



High-Purity Nitrous Oxide

Nitrous Oxide



Properties and Classification

Appearance: Colorless gas or liquid

UN Number: 1070 (compressed gas)
2201 (liquefied gas)

Odor: Sweet aroma

CAS Number: 10024-97-2

* Refer to MSDS for detailed information on the properties and safety of the product.

Specification

Purity	vol%	Min. 99.999
O ₂	volppm	Max. 2.0
N ₂	volppm	Max. 3.0
CH ₄	volppm	Max. 1.0
CO	volppm	Max. 1.0
CO ₂	volppm	Max. 0.1
H ₂ O	volppm	Max. 2.0



Cylinder

Item		10L cylinder	47L cylinder
Size	Inside diameter	140mm *	232mm *
	Height (to the neck portion)	850mm *	1195mm *
	Height (with a protective cap) *	1000mm *	1340mm *
	Valve nozzle height (center) *	885mm	1230mm *
Loading weight		7.5kg	30kg *
Material		Manganese steel (Clean-S-treated)	

* Estimated values for when a standard valve is mounted on a standard cylinder.
The accuracy of these values is not guaranteed.

Valve

Nozzle size	φ22 mm X 14 right-hand threads
Material	BRASS

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Physical & Chemical Properties

Item	Unit	Data
Chemical formula		N ₂ O
Molecular weight		44.01
Boiling point	°C	-88.48
	°F	-127.2
Melting point (87.8 kPa)	°C	-90.85
Liquid density (boiling point)	kg/L	1.226
Gas density (0° C, 101.3 kPa)	g/L	1.977
Specific gravity (air: 1) (0° C, 101.3 kPa)		1.977
Critical temperature	°C	36.41
Critical pressure	MPa	7.24
Flammability		Not applicable
Toxicity		Not applicable
Latent heat of vaporization (0° C, 1013 MPa)	kJ/kg	376.1
Maximum permissible concentration (ACGIH, TLV-TWA)	ppm	50
Explosive limit (in air, 35° C, 101.3 kPa)		—

Temperature — Vapor Pressure Curve

