

SAFETY ALERT

CLEANING OF CYLINDERS RETURNED FROM HEALTHCARE FACILITIES DURING A PANDEMIC

As healthcare providers around the world work to assist patients affected by the respiratory illness Coronavirus Disease 2019 (COVID-19), medical gas containers might become externally contaminated due to their use in healthcare facilities. It is important that these containers are cleaned in a manner that removes contaminants, does not cause damage to the container, valve, or gas product, and does not lead to a hazardous situation during the refilling and use of the container's contents.

As discussed in CGA P-83, *Guidelines for Cleaning Externally Contaminated Medical Gas Containers*, it is the customer's responsibility to return to the gas supplier medical gas containers that are free from contamination. This responsibility should be communicated and acknowledged by the healthcare facility.

CGA P-83 addresses cleaning and disinfection procedures for contaminated cylinders and offers cautions against the use of bleach/water or ammonia/water cleaning solutions. Disinfection procedures recommend the use of isopropyl alcohol (IPA) wipes or their equivalent. See Section 5.3 of CGA P-83 for specific information [1].

Likewise, CGA V-12, *Leak Detection Fluids Use with Gas Cylinder Packages* offers cautions against using soap/water or other similar solutions, that could possibly contain ammonia or chlorine as components for leak checking as they can contribute to stress corrosion cracking over a period of time on metallic surfaces [2].

The CDC recommends cleaning visibly dirty surfaces with detergent or soap and water and using diluted household bleach solutions, alcohol solutions with at least 70% alcohol, and most common EPA-registered household disinfectants to disinfect [3].

Questions have been recently asked whether compressed gas containers may be washed with soap/water solutions, or disinfected using a dilute bleach/water solution following CDC recommendations if external contamination is suspected when containers are returned from healthcare facilities or patients' homes and the customer has not acknowledged their responsibility to return uncontaminated containers or could not adequately clean the container.

During the COVID-19 crisis, consideration may be given to the use of soap/water solutions to clean, or a dilute bleach/water solution followed by a clean water rinse to disinfect returned containers that may not have been properly cleaned and decontaminated. Such consideration should carefully weigh immediate cleaning concerns against possible longer-term effects on the container and the valve.

When isopropyl alcohol (IPA) or other flammable disinfectants are used as a spray application to disinfect containers, great care must be taken to ensure that there is no residual left in the valve outlet prior to the cylinder being refilled.

References

[1] CGA P-83, *Guidelines for Cleaning Externally Contaminated Medical Gas Containers*, Compressed Gas Association, Inc. www.cqanet.com

[2] CGA V-12, *Leak Detection Fluids Use with Gas Cylinder Package*, Compressed Gas Association, Inc. www.cqanet.com

[3] Centers for Disease Control and Prevention, *Environmental Cleaning and Disinfection Recommendations*, www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html

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