



Mossakowski Medical Research Institute, at the Polish Academy of Sciences

OHS INSTRUCTIONS

OPERATION OF COMPRESSED MEDICAL OXYGEN CYLINDERS

General comments:

A compressed medical oxygen cylinder may be operated by an employee who:

- is at least 18 years old,
- has medical training,
- has a medical certificate stating their ability to work in the occupied position issued as part of the preventive examinations conducted,
- has a medical record book for sanitary and epidemiological purposes with a current medical entry about the absence of obstacles to work in the occupied position,
- has up-to-date training in occupational health and safety,
- has current training in the safe handling of medical gas cylinders.

Basic conditions of work safety:

1. The employee should be familiarized with the safety data sheet for compressed oxygen.
2. The employee should use the assigned work-protective assortment, including clothing and caps made of linen or cotton material.
3. The employee should be familiar with the color and identification marking of compressed medical oxygen cylinders:
 - identifying color -> white,
 - identifying marking -> medical oxygen O₂,
4. The employee should know that the oxygen in the air is:
 - a colorless, odorless gas of comparable density to air,
 - a non-flammable, flame-retardant gas that is chemically active at high temperatures.
5. The employee should know that compressed oxygen is:
 - a liquid that, when released into the environment, evaporates rapidly, taking on a slightly blue color before becoming a colorless gas.
 - an agent that causes rapid combustion, including causing the combustion of noncombustible materials,
 - an agent that causes spontaneous combustion or explosion when in contact with grease, including greasy hands or clothing.
6. The employee should know that a compressed medical oxygen cylinder can burst when exposed to the following factors:
 - mechanical impact,
 - temperature impacts.

Steps before starting work:

1. Verify that the compressed medical oxygen cylinder operating room is characterized by:
 - efficient natural ventilation,
 - labeling: oxygen, do not smoke, do not approach with fire.
2. Check that the compressed medical oxygen cylinder in operation is characterized by:
 - good technical condition,
 - current legalization mark of the Technical Supervision,
 - legible identification color,
 - legible identification marking.
3. Check that the operated pressure regulator, dispenser and medical oxygen receiving tip drain are in good working condition.
4. Connect the pressure regulator, the dispenser, and the medical oxygen receiving tip drain sequentially to the cylinder.
5. Pour distilled water into the dispenser container to the marked level.
6. Open the valve of the compressed medical oxygen cylinder.
7. Set the required flow of medical oxygen.

Principles and ways to perform work safely:

1. The compressed medical oxygen cylinder should be operated indoors one at a time, and in addition, the following requirements should be observed:
 - at an acceptable distance from central heating radiators:
 - 1.0 m from an uncovered radiator,
 - 0.1 m from the shielded radiator,
 - protected from temperature rise above 35°C,
 - secured against repositioning,
 - protected from grease.
2. Operate the pressure regulator, dispenser and oxygen receiving tip drain in a manner that excludes grease or mechanical damage.
3. Oxygen should be dosed according to the doctor's recommendation.
4. Use the dispenser and the oxygen receiving tip drain in accordance with medical standards of practice.
5. The distilled water in the dispenser container should be replaced according to medical standards of practice.
6. When operating a compressed medical oxygen cylinder, it is prohibited to:
 - operate a cylinder with a leaking valve or a leaking receiving system,
 - operate a cylinder without a pressure regulator or dispenser,
 - operate a cylinder with a pressure regulator not designed for oxygen,
 - unscrew the protective cap or cylinder valve using tools,
 - knock over, roll the cylinder or bump against the cylinder,
 - store hazardous materials and fats in the cylinder operation room,
 - use wool fabric covers in the cylinder operating room,
 - store cylinders in business units.

Post-work activities:

1. Turn off the valve of the compressed medical oxygen cylinder.
2. Protect the compressed medical oxygen cylinder along with the pressure regulator, dispenser and oxygen receiving tip drain from damage, grease and unauthorized access.
3. Operate the compressed medical oxygen cylinder until the pressure is about 0.2 Mpa.

Emergency procedures

1. In the event of a fire incident or other such hazard, follow the fire instructions.
2. If you find that a compressed medical oxygen cylinder is not working properly, you should:
 - safeguard the patient,
 - turn off the cylinder valve,
 - notify the supervisor.

Concluding remarks:

1. If there is any doubt about the safe conduct of the work process, ask your supervisor for guidance on how to proceed.
2. If there is an accident at work, follow:
 - instruction on how to deal with accidents at work,
 - first aid instructions.

For compulsory use under current OHS regulations

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