Subject: Oxygen Monitoring Near Miss
Incident Date: June 8, 2017

Incident Summary
A worker arrived in the morning to hear an alarm coming from the fixed gas detection system for oxygen. The worker entered the lab to investigate the cause of the alarm coming from the display panel located inside the lab. The display panel was registering less than 17% oxygen. The supervisor arrived around the same time and also entered the lab to investigate. Campus Security were contacted and they advised everyone to evacuate the area. Environmental Health and Safety were called; oxygen levels were sampled and found to be within the acceptable levels. Life Safety determined that the oxygen sensor had failed resulting in a false alarm. Workers were given a portable oxygen detector to use until oxygen sensor could be replaced.

Injuries and Equipment Damage
This was a near miss resulting in no injuries or equipment damage. Workers should not enter spaces when alarms have been activated until the situation has been assessed and safe entry can be verified. Oxygen levels below acceptable levels can cause adverse physiological and psychological effects such as impaired thinking, increased pulse and breathing rate, reduced coordination, impaired respiration, possible heart damage, nausea, vomiting, fainting, loss of consciousness, convulsions and death. Frequent false alarms can cause workers to become complacent.

Immediate and root cause(s):
1. Oxygen sensor in the oxygen detector head was not replaced prior to failure.
2. Lack of preventative maintenance plan to replace oxygen sensors as per manufacturer’s recommendations.
3. Oxygen detection display panel was located inside the lab.
4. Lack of Standard Operating Procedure and training on entry procedures, operation of the oxygen detection display panel and emergency response procedures for the area.
5. Oxygen detection display panel was not connected to the building life safety system.
6. Fixed Gas Detection System Standard was not followed.

What you should do if you have a Fixed Gas Detection System in your area:
1. Review the current Fixed Gas Detection System Standard as maintained on the EHS website, and know your responsibilities.
2. Ensure After-Hours contact information is up-to-date in Chematix.
3. Ensure Standard Operating Procedure – Response to Gas Detection Systems Alarms is in place, and alarm activations are reported.
4. Ensure Fixed Gas Detection System Standard, gas detection and associated systems are identified on Hazard Assessment and Control Forms, and if applicable in Field Level Hazard Assessments.
5. Ensure workers are trained on how to read the fixed gas detection display panel prior to entering the area and response procedures.

References: Fixed Gas Detection System Standard