

	<h2>Industrial and Medical Gas Safety Alert</h2>
<p>27 February 2020</p>	<h3>Corona Virus And Other Infectious Agents: Protection Measures For Employees And Cylinders</h3>

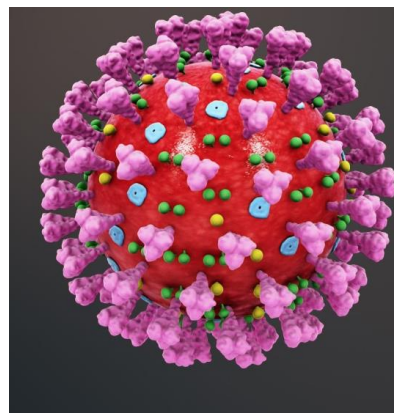
This GAWDA Safety Alert is issued to inform GAWDA members of potential measures to take to protect employees and cylinders from infectious agents.

Safety - Coronavirus Update

The Center for Disease Control (CDC) has published [Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 \(COVID-19\), February 2020](#).

Some of the strategies to avoid exposure and transmission within a business include:

- Actively encourage sick employees to stay home
- Separate sick employees if they do come to work and send them home immediately
- Emphasize staying home when sick, respiratory etiquette and hand hygiene by all employees
- Perform routine environmental cleaning: wiping down workstations, doorknobs, etc. with disposable disinfectant wipes.
- Advise employees before traveling to take certain steps, including review the [CDC's Travel Health notices](#).
- Have a plan if an employee or an employee's family member contracts the virus.



Cylinder Protection

This alert is being issued to reinforce the need to be extra vigilant in the receipt, inspection, cleaning and repair of medical gas (and other) cylinders that have been exposed to external contamination. This external contamination could be a result of floods, natural disasters or infectious agents remaining on cylinders when they are returned from customers.

This information was developed to assist GAWDA members in complying with government regulations; it does not constitute legal advice, and users are advised to obtain legal counsel to develop their individual compliance programs. Additionally, GAWDA does not guarantee that use of this material will ensure compliance with any regulatory or legal standard.

When gas cylinders are externally contaminated, they require special attention before reprocessing. Potential contamination includes, but not limited to, hydrocarbons from overflowing fuel tanks, mud, sewage, bodily fluids and infectious agents (Corona virus, etc.). The following recommendations are listed below to assist in mitigating the risk of incidents associated with contaminated cylinders.

- Review hazards associated with contaminated cylinders with all affected employees
- Wear proper personal protective equipment when handling potentially contaminated cylinders
- Segregate contaminated cylinders from non-contaminated cylinders during transport and storage to avoid contaminating clean cylinders
- Document the customer and location where contaminated cylinders were retrieved
- Inspect for oil, diesel, waste, sewage, mud, biological hazards, etc. on the cylinder wall, on the cylinder valve, and in the cylinder valve outlet and attachments.
- Perform hammer test (dead-ring) on all potentially contaminated steel cylinders to detect presence of internal corrosion.
- Verify cylinder pressure prior to opening cylinder valve. Properly vent cylinders.
- Invert small cylinders containing “zero” pressure and open valve to inspect for possible internal liquid contamination.
- Properly clean external and internal cylinder and cylinder components with oxygen compatible cleaning solutions
- An excellent cleaning agent that is oxygen safe, biodegradable, non-toxic, and inexpensive is Crystal Simple Green. This cleaning agent is for physical contamination and not necessarily for biological contamination.
- Properly dispose of spent cleaning solutions and contaminates.



Contaminated cylinders, valves and connections

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Consider these practices:

- Instruct drivers, and other customer service personnel, that cylinders containing potential biological waste, bodily fluids or possible infectious agents are to be properly cleaned before being accepted for return to the filling plant.
- The customer should refer to CGA P-83, *Guidelines for Cleaning Externally Contaminated Medical Gas Containers* and CDC guidelines before cleaning cylinders.
- The customer should specifically be aware that some cleaning materials can cause damage/stress corrosion cracking to the valve. Examples of cleaning materials that should not be used are those which contain ammonia, amine-based compounds or chlorine containing compounds (such as bleach). Only qualified and approved cleaning materials and procedures should be used.
- If you decide to receive, handle or clean cylinders containing blood-borne hazards (biological waste, bodily fluids or infectious agents, etc.), you must have an OSHA compliant Blood-borne Pathogen Prevention program in place.
- After removing the contamination, the cylinder may be cleaned with, for example, isopropyl alcohol (IPA) or equivalent disinfectant wipes.
- The application of flammable disinfectants (e.g. alcohols) must be controlled to prevent excessive amounts which could create a fire hazard.
- All cleaning and disinfection agents must be removed from the cylinder after use.
- Besides the current recommendations from the CDC ([Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 \(COVID-19\), February 2020](#)), following are some good preventive actions to help prevent the spread of respiratory diseases:
 - Avoid close contact with people who are sick.
 - Avoid touching your eyes, nose, and mouth.
 - Stay home when you are sick.
 - Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
 - Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.
 - Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing.
 - If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol. Always wash hands with soap and water if hands are visibly dirty.

For further guidelines, please read:

- CGA P-83, *Guidelines for Cleaning Externally Contaminated Medical Gas Containers*
- CGA SA-30-2017, *Handling Cylinders After Natural Disaster Exposure*
- CGA SA-31-2017, *Receiving Cylinders After Natural Disaster Exposure*
- CGA G-4.1-2018 *Cleaning of Equipment for Oxygen Service*
- CGA C-10-2013, *Guidelines to Prepare Cylinders and Tubes for Gas Service and Changes in Gas Service*

GAWDA members have free access to these publications by joining the GAWDA/CGA Safety Program: <https://www.gawda.org/resources/cga-subscription-program/>

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