



CGA G-7.1—2018
COMMODITY SPECIFICATION
FOR AIR

SEVENTH EDITION

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Work Item 16-022
Atmospheric Gases and Equipment Committee

NOTE—Technical changes from the previous edition are underlined.

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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.

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 Definitions

For the purpose of this publication, the following definitions apply.

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 definition

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 the ASME *Boiler and Pressure Vessel Code*, Section VIII, Div 1 [1, 2, 3].¹

3 Classification

3.1 Quality verification levels (grades)

Table 1 presents the component maxima in parts per million (ppm [v/v]) unless otherwise stated 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 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.

3.2 Quality tests

The supplier ensures by standard practice the QVL of the air. If otherwise required, alternative control procedures are described in 4.3.1, 4.3.2, and Sections 5 and 6.

Other control procedures not listed in this specification are acceptable if agreed upon between the supplier and the customer.

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