CGA P-39—2015

GUIDELINES FOR OXYGEN-RICH ATMOSPHERES

THIRD EDITION

CGA
Compressed Gas Association
The Standard For Safety Since 1913

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 web site, 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 14-002
Safety and Health Committee

NOTE—Technical changes from the previous edition are underlined.

THIRD EDITION: 2015
SECOND EDITION: 2008
FIRST EDITION: 2003

Contents **Page**

Table

This page is intentionally blank.

1 Introduction

Many accidents that are related to the use of industrial gases, whether from a liquid or gaseous source, occur because of a variation of the oxygen atmosphere in the working environment.

2 Scope and purpose

2.1 Scope

This publication identifies hazards inherent in oxygen-rich atmospheres and provides rules and recommendations for:

- safe working practices where oxygen-rich atmospheres can occur;
- preventing unexpected changes in the oxygen content of the atmosphere; and
- limiting the effects of accidents if they occur.

2.2 Purpose

This publication provides guidance for the detection and identification, potential causes, hazards, and risk mitigation associated with oxygen-rich atmospheres resulting from a variation of oxygen content in atmospheres in the working environment.

3 Definitions

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

3.1 Publication terminology

3.1.1 Shall
Indicates that the procedure is mandatory. Shall 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 a procedure is optional.

3.1.4 Will
Is used only to indicate the future, not a degree of requirement.

3.1.5 Can
Indicates a possibility or ability.

3.2 Technical definition

3.2.1 Oxygen-rich atmosphere
Air and gas mixtures in which the oxygen concentration by volume exceeds 23.5% at sea level or whose partial pressure of oxygen exceeds 175 torr (mm Hg).[1]

[1] For the normal concentration of atmospheric oxygen and other properties of air, see Table 1.