Fact Sheet

OSU ENVIRONMENTAL HEALTH & SAFETY

Safety Instruction

Gas Sensors

Gas Monitors measure levels of gases that are normally present — such as carbon dioxide and oxygen — and are installed to warn of unsafe levels.

Gas Detectors are installed to warn of the presence of significant quantities of gases that are not normally present in the air in significant quantities, such as flammable or toxic.

When is a Gas Sensor Required?

Gas sensors are one of several risk management controls which are utilized to reduce risks associated with gas use. Substitution for a less dangerous gas or a smaller amount of gas, isolation of gases (e.g., piping gases into a building), and ensuring proper ventilation should be given consideration before purchasing a gas sensor.

Common types of gases found on university campuses:

Toxic Gases (e.g. hydrogen sulfide) – All toxic gases require a sensor.

Cryogenic Liquids (e.g. liquid nitrogen) – EH&S will conduct a hazard assessment to see if an oxygen level of under 19.5% can be reached based on amount of gas, room dimensions and ventilation.

Inert Gases (e.g. carbon dioxide)– EH&S will conduct a hazard assessment to see if an oxygen level of under 19.5% can be reached based on amount of gas, room dimensions and ventilation.

Flammable Gases (e.g. hydrogen) – EH&S will conduct a hazard assessment.

Installation of a Gas Sensor

Gas sensors should be located and positioned where they can quickly detect an abnormal gas. Possible sensor locations are:

- associated with the gas supply network (e.g. gas cabinet),
- within the habitable work environment or near potential sources of gas leaks,
- placed 12-24 inches above the floor if the gas is heavier than air, or
- placed 4-5 feet above the floor if the gas is lighter than air.

Maintenance and Calibration

If gas sensors are not functioning properly, it is the responsibility of the Principal Investigator (PI) or Supervisor to get it repaired and/or replaced as soon as possible due to life safety concerns. Maintenance should occur per the manufacture's requirements.

The PI or Supervisor is responsible for ensuring that calibration is done by a competent individual. Once calibrated, a sticker should be put on the unit with the calibration date. Calibration must occur:

- prior to or directly after installation;
- after replacement of the gas sensor/detector; and
- annually or at a frequency determined by the manufacturer/supplier.

OSU Requirements and Signage

☐ Gas Monitor/Detector Signage (see template below)
☐ Calibration sticker with last calibration date or expiration date
☐ Printed Manual or Operating Instructions

Recommendations for Gas Sensor

EH&S has recommendations for gas monitors and detectors based on your individual needs. Contact EH&S at ehs@oregonstate.edu to get assistance with your gas monitor needs.

Contact EHS:
ehs@oregonstate.edu
ehs.oregonstate.edu
541 • 737 • 2273

Enter Sensor Type
SENSOR

IF ALARMING, VACATE ROOM IMMEDIATELY AND CALL PUBLIC SAFETY AT 541-737-7000 & lab contact below.

LAB CONTACT:

Oregon State University