

**WAC 296-842-20015 Make sure compressors do not create a hazardous breathing air supply.**

**IMPORTANT :**

1. Ambient-air movers (or pumps) used to supply air to respirators must be used according to the manufacturer's instructions.
2. Respirators used with ambient-air movers must be approved by NIOSH to operate within the pressure ranges of the air mover.
  - (1) Locate or modify compressor intakes so they will not pick up contaminated air OR exhaust gases such as carbon monoxide (CO) from:
    - (a) Fuel-powered vehicles;
    - (b) The internal combustion motor of the compressor; or
    - (c) Other contaminant sources in the area, for example, a ventilation system discharge.

**Note:**

1. You may need to reposition or extend the compressor's intake or engine exhaust pipe or outlet, especially if they are located near each other.
2. Be aware that exhaust gases may not adequately disperse when the compressor is operated in:
  - a. An enclosed space such as a small room, a corner, or near a wall; or
  - b. In turbulent wind conditions.

(2) Equip compressors with suitable air-purifying filters, water traps, and sorbents (such as charcoal beds) and maintain them as follows:

- (a) Periodically change or clean them according to the manufacturer or supplier's instructions
- (b) Keep a tag at the compressor with the following information:
  - (i) When the sorbent and filters were last replaced or cleaned;
  - (ii) The date of the most recent changes or cleaning;
  - (iii) The signature of the person authorized by the employer to perform changes or cleaning.

**Note:** To be sure you are providing the recommended operating pressure for respirators, you may need to install a delivery pressure gauge where the respirator's airline hose attaches to the manifold or other air outlet.

(3) Make sure the carbon monoxide (CO) level in breathing air from compressors does **NOT** exceed ten parts per million (ppm).

Maintain CO levels below ten ppm in oil lubricated compressors by using at least one of the following:

- (a) An effective CO alarm
- (b) An effective high temperature alarm **AND** testing the air supply often enough to prevent CO levels from exceeding ten ppm.

**Note:**

1. If you do not have a reliable CO-free area available for locating your compressor intake, consider these examples of methods to prevent CO contamination of the air supply:
  - a. Use of continuous and effective carbon monoxide alarms and filters;
  - b. Conduct frequent monitoring of air quality;
  - c. Use a CO converter (converts CO to carbon dioxide).
2. How often to test depends on a number of considerations, for example:
  - a. Compressor age;
  - b. Maintenance history of the compressor;
  - c. Stability of CO readings.
3. If the CO or high temperature alarm cannot be heard by the employee, a flashing light or other effective alternative to an audio alarm needs to be used.
4. Safeguards, such as alarms, are necessary to prevent CO contamination resulting from compressor overheating. When alarms are provided, proper maintenance practices such as periodic inspections and calibration will help make sure alarms remain effective.
5. Any type of oil-lubricated compressor, such as screw or piston types, may produce dangerous levels of CO if overheating occurs. Old compressors are known to leak oil due to worn parts, increasing the possibility for overheating. Newer compressors may also overheat if maintenance practices are poor. For example, poor maintenance practices may lead to disconnected or incorrectly set alarms, inoperative shut-offs, or an impaired cooling system.
6. You need to instruct employees to move to a safe area when the alarm sounds **AND** to stop using respirators.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 17-18-075, § 296-842-20015, filed 9/5/17, effective 10/6/17; WSR 07-05-072, § 296-842-20015, filed 2/20/07, effective 4/1/07; WSR 03-20-114, § 296-842-20015, filed 10/1/03, effective 1/1/04.]