CGA G-7.1—2011

COMMODITY SPECIFICATION FOR AIR

SIXTH EDITION

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Work Item 08-020
Atmospheric Gases and Equipment Committee

NOTE—Technical changes from the previous edition are underlined.

SIXTH EDITION: 2011
FIFTH EDITION: 2004
FOURTH EDITION: 1997
THIRD EDITION: 1989

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1 Scope

This publication describes the specification requirements for air including atmospheric air and air synthesized by blending oxygen and nitrogen in the proper proportions. Atmospheric air contains a large variety of trace constituents. It is impractical to set individual limits for many of these; however, this specification qualifies certain grades of air by limiting the concentrations of specific trace constituents.

The term container as used in this publication shall refer to portable compressed gas cylinders and liquid containers made in accordance with Title 49 of the U.S. *Code of Federal Regulations* (49 CFR) Parts 100-180; Transport Canada's (TC) *Transportation of Dangerous Goods Regulations*; or ASME *Boiler and Pressure Vessel Code*, Section VIII, Div 1 [1, 2, 3].[1]

NOTE—This publication does not attempt to recommend or establish end usage designations for specific types or grades of products. It is suggested that users requiring this kind of information contact individual gas suppliers.

2 Classification

2.1 Quality verification levels (grades)

Table 1 presents the component maxima in parts per million (ppm [v/v]) unless shown otherwise for the quality verification levels (QVLs) of air. A blank indicates no maximum limiting characteristic. The absence of a value in a listed QVL does not mean to imply that the limiting characteristic is or is not present, but merely indicates that the test is not required for compliance with the specification. Typical uses are listed in Table 2.

2.2 Quality tests

The supplier ensures by standard practice the QVL of the air. If otherwise required, alternative control procedures are described in 3.3.1, 3.3.2, and Sections 4 and 5. Other control procedures not listed in this specification are acceptable if agreed upon between the supplier and the customer.

3 Quality verification systems

3.1 Production qualification tests

Production qualification tests are either a single analysis or series of analyses performed on the product to ensure the reliability of the production facility to supply air at the required QVL. This production qualification can be verified by the analytical records of the product from the supplier; or, if required, by the analysis of representative samples of the product from the facility at appropriate intervals as agreed upon between the supplier and the customer. Production qualification tests might be performed by the supplier or by a laboratory agreed upon between the supplier and the customer.

3.2 Analytical requirements of the production qualification tests

Analytical requirements of the production qualification tests include the determination of all limiting characteristics of air.

3.3 Lot acceptance tests

Lot acceptance tests are analyses performed on the air in the shipping container or a sample thereof that is representative of the lot.

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