

CGA P-39—2015

**GUIDELINES FOR
OXYGEN-RICH ATMOSPHERES**

THIRD EDITION

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NOTE—Technical changes from the previous edition are underlined.

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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.