

POSITION STATEMENT

ODOR TESTING FOR RESIDUAL CYLINDER CONTAMINANTS

Question

Should compressed gas cylinders be odor (sniff) tested before filling?

Answer

Odor (sniff) testing the residual contents of selected compressed gas cylinders for contamination before filling is an acceptable industry practice for cylinders to be filled with oxygen, oxygen mixtures, breathing air, and nonflammable medical gases (except carbon dioxide and nitrous oxide). *Odor testing of cylinders containing nitrous oxide, carbon dioxide, toxic, corrosive, flammable, or industrial grade inert gases including nitrogen is not recommended.*

Where odor testing is performed, procedures should include provisions for minimizing potential hazards to personnel performing the test such as pointing the valve outlet away from the operator, slowly cracking open the valve, and gently fanning only a small amount of the venting gas toward the nose [1, 2].

Operators performing the test should be instructed on what to do when the existing internal cylinder pressure is insufficient to perform the test or when a potentially contaminated cylinder is identified.

Reasons

1. Introduction of compressed oxygen into a cylinder containing a flammable or hydrocarbon contaminant can generate a violent reaction endangering surrounding personnel.
2. Contamination of gases used for breathing could pose a serious problem or hazard to the user(s) of such products if the contaminant is not detected.
3. Government regulations require the use of cylinder gas odor testing procedures for selected products among those listed previously [3].
4. When appropriate precautions and procedures are followed, there is minimal risk to personnel conducting the test. Odor testing of cylinders potentially prevents serious problems with minimal risks to the end user and the public at large. There is also minimal risk to personnel conducting the test when appropriate precautions and procedures are followed.

References

Unless otherwise specified, the latest edition shall apply.

[1] CGA C-10, *Guidelines to Prepare Cylinders and Tubes for Gas Service and Changes in Gas Service*, Compressed Gas Association, Inc., 14501 George Carter Way, Suite 103, Chantilly, VA 20151. www.cganet.com

[2] CGA P-15, *Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders*, Compressed Gas Association, Inc., 14501 George Carter Way, Suite 103, Chantilly, VA 20151. www.cganet.com

[3] *Code of Federal Regulations*, Title 21 (Food and Drugs) Section 211.194, "Laboratory Records", Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20401. www.gpo.gov

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Safety and Health Committee

NOTE—No technical information has been changed from the 2001 edition. This reaffirmed edition may include minor editorial changes.

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