

Appendix G - Gas Cylinders Safety

Use of Gas cylinders in the Department of Mechanical & Manufacturing Engineering TCD.

Before beginning any experiment requiring the use of a compressed/liquefied gas that must necessarily be imported into a laboratory within a cylinder a Risk Assessment form (Appendix III) and a Compressed Gas Permit (see below) must both be completed & countersigned by the relevant supervisor and the Departmental Safety Officer. The Departmental Safety Officer shall retain a file copy of each such Permit Form.

Copies of the Compressed Gas Permit form must be exhibited on the outer door/s of the laboratory in question during the period of use of the cylinder & shall be removed once the experiment is completed. The gas cylinder in question is then removed from the interior of the building. Additionally, a Gas In Use notice stating the name of the gas being used and showing 24-hour contact details for each of the researcher, his/her supervisor and the relevant Departmental Safety Officer shall be affixed to all doors opening into the laboratory (see notice below).

An additional copy of the Compressed Gas Permit form shall be displayed beside the fire safety panel at the principal entrance to Parsons building (in a location known to the Fire Brigade). This notice shall only be removed once the experiment has been completed and the gas cylinder in question has been removed from the interior of the building.

1. All such gases shall be contained in approved cylinders of appropriate structural quality which are fitted with approved regulator valves suitable for the pressures involved.
2. All regulators, hoses and fittings must only be fitted/replaced by trained technical staff through instructions from the Chief Technical Officer.
3. Gas cylinders which are brought into laboratories shall, as far as is practicable, be of the minimum size and capacity consistent with the experimental work which is to be carried out.
4. Gas cylinders shall be moved into and out of the building using a properly constructed trolley or other appropriate means by trained personnel only.
5. When used in laboratories gas cylinders shall be properly secured by an approved restraint system.
6. Experiments requiring the use of special gases shall generally be conducted in such a manner that the point-of-use of the gas is within an approved fume hood.
7. Cylinders containing toxic, flammable and pyrophoric gases with a NFPA rating system number of 3 or more may not be used within the building.

8. Flexible or other hoses used to deliver gas from a regulator outlet to the point-of-use must be of appropriate material and shall be securely attached to flanges, spigots, etc. in a gas-tight manner.
9. Experimental work must be scheduled in such a manner that the need to keep gas cylinders in laboratories overnight or at weekends is minimised.
10. The copy Compressed Gas Permit forms located on the doors of the relevant laboratory and at the relevant reception desk shall be retrieved and destroyed immediately after the experiment has been completed and the gas cylinder(s) have been removed from the interior of the building.
11. On the expiry of a Compressed Gas Permit the Department Safety Officer shall confirm that the gas container has been removed and notices withdrawn.

CAUTION!

Compressed gas cylinder in use

Location:

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Gas types:

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Hazards: (toxic, flammable etc.).....

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IN CASE OF EMERGENCY CONTACT

Name:..... Tel:.....

Name:..... Tel:.....

Name:..... Tel:.....

Department of Mechanical & Manufacturing Engineering

Compressed Gas Permit Form

This form must be completed and countersigned by the research supervisor and the Departmental Safety Officer before the commencement of any experiment which of necessity requires the use of a cylinder/s of compressed gas within any laboratory in the Department's buildings.
Your attention is drawn to the foregoing mandatory conditions relating to the use of cylinders of compressed gases within laboratories.

What gas do you propose to use?
(CO, NH₃, H₂C=CH₂, etc.)

Where do you propose to use this gas?
(Building + Room number)

When will your experiment (a) start (date + time)
(b) Finish (date + time)

Provide an outline of your experimental set-up:

DO NOT FORGET TO COMPLETE THE NORMAL RISK ASSESSMENT FORM & ATTACH A COPY TO THIS DOCUMENT

Signatures:

Researcher:.....**Date:**.....

Supervisor:**Date:**.....

Safety Officer:.....**Date:**.....

N.B.

A COPY OF THIS COMPLETED FORM MUST BE SENT TO THE COLLEGE SAFETY OFFICER.