Compressed Gas Association
The Standard For Safety Since 1913

CGA P-8.3—2021
PERLITE MANAGEMENT

FIFTH EDITION

PREFACE

As part of a program of harmonization of industry standards, the Compressed Gas Association (CGA) has published CGA P-8.3, *Perlite Management*, jointly produced by members of the International Harmonization Council.

This publication is intended as an international harmonized standard for the worldwide use and application of all members of the Asia Industrial Gases Association (AIGA), Compressed Gas Association (CGA), European Industrial Gases Association (EIGA), and Japan Industrial and Medical Gases Association (JIMGA). Each association's technical content is identical, except for regional regulatory requirements and minor changes in formatting and spelling.

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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.

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Work Item 23-019
Atmospheric Gases and Equipment Committee

NOTE—Technical changes from the previous edition are underlined.

FIFTH EDITION: 2021
FOURTH EDITION: 2017
THIRD EDITION: 2012
SECOND EDITION: 2005

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1 Introduction

Perlite is used as an insulation medium in cryogenic enclosures such as coldboxes, cryogenic liquid tanks, field-erected flat bottom tanks, and pipe ducts where perlite is filled into the annular spaces between the inner and the outer shells.

2 Scope

Perlite is nontoxic and nonflammable; however, the nature of the material and the large quantities involved require the use of special operations, handling, and safety procedures. This publication provides guidance for reducing the risks of uncontrolled perlite releases and incidents that have potential for serious personnel injury, property damage, downtime, environmental impact, and consequences outside the perimeter of the plant.

It covers the use of perlite in cryogenic enclosures and focuses on safety, perlite handling procedures, and emergency perlite management. This publication is for industrial gas plant manufacturers, owners, and operators of facilities that use and maintain perlite as an insulation medium for cryogenic equipment. Insulating materials such as mineral wool or vermiculite and other synthetic silicates are not covered in this publication. This publication does not cover hazards related to toxic and flammable gases.

Information regarding design considerations, operation, and maintenance of cryogenic enclosures is contained in CGA P-8.8, *Safe Design and Operation of Cryogenic Enclosures* [1][1].

This publication does not attempt to recommend or establish specific design or usage criteria but provides best practices. The end user shall determine the specific requirements.

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.

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 definitions

3.2.1 Coldbox
Cylindrical or rectangular enclosure, typically metal, surrounding the distillation columns and other cryogenic equipment.

NOTE—The space between the columns and the inner coldbox shell is filled with insulation material, typically perlite.

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