20% Fluorine Nitrogen mixture. 20% F_2/N_2 mixture

Product information

Fluorine mixtures can be used mainly to clean non-plasma deposition chambers and diffusion furnace for silicon-based films. Typical mixtures is composed 20% F_2 in N_2 balance, and filled at high pressure in cylinder or larger packages. As fluorine is corrosive, toxic, and highly reactive, its storage entails risk; thus the use of 20% F_2/N_2 mixtures is treated as a safer manner to handle than pure F_2 at comparable total pressures.

Characteristics

Pale yellow gas with sharp odor. Ignites most organic materials and metals. Highly corrosive. See comprehensive handling directives. Gas density is heavier than air.

Physical data F_2

Molecular weight	[g/mol]	37.997		
Boiling point	at 1.013 bar [°C]	-188.2	at 14.5 psi [°F]	-306.74
Density	at 1.013 bar, 15 °C [kg/m³]	1.608	at 1 atm., 70 °F [lb/ft³]	0.098
Vapor pressure	at 0 °C [bar]	-	at 32 °F [psi]	-
	at 20 °C [bar]	-	at 70 °F [psi]	-
Flammability range in air (% volume)		Non combustible		

Physical data N_2

Molecular weight	[g/mol]	28.014		
Boiling point	at 1.013 bar [°C]	-195.8	at 14.5 psi [°F]	-320.42
Density	at 1.013 bar, 15 °C [kg/m³]	1.185	at 1 atm., 70 °F [lb/ft³]	0.072
Vapor pressure	at 0 °C [bar]	-	at 32 °F [psi]	-
	at 20 °C [bar]	-	at 70 °F [psi]	-
Flammability range in air (% volume)		Non combustible		

Product specification

	Purity grade	Typical purity	Typical impurities [ppm]		
			Air	CF_4	HF
F_2	3.0N	≥99.9 %	≤200	≤20	≤100
N_2	5.0N	≥99.999 %			

Contact our team for higher grade or different specification products.

Shipping information

UN number	CAS number	EC number	DOT label	Hazard labels required
3306	F_2 7782-41-4	231-954-8	Poison gas, Oxidizing, Corrosive	ADR Class 2.3 (5.1, 8) DOT Class 2.3 (5.1, 8)
	N_2 7727-37-9	231-783-9		

→ **20% Fluorine Nitrogen mixture.** Product datasheet.

Packaging information

	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	Valve material
US	Cylinder	300	49.6	Steel	6.25	56	143 lbs	Note (1)	Note (1)	CGA 679 ASB/CGA 728	SS

Note (1)
Fill content and pressure dependent on mixture provided
Please inquire with Product Management about package availability

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.

Please visit www.linde.com/electronics for Linde Electronics sales offices information.

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