|------|--------------------|---------------------|--------------|--------------|------------|
|      | DOT Classification | 2.1 (Flammable Gas) | ECCN #       | EAR99        | Liquefied  |
|      | DOT Label          | FLAMMABLE GAS       | Harmonized # | 2903.30.2050 | Gas        |

| TECHNICAL DATA | Cylinder Pressure @NTP | 538 psig<br>38.85 atm                                |
|----------------|------------------------|--|
|                | Specific Volume @NTP   | 0.71 m <sup>3</sup> /kg<br>11.36 ft <sup>3</sup> /lb |
|                | CAS No                 | 593-53-3   |
|                | CGA/DISS/JIS           | 350/724/W22-14L                                      |
|                | Molecular Weight       | 34 g/mol   |

| Vapor Pressure | Temp, °C    | 0.0 | 15.5 | 21.0 | 32.2 | 43.3 |
|----------------|-------------|-----|------|------|------|------|
|                | Press, psig | 259 | 398  | 538  | 606  | 790  |
|                | Temp, °F    | 32  | 60   | 70   | 90   | 110  |

NTP = 21°C or 70°F and 101.3 kPa or 1 atm

| Cylinder | Treatment   | Nominal Diameter (OD)xHeight* |              | Material of Construction |       |
|----------|-------------|-------------------------------|--------------|--------------------------|-------|
|          |             | cm                            | Inches       | Cylinder                 | Valve |
| QF       | ULTRA-LINE® | 23x130/134/143                | 9x51/52.5/56 | CS                       | SS    |
| GF       | ULTRA-LINE® | 23x66/70/79                   | 9x26/27.5/31 | CS                       | SS    |
| UF       | ULTRA-LINE® | 15x51/55/64                   | 6x19/20.5/24 | CS                       | SS    |

\*Height is reported as the distance from the bottom of the cylinder to the cylinder neck/ center of the valve outlet/ top of the handwheel  
CS: Carbon Steel SS: Stainless Steel

