CGA

Compressed Gas Association

The Standard For Safety Since 1913

CGA G-6.3—2013

CARBON DIOXIDE CYLINDER FILLING AND HANDLING PROCEDURES

FOURTH EDITION

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1 Introduction

This publication is one of a series compiled by the Compressed Gas Association, Inc., to satisfy the demand for information on the production, handling, storage, transportation, and use of compressed and liquefied gases, cryogenic liquids and related products.

1.1 Purpose

The primary purpose of this publication is to provide information to personnel engaged in handling, filling, and transporting carbon dioxide cylinders.

1.2 Scope

The scope of this publication includes the inspection, filling, handling, labeling, and shipping of uninsulated carbon dioxide cylinders, and the preparation of shipping papers.

The filling procedure outlined in 8.5 may not apply to DOT 39 uninsulated cylinders.

Filling of carbon dioxide USP cylinders for medical use requires the use of product that meets CGA quality verification level E purity as listed in CGA G-6.2, *Commodity Specification for Carbon Dioxide*, and may require additional procedures and verification [1].[1]

2 Definitions

For the purposes of this publication, the definitions apply.

2.1 Authorized retester
Facility that is registered with and approved by the U.S. Department of Transportation (DOT) and/or Transport Canada (TC) for the requalification of cylinders or containers.

2.2 Bar
Metric unit of pressure. 1 bar = 100 kPa.[2]

NOTE—1 bar is equal to approximately 14.5 psi. To convert psi to bar, multiply by 0.06895.

2.3 Blow-down valve
Valve used to depressurize lines or system.

2.4 Capacity
Maximum weight of carbon dioxide a container will hold when filled to the proper level.

2.5 Condemned cylinder
Cylinder that is no longer fit for service.

2.6 Container
Insulated pressure vessel, which is American Society of Mechanical Engineers (ASME) coded for the storage of carbon dioxide.

2.7 Cylinder
Uninsulated cylindrically shaped, pressure-containing device with a water capacity not greater than 454 L (119 gal) as defined by DOT or TC [3, 4].

NOTE—Carbon dioxide cylinders must have a minimum rated service pressure of 1800 psig (12 410 kPa). For the purpose of this document, cylinder and carbon dioxide cylinder are used interchangeably.

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

[2] kPa shall indicate gauge pressure unless otherwise noted as (kPa, abs) for absolute pressure or (kPa, differential) for differential pressure. All kPa values are rounded off per CGA P-11, *Metric Practice Guide for the Compressed Gas Industry* [2].