CGA

Compressed Gas Association

The Standard For Safety Since 1913

CGA G-8.2—2017

COMMODITY SPECIFICATION FOR NITROUS OXIDE

SEVENTH EDITION

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Work Item 16-041
Medical Gases Committee

NOTE—Technical changes from the previous edition are underlined.

SEVENTH EDITION: 2017
SIXTH EDITION: 2010
FIFTH EDITION: 2007
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Tables

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1 Scope

This publication describes the specification requirements for nitrous oxide manufactured by various processes. All references should be to the current edition of CGA G-8.2, *Commodity Specification for Nitrous Oxide*.

WARNING: *For safety reasons, do not permit nitrous oxide to come in contact with oil, grease, asphalt, or any substance that has been determined to be incompatible with oxidizers. Use equipment cleaned for oxidizer service in accordance with the current edition of CGA G-4.1,* Cleaning Equipment for Oxygen Service [1].[1]

2 Definitions

2.1 Publication terminology

2.1.1 Shall
Indicates that the procedure is mandatory. It is used wherever the criterion for conformance to specific recommendations allows no deviation.

2.1.2 Should
Indicates that a procedure is recommended.

2.1.3 May
Indicates that the procedure is optional.

2.1.4 Will
Is used only to indicate the future, not a degree of requirement.

2.1.5 Can
Indicates a possibility or ability.

2.2 Technical definitions

2.2.1 Container
Portable compressed gas cylinders and liquid containers made in accordance with Title 49 of the U.S. *Code of Federal Regulations* (49 CFR) Parts 100-199; Transport Canada's (TC) *Transportation of Dangerous Goods Regulations*; or *ASME Boiler & Pressure Vessel Code*, Section VIII, Division 1 [2, 3, 4].

2.2.2 Lot
An amount of a product produced during a period of time indicated by a specific code or some other unique identifying characteristic.

2.2.3 Parts per million
ppm (v/v) = parts per million by volume.

2.2.4 Percent
Percent (v/v) = parts per hundred by volume.

2.2.5 Water/dew point
Water, measured in ppm (v/v) or as dew point in degrees Fahrenheit, is expressed at 1 atmosphere absolute (101 kPa, abs). To convert to other units, see Table 3.

3 Classification

3.1 Types

Nitrous oxide in containers at ambient temperatures is in both gaseous and liquid states. Liquid nitrous oxide at subambient temperatures in bulk containers is in both gaseous and liquid states.

[1] References are shown by bracketed numbers and are listed in order of appearance in the reference section.