

## Handling and Cleaning Externally Soiled Medicinal Gas Containers

### Introduction

This technical bulletin covers the handling and external condition of medical gas containers. It does not address the internal condition or product quality of a gas container.

A container is a gas cylinder or a cryogenic container. "Externally soiled" means having visible traces of foreign matter including bodily fluids.

For the purposes of this technical bulletin "cleaning" is the physical removal of visible foreign matter.

### Recommendations

Medicinal gas containers are supplied in a condition suitable for patients/carers, healthcare staff and operational staff to use and handle them safely.

When healthcare facilities and homecare service providers operate medicinal gas containers, care needs to be taken by them that even if these containers become soiled in use, they are returned to the provider in a clean condition or identified and packaged with an appropriate protection. Customer training and awareness campaigns can help to achieve this.

Where a container is used in hospitals, homecare environments such as the patient's home or by the emergency services they should avoid blood or other bodily fluids coming into contact with the container.

It is expected that the healthcare facility and homecare patient shall keep the containers in a clean condition, according to the instructions provided. Where it is known that a gas container is soiled, they should ensure that it is cleaned to remove any potential soiling, but as minimum, they should notify the gas company of potential contamination.

If the container has been soiled, the following options are available for the user:

- clean it prior to returning to the supplier, see below
- in case the above is not possible as a minimum identify and segregate, e.g. with a plastic bag

The preferred method of cleaning is:

1. to use hot water not exceeding 50 deg C to first remove the foreign matter,
2. and then ideally to use Iso Propyl Alcohol (IPA) wipes.

### Notes:

- IPA in liquid solution should not be used because it is a potential fire risk and excessive use may also represent a potential health risk.
- The cylinder is not to be immersed in water

Care shall be taken to avoid that cleaning fluids enter or remain left inside the valves.

The valves shall not be cleaned and shall be protected during the container cleaning process to avoid internal damage to the valve.

The cleaning method shall not have a detrimental effect on the container or valve. Cleaning materials should be approved by the gas supplier prior to use. Cleaning materials containing ammonia, amine or chlorine based compounds, (other than potable water) shall not be used; Alternative cleaning agents such as bleach shall not be used for the cleaning of containers. Its use can potentially, contaminate an 'oxygen clean' system, cause the corrosion of steel or aluminium alloy components and cause the stress corrosion cracking of brass including copper alloy components.

Care is required that the labels on the container are not damaged or removed during the cleaning process.

The healthcare facility or homecare patient should contact the gas supplier if there is any doubt concerning the method to be used to clean the container. They are also encouraged to identify and report whether they have cleaned the container so that the gas supplier can inspect the package prior to refilling.

Gas suppliers' drivers and homecare service personnel shall receive training and instructions on how to handle visibly soiled containers, including using the appropriate personal protective equipment, (e.g. gloves), possibly covering the container with a plastic bag and adding a warning label. Whenever handling soiled containers, personnel shall dispose of their gloves and wash their hands.

Similar rules shall apply for the container filling site staff. Operational Management shall define specific written instructions for their staff.

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