

Laboratory Safety Information Sheet 9

Handling and use of Gas Cylinders

Instructions for Students

This document details procedures that you must follow when handling gas cylinders and regulators.

1. Gas cylinder parts must not be modified, tampered with, obstructed, removed, repaired, or painted.
2. Compressed gas cylinders should be handled as though they are potential explosive devices.
3. Appropriate personal protective equipment, including correct footwear, must be worn when handling compressed gas cylinders –this includes transportation, installation and use of these cylinders.
4. All cylinders **MUST** only be restrained from falling at all times by the use of chains, straps or specified trolleys.
5. Cylinders must only be operated in their correct orientation.
6. Special precautions may be needed if using toxic, flammable or reactive gases.
7. Only the appropriate regulator should be used on each cylinder.
8. No lubricant should be used to connect the regulator to the cylinder.
9. New connections should be checked for gas leakage, e.g. with soap and water.
10. The cylinder and its connections should be checked prior to use, and at regular intervals.
11. The main cylinder valve should be closed and the regulator set in the fully closed position (i.e. wound out) when not in use in order to avoid unnecessary wear and tear on the regulator, i.e. ensure that both gauge heads read zero.
12. The cylinder delivery pressure should be set to zero before the main cylinder valve is closed. This prevents a rapid release of compressed gas when the cylinder valve is next opened.
13. In the event of fire, the supply of a combustible gas or oxygen must be shut off before an attempt is made to extinguish the fire.
14. A trap should be used to prevent back siphoning of chemicals when a very soluble gas is being employed.
15. Unidentifiable cylinders must not be used, and should be immediately reported to the Laboratory Manager or Senior Technician.
16. Students must not be allowed to use compressed gas cylinders unless they have received appropriate instruction in their use. Undergraduate student operation of compressed gas cylinders is limited to direct supervision by a qualified/experienced staff member.
17. Two people must be present during hazardous/toxic gas purge and cylinder change procedures.

A copy of the relevant MSDS's must be available where the gas cylinder is stored and used.