CGA

Compressed Gas Association

The Standard For Safety Since 1913

CGA G-1.9—2019

RECOMMENDED PRACTICES FOR MAINTAINING THE PROPER SOLVENT LEVEL IN ACETYLENE CYLINDERS

THIRD EDITION

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Work Item 18-001
Acetylene Committee

NOTE—Technical changes from the previous edition are underlined.

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Contents **Page**

Figure

Tables

1 Introduction

This publication is one of a series compiled by the Compressed Gas Association, Inc. (CGA) to meet the demand for information on compressed gases, cryogenic liquids, and related products.

2 Scope and purpose

2.1 Scope

This publication covers recommendations for maintaining the proper solvent level in acetylene cylinders. While the background, precautions, and general procedures given apply to all solvents in use with acetylene, special emphasis is given to the use of acetone and dimethylformamide (DMF).

Included are residual gas tables based upon the best available data that reflects current industry practice. The expected accuracy of these values is approximately ± 10% and should be used as a guide only. Note that these tables make use of acetylene solubilities as generated by the appropriate formulas as found in ISO 11372, *Gas cylinders—Acetylene cylinders—Filling conditions and filling inspection* [1].

The guidelines contained in this publication apply to acetylene cylinders manufactured to:

- U.S. Department of Transportation (DOT) Specifications 8 and 8AL found in Title 49 of the U.S. Code of Federal Regulations (49 CFR) 178.59 and 178.60 and used per 49 CFR 173.303 as well as older specifications cylinders ICC-8, ICC-8AL, DOT E-6517, DOT E-7542, or DOT E-10320 [2]; or
- Specifications TC 8WM and 8WAM found in Canadian Standards Association (CSA) B339, *Cylinders, spheres, tubes for the Transportation of Dangerous Goods*, and used in accordance with *Transportation of Dangerous Goods Regulations* of Transport Canada (TC) found in CSA B340, *Selection and use of Cylinders, Spheres, Tubes, and Other Containers for the Transportation of Dangerous Goods, Class 2*, as well as older specifications cylinders CTC-8, CTC-8AL, or CTC-8WC [3, 4, 5].

2.2 Purpose

This publication provides guidelines for maintaining the proper solvent level in acetylene cylinders. It should be of interest to acetylene manufacturers, acetylene production and distribution personnel, authorized acetylene cylinder reinspection facilities, welding gas distributors, safety personnel, and users of acetylene.

3 Definitions

For the purpose of this publication, the following definitions shall 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.

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