CGA®

Compressed Gas Association

The Standard For Safety Since 1913

CGA P-15—2022

STANDARD FOR THE FILLING OF NONFLAMMABLE COMPRESSED GAS CYLINDERS

SIXTH EDITION

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Work Item 20-011
Safety and Health Committee

NOTE—Technical changes from the previous edition are underlined.

NOTE—Appendix A (Informative) is for information only.

NOTE—Appendices B and C (Normative) are a requirement.

SIXTH EDITION: 2022
FIFTH EDITION: 2016
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THIRD EDITION: 1999

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1 Introduction

Compressed gas cylinders are filled and used each day without incident and have been for many years. There is no reason why cylinders cannot be filled safely and be safe for consumers to use if procedures are followed that recognize and control the possible hazards associated with the filling and use of compressed gas cylinders.

The filling of compressed gas cylinders requires complying with all applicable federal, state, provincial, and local regulations. Personnel shall be familiar with these regulatory requirements. In addition to the requirements for industrial gases, medical and food gases require compliance with additional regulations. These requirements are addressed in other CGA publications.

2 Scope

This publication describes the recommended industry practices and precautionary measures for filling certain liquefied and nonliquefied, nonflammable industrial, medical, and food gas cylinders not exceeding 125 lb (57 kg) water capacity. It should not be assumed that every safety precaution is included here.

This publication only covers the filling of DOT 3A, DOT 3AA, DOT 3AL, TC 3AM, TC 3AAM, TC 3ALM, authorized United Nations (UN) equivalents for these cylinders, and composite cylinders with the following gases: air, argon, carbon dioxide, helium, nitrogen, nitrous oxide, and oxygen.

This publication does not cover equipment design specifications to perform these filling operations.

This publication does not address automated or palletized cylinder filling operations or the filling of cylinders that are clustered or bundled.

This publication does not cover the filling of the following cylinders:

- Insulated refrigerated liquid cylinders such as DOT 4L and home cryogenic oxygen base units, with cryogenic liquids or refrigerated liquids. The filling of these cylinders is addressed in other CGA publications;
- Portable high pressure cylinders from other high pressure cylinders, either gas to gas (e.g., oxygen) or liquefied compressed gas to liquefied compressed gas (e.g., carbon dioxide), commonly known as transfilling; and
- Portable high pressure cylinders from home oxygen concentrators.

This publication does not cover the filling of:

- gas mixtures of any type, including reconstituted or blended air used for breathing or other purposes; and
- flammable, specialty, or liquefied petroleum gases that require additional procedures and special precautions to be taken.

3 Definitions

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

3.1 Publication terminology

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

3.1.2 Should
Indicates that a procedure is recommended.

3.1.3 May
Indicates that the procedure is optional.

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