

ELECTRONIC GASES

NITROGEN TRIFLUORIDE NF_3

Nitrogen Trifluoride is a colourless, stable, toxic gas with a characteristic moldy odor. It is shipped in steel cylinders as a non-liquefied gas.

Container Information

CYLINDER SIZE	CONTENTS		Pressure@21.1°C	1450 psig
	LB	KG		
044	44	20	Valve Outlet	CGA-330
016	17	7.7	DOT Shipping Description:	Nitrogen Trifluoride, 2.2, UN 2451
			DOT Shipping Labels	Nonflammable Gas and Oxidizer
			DOT Guide No.	15
			CAS Registry No.	7783-54-2

Specifications

COMPONENT	ULSI	VLSI	ELECTRONIC
NITROGEN TRIFLUORIDE	99.995%min	99.9%min	99.7%min
Carbon Dioxide	< 4 ppm	< 10 ppm	< 25 ppm
Carbon Monoxide	< 0.5 ppm	< 10 ppm	< 25 ppm
Nitrogen	< 10 ppm	< 50 ppm	< 700 ppm
Oxygen + Argon	< 6 ppm	< 50 ppm	< 700 ppm
Water	< 1 ppm	< 1 ppm	< 1 ppm
Carbon Tetrafluoride	< 25 ppm	< 700 ppm	< 1500 ppm
Nitrous Oxide	< 2 ppm	< 10 ppm	< 50 ppm
Sulfur Hexafluoride	< 1 ppm	< 50 ppm	< 50 ppm

SHELF LIFE: 2 years

Physical Properties

Molecular Weight	71.002
Flammability Limits in air	Nonflammable
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