CGA P-19—2009

CGA RECOMMENDED HAZARD RATINGS FOR COMPRESSED GASES

THIRD EDITION

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Work Item 08-004
Hazard Communication Committee

CGA acknowledges and thanks the National Paint and Coatings Association (NPCA) and the National Fire Protection Association (NFPA) for permission to reprint copyrighted material regarding the HMIS® III and NFPA hazard identification systems.

NOTE—Technical changes from the previous edition are underlined.

THIRD EDITION: 2009
SECOND EDITION: 2004
FIRST EDITION: 1992

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1 Scope

This publication recommends hazard ratings for most of the compressed gases found in CGA C-7, *Guide to Preparation of Precautionary Labeling and Marking of Compressed Gas Containers*, in accordance with the National Fire Protection Association (NFPA) system and the National Paint and Coatings Association's (NPCA) Hazardous Materials Identification System® (HMIS®) III [1, 2, 3].[1]

This publication aids in standardizing compressed and liquefied gas classifications as designated under the NFPA and/or HMIS® hazard identification systems.

NOTE—The NFPA and HMIS® hazard rating symbols must not be part of the CGA basic marking system for cylinders. The CGA basic marking system (CGA C-7, Appendix A) already incorporates the DOT hazard warning label [1].

2 Description of systems

2.1 NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response* [2]

The NFPA system is intended only to identify the emergency hazards of materials. It provides planning guidance to emergency responders for safe tactical procedures in emergency operations. The system includes on-the-spot information to safeguard the lives of emergency responders and others who may be exposed to the material.

The NFPA hazard identification system diagram, as shown in Figure 1, identifies the health, flammability, and instability of a material and indicates the order of severity of each hazard by the use of one of five numerical ratings. The numerical ratings range from 4, indicating severe hazard or extreme danger, to 0, indicating minimal hazard. In the following diagram the health hazard is identified at the left quadrant, flammability at the top, and instability on the right [2].

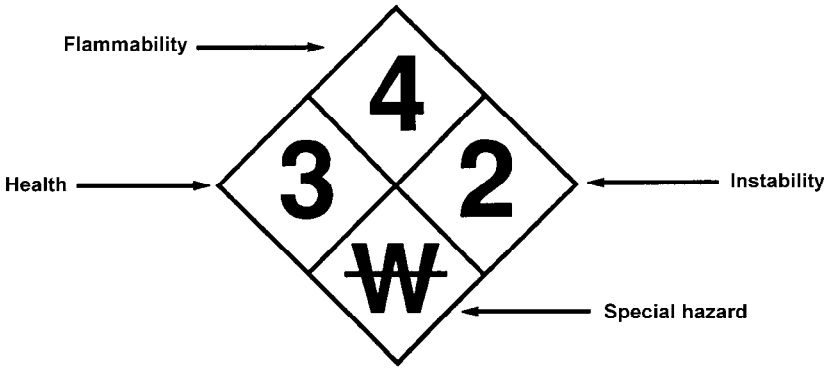

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Figure 1—NFPA hazard identification system

The bottom quadrant of the diamond is primarily used to identify unusual reactivity with water. A "W" with a line through its center (~~W~~) alerts emergency personnel to the possible hazard in the use of water. This bottom quadrant also may be used to identify other unusual hazards, but only if the space is not needed to indicate

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

[2] The NFPA 704 ratings are applied to numerous chemicals in the NFPA *Fire Protection Guide to Hazardous Materials*, which contains withdrawn standards NFPA 49, *Hazardous Chemicals Data* and NFPA 325, *Guide to Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids* [4]. These were withdrawn as NFPA standards (and are therefore no longer published in the National Fire Codes). However, they are maintained by NFPA staff in a database that will be available to the public electronically in the future and in updates of the NFPA *Fire Protection Guide to Hazardous Materials* [4]. The [NFPA] Committee wishes to note that those documents were withdrawn solely for expediency in updating the data, which was not possible in a 3- to 5-year revision cycle.