

SAFE WORK PRACTICE

Revised: March 15, 2025

SWP-12

COMPRESSED AND LIQUEFIED GAS

PURPOSE/APPLICATION

A **compressed gas** is a substance that is a gas at normal room temperature and pressure and is contained under pressure, usually in a cylinder. These products are used in the welding process. For more information SWP 11 Compressed Air, SWP-35 Propane Cylinders and Torches, SWP 43 Welding, Cutting and Allied Processes.

PPE

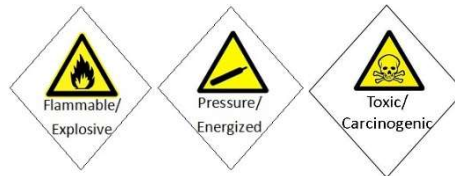
- CPES Minimum Requirements
- Face Shield (As Required)

TRAINING

- WHMIS GHS (2015)

HAZARDS & CONCERNS

- Fire/Explosion
- Oxygen displacement
- Compressed Gas Bottles
- Extreme Temperature
- Noise



PRECAUTIONS

Following these basic general safe practices will help protect you from the hazards associated with compressed and liquefied gases. For more information on specific products, please see CPES's SDS Binder:

THE DOs

- DO** Read the SDS and labels for all of the products you work with.
- DO** Review the hazards (fire/explosion, health, chemical reactivity, corrosivity, pressure) of the products you work with.
- DO** Review products you work with are compressed gases and check the label, not the cylinder colour, to identify the gas.
- DO** Inspect all incoming cylinders before storing to ensure they are undamaged and properly labelled.
- DO** Check that the cylinder was last tested within the required time.
- DO** Store compressed gas cylinders separately, away from processing and handling areas and separate as required by legislation.
- DO** Store compressed gas cylinders in cool, dry, well-ventilated areas, away from incompatible materials and ignition sources. Ensure that the storage temperature area does not exceed 52°C (125°F).
- DO** Ensure that when gas cylinders are stored outside, they are in a well-drained, securely fenced area. Keep them on a raised concrete pad or non-combustible rack. Protect cylinders from the weather and do not allow them to stand directly on wet soil as this can cause corrosion.
- DO** Ensure compressed gas cylinders are securely fastened in place in the upright position. Never roll, drag, or drop cylinders or permit them to CPES each other.
- DO** Move cylinders in handcarts or other devices designed for moving cylinders.
- DO** Transport cylinders with valve caps or other valve protection in place.
- DO** Leave the cylinder valve protection cap in place until the cylinder is secured and ready for use.
- DO** Discharge compressed gases safely using devices, such as pressure regulators, approved for the particular gas.
- DO** Ensure that equipment is compatible with cylinder pressure and contents.
- DO** Carefully check all cylinder-to-equipment connections before use and periodically during use, to be sure they are tight, clean, in good condition and not leaking.

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- DO** Carefully open all valves, slowly, pointed away from you and others, using the proper tools.
- DO** Remove regulators and close all valves when cylinders are not in use.
- DO** Handle "empty" cylinders properly, leave a slight positive pressure in them, close cylinder valves, disassemble equipment properly, replace cylinder valve protection caps, mark cylinders "empty" or "MT," (with soap stone) and store them separately from full cylinders.
- DO** Ensure proper separation of combustible gases and oxygen.
- DO** Ensure compressed and liquefied gas storage/containers are addressed in your emergencies response plan (ERP).
- DO** Remember that when transporting empty cylinders, they are treated the same as full cylinders under TDG regulations.

THE DON'Ts

- DON'T** Force connections or use homemade adaptors.
- DON'T** Tamper with safety devices in cylinders, valves or equipment.
- DON'T** Keep cylinders past their expiry dates.
- DON'T** Allow flames or sparks to come into contact cylinders and do not CPES an electric arc on cylinders.
- DON'T** Tamper with cylinders in any way. Do not repaint them, change markings or identification, or interfere with valve threads or safety devices.
- DON'T** Hang clothes or equipment over a compressed gas cylinder. If protecting tanks with a fire blanket ensure that it will not allow a build-up of gas.
- DON'T** Use oxygen or even compressed air to remove dust from clothing or equipment.
- DON'T** Store cylinders of compressed flammable gas in the same room as a compressed oxygen, unless the storage arrangements are in accordance with the applicable fire code, (at least 6.1 meters [20 feet] between oxygen and flammable gas cylinders, or use a non-combustible barrier at least 1.5 meters [5 feet] high with a minimum half-hour fire resistance rating.

REFERENCES / ADDITIONAL INFORMATION

CPES Safe Work Manual

- SWP 11 Compressed Air
- SWP-35 Propane Cylinders and Torches
- SWP 43 Welding, Cutting, and Allied Processes

Alberta OHS Code

Part 10 Fire and Explosion Hazards

British Columbia OHS Regulation

Part 5 Chemical and Biological Substances

Manitoba Workplace Safety and Health Act and Regulation

Part 19.1 Compressed gas equipment

Saskatchewan OHS Regulation

Part 25 Fire and Explosion Hazards

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