

1. Acceptable USP Test Methods & Specifications for Nitrous Oxide

| USP Test | Method | | Specification |
|------------------------|---------------------------|--|--|
| Identification | A | Pressure Differential (V) | Within 50 psi of N ₂ O Control |
| | B | CO ₂ Detector Tube (V) Draeger Tube 8101811 See N2O 100 a14 | Passes with no color change observed (<i>distinction from carbon dioxide</i>) |
| | C | Chemical absorption using pyrogallol (V)* | The gas is not absorbed, and the solution does not become brown |
| Assay (Purity) ≥ 99.0% | Gas Chromatograph (L) | | Not more than 1.0% of air is present, determined as directed in the N2O 100 a12 Assay. |
| | Pressure Differential (V) | | Per N2O 100 a13 Nitrous Oxide Pressure Difference Chart |

* The pyrogallol test is dangerous and not required for cylinder fill plants who buy from certified N₂O producers and who do not use their oxygen fill system for filling nitrous oxide.

| Contaminant Tests | Method | Specification |
|---|--|----------------------|
| Water (V) | Draeger Tube 6728531 with 2 lpm flowmeter for 25 minutes | ≤ 150 mg/cubic meter |
| Ammonia (V) | Draeger Tube CH 20501 | ≤ 25 ppm |
| Nitric Oxide (V) | Draeger Tube CH 29401 or 8103661 | ≤ 1 ppm |
| Carbon Monoxide (V) | Draeger Tube CH 25601 or 6733051 | ≤ 10 ppm |
| Nitrogen Dioxide (L) | Draeger Tube CH 29401 or 8103661 | ≤ 1 ppm |
| Halogens (V) | Draeger Tube CH 24301 | ≤ 1 ppm |
| Carbon Dioxide (V) | Draeger Tube 8101811 | ≤ 300 ppm |
| The tests are to be completed in the order listed above and per the phase (V = vapor and L = liquid) See N2O 100 a14 for sample phase guidance for bulk storage and transportation containers. | | |