



The Standard For Safety Since 1913

About CGA

CGA's mission is to promote ever-improving safe, secure, and environmentally responsible manufacture, transportation, storage, transfilling, and disposal of industrial, medical, and food gases and their containers.

Our Members

More than 160 companies worldwide are members of CGA, from multinational corporations to family-owned businesses. These companies represent all facets of the industry: manufacturers, distributors, suppliers, and transporters of gases, cryogenic liquids, and related products.

Our Industry

Representing members who support over 34,000 U.S. jobs and contribute more than \$28 billion to the American economy, CGA advances safety, drives innovation, and fosters professional development across the compressed gas industry.

CGA'S HYDROGEN WORK

CGA advances hydrogen safety through two technical committees. The **Hydrogen Technology Committee** develops standards and code recommendations for hydrogen systems across liquid, gaseous, and hydride applications, while the **Hydrogen Production Committee** addresses safe plant operations—from production and liquefaction to pipeline distribution.

CGA also supports internationally aligned guidance through the International Harmonization Council, building on nearly 70 years of hydrogen standards to help the hydrogen economy scale safely accross borders and around the world.

We also extend that work through the **Safe Hydrogen Project**, which provides practical, publicly accessible resources and education to help organizations apply hydrogen safety guidance in the real world.

Hydrogen Standards

American National Standards

CGA G-5: Hydrogen

Provides information on the physical and chemical properties of hydrogen and proper handling and use. It is intended to provide background information for personnel involved in the manufacture, distribution, and use of hydrogen.

CGA H-3: Standard for Cryogenic Hydrogen Storage

Contains the suggested minimum design and performance requirements for shop-fabricated liquid hydrogen tanks with maximum allowable working pressures up to and including 175 psi (1210 kPa).

CGA H-5: Standard for Bulk Hydrogen Supply Systems

Contains minimum requirements for locating/siting, selecting equipment, installing, starting up, maintaining, and removing bulk hydrogen supply systems. Two types of bulk hydrogen supply systems are covered in this standard: liquid and gaseous.



In Development

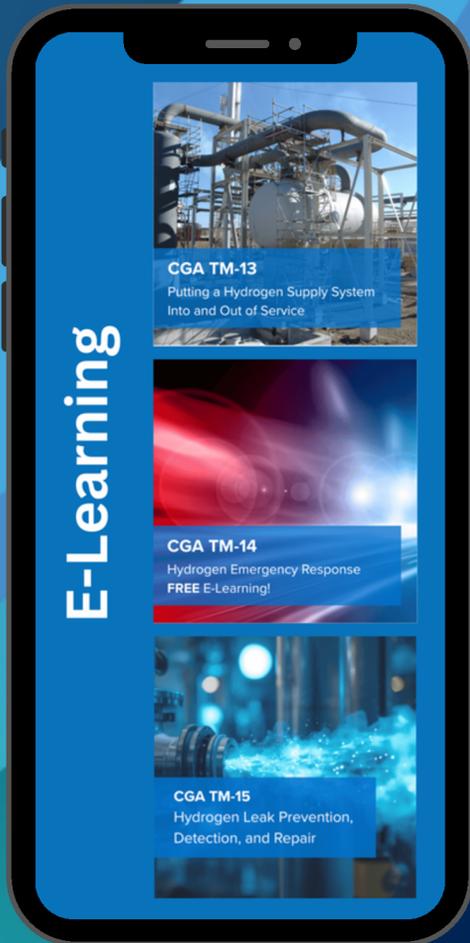
- **Standard for Cryogenic Hydrogen Transportation**
- **Guideline for Hydrogen Systems Separation Distances**
- **Safe Operation of Hydrogen, Carbon Monoxide, and Syngas Pipeline Systems**
- **Design of Bulk Liquid Hydrogen Loading and Unloading Connections**
- **Safe Operation of Hydrogen Liquefier Coldboxes**
- **Managing Oxygen Offtake from Electrolyzers**
- **Safe Operation of Electrolyzers**
- **Carbon Capture, Utilization, and Storage - Clean Up, Liquefaction, Compression**
- **Carbon Capture, Utilization, and Storage - Capture**
- **Ammonia Storage**
- **Ammonia Cracking**
- **Standard for Design Requirements for Tube Trailers and Tube Modules**

Hydrogen Standards

- C-6.4 Methods for External Visual Inspection of Natural Gas Vehicle (NGV) and Hydrogen Gas Vehicle (HGV) Fuel Containers and Their Installations
- G-5 Hydrogen (an American National Standard)
- G-5.3 Commodity Specification for Hydrogen
- G-5.4 Standard for Hydrogen Piping Systems at User Locations
- G-5.5 Standard for Hydrogen Vent Systems
- G-5.6 Hydrogen Pipeline Systems
- G-5.7 Carbon Monoxide and Syngas Pipeline Systems
- H-10 Combustion Safety for Steam Reformer Operation
- H-11 Safe Startup and Shutdown Practices for Steam Reformers
- H-12 Mechanical Integrity of Syngas Outlet Systems
- H-13 Hydrogen Pressure Swing Adsorber (PSA) Mechanical Integrity Requirements
- H-14 HYCO Plant Gas Leak Detection and Response Practices
- H-15 Safe Catalyst Handling in HYCO Plants
- H-16 Guideline on Remedial Actions for HYCO Plant Components Subject to High Temperature Hydrogen Attack (HTHA)
- H-17 Guideline for Small Scale Hydrogen Production
- H-3 Standard for Cryogenic Hydrogen Storage (an American National Standard)
- H-5 Standard for Bulk Hydrogen Supply Systems (an American National Standard)
- H-7 Standard Procedures for Hydrogen Supply Systems
- P-28 OSHA Process Safety Management (PSM) and EPA Risk Management Plan (RMP) Guidance for Bulk Liquid Hydrogen Supply Systems
- P-6 Standard Density Data, Atmospheric Gases and Hydrogen
- P-74 Standard for Tube Trailer Supply Systems at Customer Sites
- P-96 Reciprocating Cryogenic Pumps and Pump Installations for Hydrogen and Liquefied Natural Gas
- PS-31 CGA Position Statement on Cleanliness for Proton Exchange Membranes in Hydrogen Piping/Components
- PS-33 CGA Position Statement on Use of Liquefied Petroleum Gas (LPG) or Propane Tank as Compressed Hydrogen Storage Buffers
- PS-46 CGA Position Statement on Roofs Over Hydrogen Storage Systems
- PS-48 CGA Position Statement on Clarification of Existing Hydrogen Setback Distances and Development of New Hydrogen Setback Distances in NFPA 2
- PS-69 CGA Position Statement on Liquefied Hydrogen Supply System Separation Distances



Other Resources



Hydrogen eLearning Modules

CGA's hydrogen eLearning modules turn key safety guidance into practical, easy-to-follow training for employees new to hydrogen systems and operations. Each module is self-paced and designed to make complex topics more accessible through a clear format, video demonstrations, and quizzes.

Available modules:

1. Putting a Hydrogen Supply System Into & Out of Service — \$59
2. Hydrogen Emergency Response — Free
3. Hydrogen Leak Prevention, Detection, and Repair — \$59

Visit: cganet.com/resources/elearning-modules

Educational Videos

These videos give viewers a practical, easy-to-understand look at hydrogen safety, from basic concepts to real-world topics like storage, transportation, system design, and risk prevention. They're a strong resource for anyone looking to better understand how to work with hydrogen safely and confidently.



Search **Compressed Gas Association** on YouTube