

Halogenated Leak Detector for Dry Cleaning Operations

The Environmental Protection Agency (EPA) amended the federal standard for dry cleaners (40 CFR Part 63, Subpart M), and established new requirements. One is that all dry cleaners must conduct monthly inspections for perchloroethylene (PCE) leaks using a **halogenated hydrocarbon detector or PCE gas analyzer**. Dry cleaners may use any brand of halogenated hydrocarbon leak detector for the monthly monitoring provided they can demonstrate it meets the requirements of the rule, “portable device capable of detecting vapor concentrations of PCE of 25 parts per million by volume (ppmv) and indicating a concentration of 25 ppmv or greater by emitting an audible or visual signal that varies as the concentration changes.” Facilities are required to repair vapor leaks detected within 24 hours unless parts must be ordered. All dry cleaning machines must be in compliance with the requirements above.

Further research is recommended to find the best leak detector for your dry cleaning facility. The two categories of equipment are:

- **PERC Gas Analyzers - Photoionization Detector (PID)** - Can be used for equipment leak detection (≥ 25 ppm PERC) & carbon adsorber monitoring ($300 \text{ ppm} \pm 75 \text{ ppm perc} / 100 \text{ ppm} \pm 25 \text{ ppm}$). Detectors are calibrated to be solvent specific. Cost of equipment is more expensive.
- **Halogenated Hydrocarbon Detectors** - Must detect 25 ppm or more Tetrachloroethylene (Perchloroethylene or Perchloroethene). Cost of equipment is less expensive.

Tips for using the detector:

- Learn how it should be calibrated. Most require fresh air prior to testing for leaks. It is recommended you turn the detector on outside of your shop. If you turn it on near a leak, it may calibrate incorrectly.
- Operate your detector according to manufacturer’s instructions.
- Check for leaks when they are most likely to occur. Check for leaks during the drying cycle since the dry cleaning machine is operating under pressure. Check for leaks around the distillation unit while it is running. You probably won’t find leaks during the wash cycle since perc liquid is being agitated in the drum and the condenser isn’t running.
- Place the tip of the detector within one to two inches of the area being checked. Move it slowly back and forth before moving to the next location.
- If the detector beeps rapidly, you may have a leak. Go back to the area where you first detected the beeps. You want to find the exact spot where the detector reliably beeps so you know the precise part or location of the leak.
- If the instrument detects a perc vapor leak or is set off, make sure to air it out before continuing the inspection; otherwise, you may have incorrect results.