# Tungsten Hexafluoride. $WF_6$

## Product information

Tungsten hexafluoride is a tungsten precursor for tungsten, tungsten silicide and tungsten nitride thin films.

## Characteristics

Non flammable, colorless or yellow, odorless and/or pungent, water reactive.

## Physical data

| | | | | |
|---|---|---|---|---|
| **Molecular weight** | [g/mol] | 297.83 | | |
| **Boiling point** | at 1.013 bar [°C] | 17.3 | at 14.5 psi [°F] | 63.14 |
| **Density** | at 1.013 bar, 15 °C [kg/m³] | 12.9 | at 1 atm., 70 °F [lb/ft³] | 0.805 |
| **Vapor pressure** | at 21 °C (mmHg) | 863 | | |
| **Flammability range in air (% volume)** | | - | | |

## Shipping information

| UN number | CAS number | EC number | DOT label | Hazard labels required |
|---|---|---|---|---|
| 2196 | 7783-82-6 | 232-029-1 | Toxic gas, corrosive | ADR Class 2, 2TC<br>DOT Class 2.3 |

## Product specification

| Purity grade | Typical purity | Typical impurities [ppm] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | $O_2$+Ar | $N_2$ | $CO_2$ | CO | $CF_4$ | Acidity(HF) | $SF_6$ | $SiF_4$ |
| 5.0N | ≥99.999 % | ≤1 | ≤3 | ≤2 | ≤1 | ≤1 | ≤20 | ≤1 | ≤1 |
| 5.5N | ≥99.9995 % | ≤0.5 | ≤1 | ≤1 | ≤0.3 | ≤0.3 | ≤10 | ≤0.5 | ≤0.5 |

| Purity grade | Typical metal impurities [ppbw liquid phase] | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mo | Ni | Fe | Ca | Cd | K | Cu | Al | As | B | Cr | Na | U | Th | Mn | Mg |
| 5.0N | 25 | 100 | 20 | | | 10 | 5 | | | | 10 | 5 | 0.1 | 0.1 | | |
| 5.5N | 5 | 50 | 10 | 10 | 1 | 5 | 1 | 3 | 1 | 1 | 5 | 1 | 0.1 | 0.1 | 1 | 1 |

→ **Tungsten Hexafluoride.** Product datasheet.

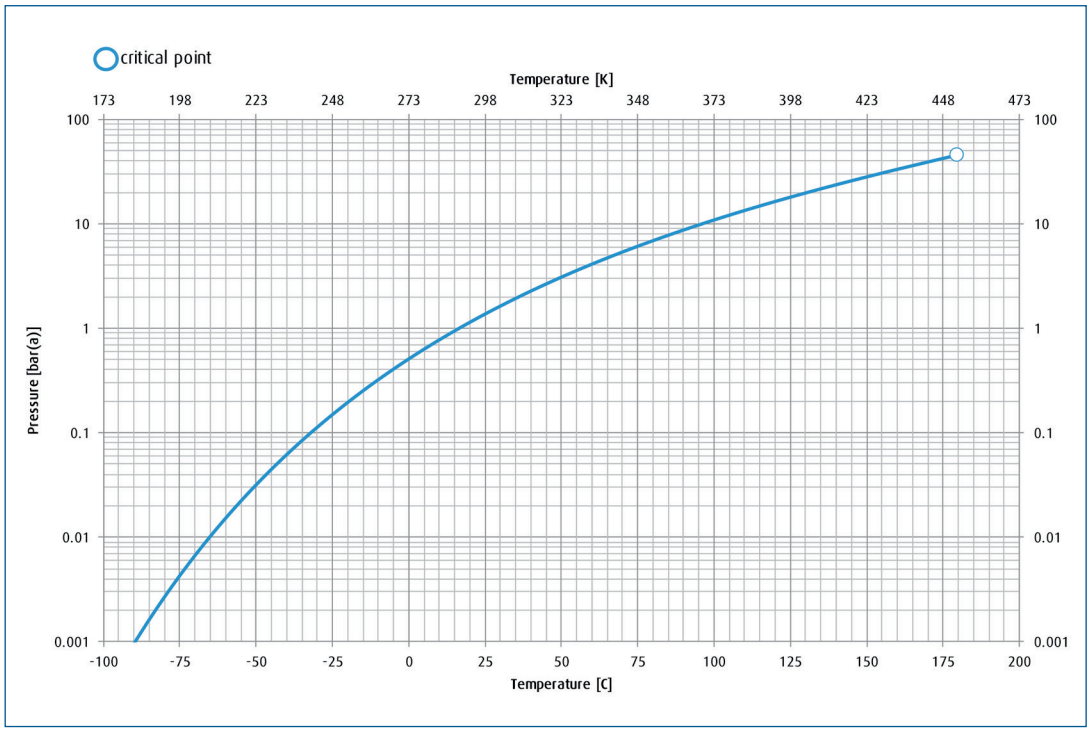
## Packaging information

US

| Package options | Cylinder designation | Cylinder internal volume | Cylinder material | Cylinder diameter | Cylinder height to valve outlet | Cylinder tare weight | Fill contents | Pressure (psig) @ 70° | Valve outlet [2] | Valve material |
|---|---|---|---|---|---|---|---|---|---|---|
| Cylinder | 44 | 17L | Nickel | 6.6 in | 43 in | 88 lb | 121 lb | 2.4 | CGA 638 | Ni |
| Cylinder | 41 | 4.5L | Nickel | 4.5 in | 30 in | 19.4 lb | 30 lb | 2.4 | CGA 638 | Ni |
| Cylinder | 209 | 44L | Nickel Plated Steel | 9 in | 52 in | 130 lb | 125 lb | 2.4 | CGA 638 | Ni |
| Cylinder | 89 | 16L | Nickel Plated Steel | 7 in | 31 in | 70 lb | 45 lb | 2.4 | CGA 638 | Ni |
| Cylinder | 39 | 8L | Nickel Plated Steel | 6.7 in | 18.2 in | 40 lb | 18 lb | 2.4 | CGA 638 | Ni |

Please inquire about other package size availability

## Vapor pressure curve




## Additional information

The information, recommendations, and data contained in this publication are intended to give basic guidance for safe handling and use of gases. For more information, please refer to Safety Data Sheets. You can locate these through the Linde Safety Data Sheet Search. It is essential for the safe use of gases that personnel are properly trained and are fully aware of the possible hazards. Further information and advice on any matter relating to the safe handling or use of these products may be obtained from the nearest Linde office.

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