Data sheet
OXYGEN – FIRST AID

LEGISLATION

Pursuant to the *First-aid Minimum Standards Regulation,* establishments in the building and public works, forestry, mining, quarrying, and oil drilling sectors, depending on their geographical isolation, **must** have oxygen therapy equipment.

Establishments where asphyxiating (e.g., cyanide) or corrosive agents (e.g., ammonia, chlorine, etc.) gases are present are advised to obtain oxygen therapy equipment.

ITEMS TO CONSIDER WHEN USING OXYGEN

The establishment must take into account various items to ensure safe use of oxygen: i.e., the necessary equipment and safety measures, proper storage, maintenance and handling, and additional training for first aiders. The following table clarifies these requirements

ITEM	DETAILS
Necessary equipment	• Type D (390 litres) or E (690 litres) oxygen cylinder • Regulator that can support an oxygen flow of 15 litres a minute or more • Mask with a high-concentration oxygen reservoir (100% pure oxygen) • Carrying case for transportation purposes • Pocket mask with oxygen inlet • A bag-valve-mask if the company uses cyanide or cyanide by-products. (See the medical protocol for occupational poisoning in the section of CNESST*'s practical guide to First Aid in the Workplace discussing oxygen therapy To determine the number of cylinders to keep in reserve, consider: - the time required before the victim will receive prehospital emergency care - the minimum 10-litre per minute oxygen flow required in the meantime - cylinder size: type D cylinders can last 39 minutes, while type E cylinders can last 69 minutes - regular inspections, which reduce reserves.
Maintenance	• Inspect valves, regulators, and cylinders each week. • Do not use two sealing rings when replacing a cylinder. • Have the equipment inspected regularly by qualified personnel. (Changing the cylinder once pressure reaches 500 pounds is recommended.) • Record equipment inspection and maintenance information.
Storage	• Store equipment in temperatures below 50 °C in a clean, cool, well-ventilated location outside production areas.
Handling	• Securely attach the cylinders or store them in a case. • Never drag or roll a cylinder on the ground, even when empty.
Security measures to avoid explosions and fires	• Never smoke near an oxygen cylinder. Keep cylinders far from flammable materials. • Never use grease or oil to handle or lubricate regulator or flowmeter components. • Do not modify equipment parts. • Close the main valve, empty the flowmeter, and reset it to zero when the cylinder is not in use. • **Automatic external defibrillator (AED) user:** if oxygen cylinders are nearby, place mask (or bag-valve-mask) at arm's length distance from the victim.
Complementary oxygen therapy training	• Have all certified first aiders undergo complementary oxygen therapy training each year.

*CNESST: *Commission des normes, de l'équité, de la santé et de la sécurité du travail*

To choose the right instructor, the employer must ensure that the oxygen therapy training contract includes the items recommended in the table below.

RECOMMENDED OXYGEN THERAPY TRAINING CONTENT	
WHMIS (Workplace Hazardous Materials Information System) pertaining to pressurized oxygen	• Review of Material Safety Data Sheet (MSDS) (data sheet) for oxygen: - classification - storage - handling - maintenance - method of transportation - accident risk • Inspection and maintenance program • Inspection and maintenance register
Oxygen therapy	• When to administer oxygen to the victim • How to use the equipment: - properly adjusting the regulator - emptying the feedlines - equipment handling, including regulating the flow - placing the high-concentration oxygen mask - connecting the oxygen to the pocket mask - connecting the oxygen to bag-valve-mask, in case the company uses cyanide or its by-products • Monitoring the victim
Assessment	• Theoretical and practical assessments • Annually renewable certification

NB: The instructional video on administering oxygen available on the CNESST website does not replace complementary oxygen therapy training. It serves to refresh first aiders' knowledge.

This tool was developed by a Provincial Nursing Working Group of Réseau de santé publique en santé au travail (RSPSAT) in collaboration with Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST).

Sources:

AGENCE DE LA SANTÉ ET DES SERVICES SOCIAUX DES LAURENTIDES, *Projet défibrillation Combitube en préhospitalier : cahier de référence des techniciens ambulanciers*, 3rd édition, [s. l.], Agence de la santé et des services sociaux des Laurentides, 2007, II, 151 p. + annexes.

COMITÉ PROVINCIAL DES SOINS INFIRMIERS EN SANTÉ AU TRAVAIL DU QUÉBEC (CPSISAT), *Recommandations du réseau public de la santé au travail sur l'équipement, l'entretien, l'entreposage et la formation des secouristes en regard de l'oxygénothérapie en milieu de travail*, Comité, 2000, 14 p.

COMMISSION DE LA SANTÉ ET DE LA SÉCURITÉ DU TRAVAIL DU QUÉBEC, *First Aid in the Workplace,* 6th edition, [Québec], the Commission, 2014, 255 p. Also available online on the CNESST website [in French only].

COMMISSION DE LA SANTÉ ET DE LA SÉCURITÉ DU TRAVAIL DU QUÉBEC, *Guide pratique du secouriste en milieu de travail : protocoles d'intervention*, 4th edition, Québec, Les Publications du Québec, 2012, 154 p.

HEALTH CANADA, *Workplace Hazardous Materials Information System (WHMIS)* 2015. Available on the Health Canada website.

QUÉBEC, *First-aid Minimum Standards Regulation, chapter A-3.001, r. 10, s. 20, updated April 1, 2016 [Québec], Québec Official Publisher, 2016. Available online at the Publication du Québec website.*

QUÉBEC, *Regulation respecting occupational health and safety, chapter S-2.1, r. 13, s. 75, 76, 77 updated April 1,* 2016, [Québec], Québec Official Publisher, 2016. Available on the Publications du Québec website.