

ELECTRONIC GAS

NITROGEN TRIFLUORIDE NF₃

Nitrogen Trifluoride is a colorless, stable, oxidizing, toxic gas with a characteristic moldy odor. It is used in plasma or thermal cleaning of CVD reactors. It is also a selective reagent for silicon dioxide etching. It is shipped in steel cylinders as a non-liquefied gas.

Container Information			
CYLINDER SIZE	CONTENTS		Pressure @ 21.1°C Valve Outlet DOT Shipping Description: DOT Shipping Labels DOT Guide No. CAS Registry No.
	LB	KG	
044	40	18	1450 psig CGA-330 / DISS-640 Nitrogen Trifluoride 2.2, UN 2451 Non-flammable Gas Oxidizer
016	17	7.7	
010	10	4.5	15 7783-54-2

Specifications			
COMPONENT NITROGEN TRIFLUORIDE	ULSI 99.995% min	VLSI 99.99% min	ELECTRONIC 99.9% min
Carbon Dioxide	< 1 ppm	< 5 ppm	< 10 ppm
Carbon Monoxide	< 0.5 ppm	< 1 ppm	< 10 ppm
Nitrogen	< 2 ppm	< 2 ppm	< 50 ppm
Oxygen + Argon	< 5 ppm	< 5 ppm	< 50 ppm
Water	< 1 ppm	< 1 ppm	< 1 ppm
Carbon Tetrafluoride	< 25 ppm	< 50 ppm	< 700 ppm
Nitrous Oxide	< 2 ppm	< 2 ppm	< 10 ppm
Sulfur Hexafluoride	< 10 ppm	< 10 ppm	< 20 ppm

SHELF LIFE: 2 years

Physical Properties	
Molecular Weight	71.002
Flammability Limits in air	Non-flammable
Specific Gravity, Gas @ 70°F(21.1°C), 1 atm(Air=1)	2.46
Density, Gas @ 70°F(21.1°C), 1 atm	0.185lbs/ft ³ (2.97g/l)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	5.4ft ³ /lb (0.337l/g)
Boiling Point @ 1 atm	-200.2°F (-129.0°C)
Critical Temperature	-38.7°F (-39.3°C)
Critical Pressure	657.2 psia (45.3 bar)
Toxicity	
TLV	10 ppm