

## TOOLBOX TALK #11

### PERMISSIBLE EXPOSURE LIMITS

In the world of gas detection, there is a multitude of acronyms. We will discuss the definitions of some that you might see. We are referring to things like TWA, STEL, PEL, and IDLH. Just what are these, what do they mean and who regulates them?

**Time weighted average (TWA)** is the average exposure to any hazardous gas in the workplace based on an 8-hour workday or 40-hour work week. It is the maximum amount one may be exposed to without experiencing significant adverse health effects over said period. Once the TWA has been exceeded, the worker may not re-enter the space for the remainder of the day.

**Short term exposure limit (STEL)** is an allowable average exposure over a short period of time, typically 15 minutes, and should not be exceeded more than four times in a day as long as the time weighted average is not exceeded. If the predetermined limit has been exceeded, the worker must remove him- or herself from the hazard for at least one hour.

**Permissible exposure limit (PEL)** is the regulatory limit on the amount or concentration of a substance in the air. This is usually based on an 8-hour, time weighted average (TWA), although some are based on short-term exposure limits (STEL).

**Immediately dangerous to life or health (IDLH)** is “an exposure to airborne contaminants that are likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment” as defined by NIOSH.

So let's recap. PEL can be measured in STEL or TWA. It's meant to keep you safe on a daily basis, but IDLH is meant to keep you from an early grave. These acronyms stem from a number of different organizations such as OSHA, the American Industrial Hygiene Association and NIOSH, but their use and meaning has become universal in the world of gas detection. They all boil down to the same thing – your safety. By learning these terms and understanding their value, you become familiar with the universal language of safety.

