NITROUS OXIDE N_2O

Nitrous Oxide is a nontoxic, nonflammable, colorless gas with a slightly sweet taste and odor. The odor is subjective and therefore not reliable, and should not be used to detect the presence of the gas. It is stable and nonreactive under normal conditions, but becomes a strong oxidizing agent at elevated tempertures and pressure. Nitrous Oxide is shipped as a liquefied gas under its own vapor pressure.

Container Information

CYLINDER SIZE	CONTENTS LB	CONTENTS KG
044	60	27.2
016	20	9.0
008	10	4.5

Pressure@21.1˚C	745 psig
Valve Outlet	std: CGA-326 opt: DISS-712
DOT Shipping Description:	Nitrous Oxide, Compressed, 2.2, UN 1070
DOT Shipping Labels	Nonflammable Gas
DOT Guide No.	14
CAS Registry No.	1024-97-2

Specifications

COMPONENT NITROUS OXIDE	ULSI 99.9998%min	VLSI 99.9995%min	ELECTRONIC 99.997%min
Ammonia	< 100 ppb	< 1 ppm	
Carbon Dioxide	< 100 ppb	< 1 ppm	< 2 ppm
Carbon Monoxide	< 100 ppb		
Nitric Oxide	< 100 ppb	< 1 ppm	< 1 ppm
Nitrogen	< 1000 ppb	< 2 ppm	< 10 ppm
Nitrogen Dioxide	< 100 ppb	< 1 ppm	< 1 ppm
Oxygen + Argon	< 100 ppb	<500 ppb	< 2 ppm
THC (as Methane)	< 100 ppb	<500 ppb	< 1 ppm
Water	< 100 ppb	< 1 ppm	< 3 ppm

SHELF LIFE: 2 years

Physical Properties

Molecular Weight	44.01
Flammability Limits in air	Nonflammable
Specific Gravity, Gas @ 70˚F(21.1˚C), 1 atm(Air=1)	1.53
Density, Gas @ 70˚F(21.1˚C), 1 atm	0.1146lb/ft^3 (1.947g/l)
Specific Volume, Gas @ 70˚F(21.1˚C), 1 atm	8.73ft^3/lb (0.514l/g)
Boiling Point @ 1 atm	-127.4˚F (-88.5˚C)
Melting Point @ 1 atm	-131.5˚F (-90.81˚C)
Critical Temperature	97.6˚F (36.4˚C)
Critical Pressure	1053 psia (72.6 bar)
Toxicity PEL /TLV	50 ppm

ULSI Metals Specifications

ELEMENT	SYMBOL	GAS PHASE	LIQUID PHASE
Antimony	Sb	< 1	< 1
Cadmium	Cd	< 10	< 10
Calcium	Ca	< 10	< 10
Chromium	Cr	< 10	< 10
Cobalt	Co	< 10	< 10
Copper	Cu	< 10	< 10
Gallium	Ga	< 1	< 10
Germanium	Ge	< 10	< 10
Iron	Fe	< 50	< 50
Lead	Pb	< 10	< 10
Lithium	Li	< 1	< 1
Magnesium	Mg	< 10	< 10
Manganese	Mn	< 5	< 5
Molybdenum	Mo	< 1	< 1
Nickel	Ni	< 10	< 10
Potassium	K	< 1	< 1
Silicon	Si	< 10	< 10
Sodium	Na	< 10	< 10
Tin	Sn	< 1	< 1
Zinc	Zn	< 10	< 10

*all values in ppb, lot analysis only