

CGA C-9—2013

**STANDARD COLOR MARKING
OF COMPRESSED GAS
CONTAINERS FOR MEDICAL USE**

FIFTH EDITION



PLEASE NOTE:

The information contained in this document was obtained from sources believed to be reliable and is based on technical information and experience currently available from members of the Compressed Gas Association, Inc. and others. However, the Association or its members, jointly or severally, make no guarantee of the results and assume no liability or responsibility in connection with the information or suggestions herein contained. Moreover, it should not be assumed that every acceptable commodity grade, test or safety procedure or method, precaution, equipment or device is contained within, or that abnormal or unusual circumstances may not warrant or suggest further requirements or additional procedure.

This document is subject to periodic review, and users are cautioned to obtain the latest edition. The Association invites comments and suggestions for consideration. In connection with such review, any such comments or suggestions will be fully reviewed by the Association after giving the party, upon request, a reasonable opportunity to be heard. Proposed changes may be submitted via the Internet at our website, www.cganet.com.

This document should not be confused with federal, state, provincial, or municipal specifications or regulations; insurance requirements; or national safety codes. While the Association recommends reference to or use of this document by government agencies and others, this document is purely voluntary and not binding unless adopted by reference in regulations.

A listing of all publications, audiovisual programs, safety and technical bulletins, and safety posters is available via the Internet at our website at www.cganet.com. For more information contact CGA at Phone: 703-788-2700, ext. 799. E-mail: customerservice@cganet.com.

Work Item 12-026
Medical Gases Committee

NOTE—Technical changes from the previous edition are underlined.

FIFTH EDITION: 2013
REAFFIRMED: 2008
FOURTH EDITION: 2004
REAFFIRMED: 1993

© 2013 The Compressed Gas Association, Inc. All rights reserved.

All materials contained in this work are protected by United States and international copyright laws. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopying, recording, or any information storage and retrieval system without permission in writing from The Compressed Gas Association, Inc. All requests for permission to reproduce material from this work should be directed to The Compressed Gas Association, Inc., 14501 George Carter Way, Suite 103, Chantilly VA 20151. You may not alter or remove any trademark, copyright or other notice from this work.

Contents	Page
1 Introduction.....	1
2 Scope	1
3 Definitions.....	1
4 Preventing accidental use of the wrong gas.....	2
4.1 Labeling information	2
4.2 Valve outlet connections	2
4.3 Color.....	2
5 Use of color	2
5.1 Color markings	2
5.2 Color marking materials.....	4
5.3 Location of color marking	4
5.4 Application of two colors.....	4
5.5 Color used for protection against corrosion or supplier identification	4
6 References	4
Table	
Table 1—Color marking of compressed gas containers for medical use.....	3

This page is intentionally blank.

1 Introduction

Compressed gases for medical use are classified as drugs or medical devices by regulatory authorities. These gases are supplied to hospitals and other institutions in containers that are delivered by various suppliers. Anesthetists, doctors, and trained technicians move from one institution to another and utilize the medical gases that are available at each institution. Every possible means shall be used to prevent the accidental use of an unintended gas.

Color is used as an aid for identifying the contents of compressed gas containers for medical use and for designating certain containers for use with specific medical gases. The primary means of identifying the contents of a compressed gas container is by its label, see CGA C-7, *Guide to the Preparation of Precautionary Labeling and Marking of Compressed Gas Containers* [1].¹ A secondary means of identification is the valve outlet, see CGA V-1, *Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections* [2]. This standard provides a uniform method of color marking that aids in the recognition of containers of compressed gases for medical use. Color is a tertiary means for medical gas cylinder content identification and must never be solely relied upon for the purpose of medical gas identification.

NOTE—In Canada, the color codes are specified in CGSB 24.2-M86, *Identification of Medical Gas Containers, Pipelines and Valves* [3].

2 Scope

This standard shall apply to all sizes of containers used with compressed gases for medical use, see 3.1. This standard shall apply throughout the United States and its territories as well as in Canada.

This standard does not apply to the following:

- containers for delivery to foreign countries or to United States military agencies that have established color marking standards that differ from this standard;
- containers used in hospitals or other medical institutions for purposes other than medical use;
- containers used in industrial applications;
- nonportable storage vessels;
- containers that are attached to and form a part of any over-the-highway vehicle;
- containers when the contents are classified as medical devices or to supplementary medical equipment used with these containers, for example gases or gas mixtures specifically intended for use in calibrating medical equipment;
- containers that are filled from home fill oxygen concentrator systems; and
- containers that are filled from home fill liquid oxygen systems.

3 Definitions

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

3.1 Containers

Portable compressed gas cylinders and refrigerated liquid containers made in accordance with U.S. Department of Transportation or Transport Canada specifications found in Title 49 of the U.S. *Code of Federal Regulations* (49 CFR) Parts 100-180 or CSA B339, *Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods* [4, 5].

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