

Medical Drug Gases

Nitrous Oxide (N₂O) USP

Cylinder Color: Blue

A colorless anesthetic gas, with a slightly sweetish odor and taste that is about one and one half times as heavy as air. Nitrous oxide is nonflammable, but it is an oxidizer and will support combustion of flammable materials. Nitrous oxide is not life-supporting and will act as a simple asphyxiant by displacing air. Nitrous oxide is shipped as a liquefied high-pressure gas at its vapor pressure of 745 psig (54.2 kg/cm₂) at 70° F (21° C).

Medical Applications

As an analgesic, often in combination with other agents for anesthesia. Also used in cryosurgery.

Caution

Nitrous oxide has anesthetic properties at high concentration and can induce hysteria, dizziness, unconsciousness and death. Some epidemiologic studies suggest that long term exposure may have certain health hazards, including neurological and reproductive effects. The National Institute of Occupational Safety and Health (NIOSH) has recommended a worker exposure limit TWA of 25 ppm during anesthetic and analgesic administration.

Before use, you should read and fully understand the Material Safety Data Sheet (MSDS) for this product.

SPECIFICATIONS

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|--|---|
| Major Hazards | Vigorously Supports Combustion & Can Cause Rapid Suffocation |
| Exposure Limit | TLV: TWA of 50 ppm (ACGIH 1995-2001) |
| Fire Potential | Oxidizer & Decomposition |
| Odor | Sweet |
| Mol. Wt. | 44.013 |
| Sp. Gr. (Air = 1) 70° F (21° C) | 1.53 |
| Critical Temperature | 97.6° F (37° C) |
| Critical Pressure | 1053 psia (74.0 kg/cm ² abs) |
| Specific Volume | 8.8 ft ³ /lb at 70° F (0.54 m ³ /kg at 15° C) |
| CAS Registry No. | 10024-97-2 |
| DOT Description | Nitrous Oxide, Compressed, 2.2, UN1070 Nitrous Oxide, Refrigerated Liquid, 2.2, UN2201 |

PURITY SPECIFICATIONS

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|-----------------------------|------------------------------|
| USP | 99.0% N ₂ O, min. |
| CO | <10 ppm |
| CO₂ | <300 ppm |
| NO | <1 ppm |
| NO₂ | <1 ppm |
| NH₃ | <25 ppm |
| Halogens | <1 ppm |
| H₂O | <200 ppm |

| VALVE CONNECTION | CYLINDER SIZE | CONTENTS | PRESSURE psig @ 70° F | NOMINAL GROSS WT. | PART NUMBER | RECOMMENDED Regulator or Valve | MODEL/PAGE |
|------------------------------|---------------|---|-------------------------------------|----------------------|-------------|-----------------------------------|------------|
| CGA 326 (Threaded) | 200 | 64 lb 29.0 kg | 745 psig 52.4 kg/cm ² | 198 lb 89.8 kg | NS USP200+ | Regulator | 75/59 |
| CGA 326 (Threaded) | 190 | 56 lb 25.4 kg | 745 psig 52.4 kg/cm ² | 190 lb 86.2 kg | NS USP190+ | Regulator | 75/59 |
| CGA 326 (Threaded) | 180LT | 389 lb 176 kg | 350 psig 2143 kPA | 673 lb 460 kg | NS USPLT180 | Regulator | 75/59 |
| CGA 910 (Pin-Indexed) | ME | 6 lb 7 oz 2.92 kg | 745 psig 52.4 kg/cm ² | 21 lb 9.52 kg | NS USPME | Regulator | 75/59 |
| CGA 910 (Pin-Indexed) | MD | 3 lb 13 ¹ / ₄ oz 1.74 kg | 745 psig 52.4 kg/cm ² | 13.4 lb 6.08 kg | NS USPMD | Regulator | 75/59 |