



**CGA G-9.1-2018**  
**COMMODITY SPECIFICATION**  
**FOR HELIUM**

**NINTH EDITION**

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Work Item 19-050  
Specialty Gases Committee

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NOTE—Technical changes from the previous edition are underlined

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## 1 Scope

This publication describes specification requirements for gaseous and liquid helium.

This publication does not attempt to recommend or establish end usage designations for specific types or grades of products. Users requiring this kind of information should 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 & Pressure Vessel Code*, Section VIII, Div 1; *UN Recommendations on the Transportation of Dangerous Goods—Model Regulations* P200 Tables 1 and 2 (UN Model Regulations); and applicable tables in Canadian Standards Association's (CSA) B342, *Selection and use of UN pressure receptacles and multiple element gas containers for the transport of dangerous goods, Class 2* [1, 2, 3, 4, 5].<sup>1</sup>

## 3 Classification

### 3.1 Types

Gaseous helium is denoted as Type I and liquid helium as Type II.

### 3.2 Quality verification levels (grades)

Table 1 presents the component maxima in parts per million (ppm [v/v]) unless otherwise shown for quality verification levels (QVLs) of helium. A blank indicates no maximum limiting characteristic. The absence of 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.

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