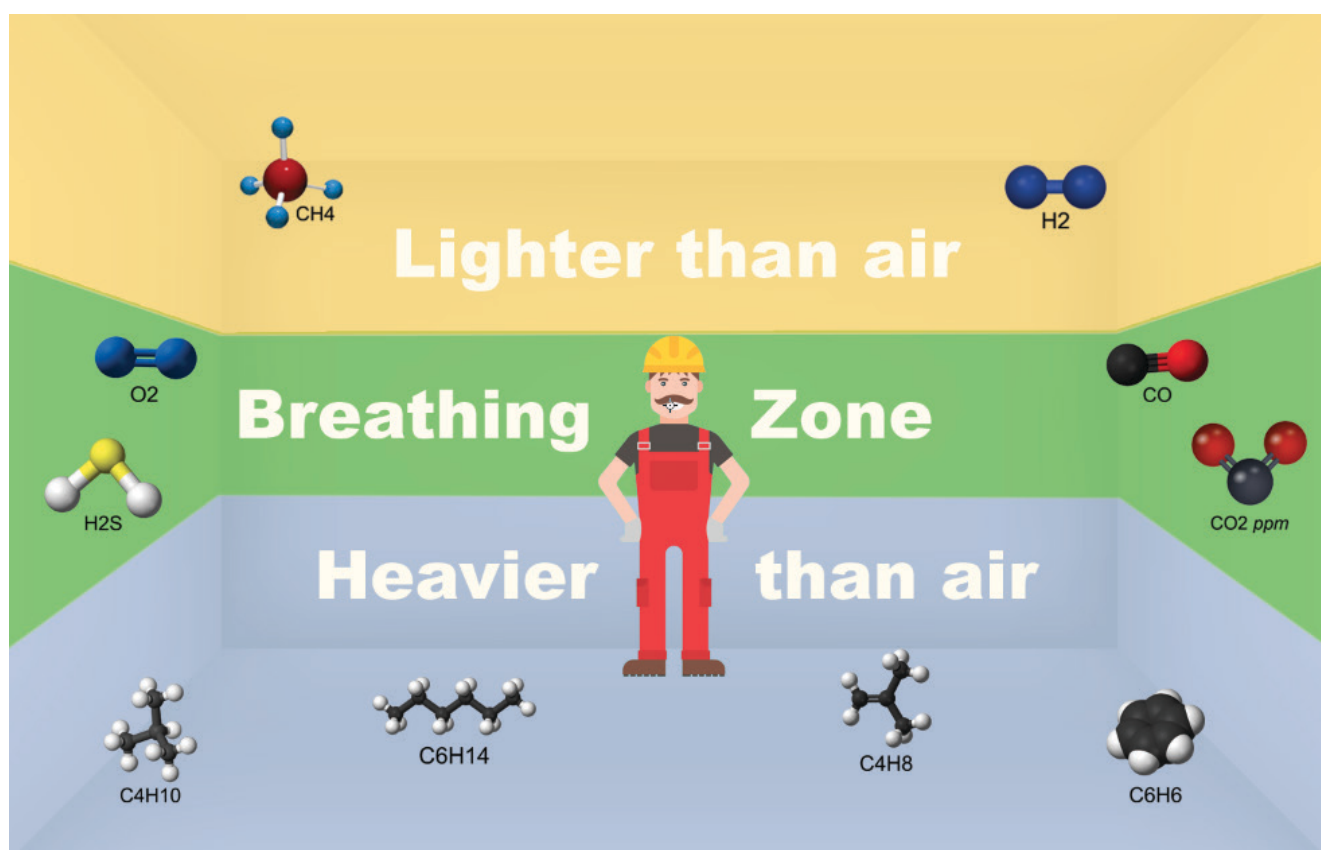




Gas Detection For Life FAQ

April 15, 2021

Where should a fixed gas detector sensor be mounted?



Gas Detection Sensor Mounting Height and Location Guidelines: It is important to mount the gas detection heads in areas that are most likely to first be exposed to a gas leak, or that are most representative of the gas levels in the area being monitored. Here are some criteria to consider:

Density of the gas: When detecting for LEL levels of gases and vapors, the density of the gas should be considered. Higher density gases such as propane and gasoline are heavier than air and will tend to collect near the floor. For these gases it is best to mount the sensor within inches of the floor. Lower density gases such as hydrogen or natural gas are lighter than air and will tend to collect near the ceiling. For these gases, it is best to install the sensor within inches of the ceiling.

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Toxic gases: Where safe breathing levels are the main concern, sensors should be located in the typical breathing zone, which is 4 to 6 feet from the floor. For low ppm level detection, the density of the gas does not matter as the gas will spread out and flow with the normal ventilation in the area.

Ventilation: Consideration should be given as to where ventilation intake and exhaust ducts are located in a room. Sensors should not be located near a duct blowing fresh air into the room, since the air will not be representative of the monitored area. Sensors can be located near a duct that is removing air from the monitored area, since air from the surrounding area will be drawn towards that location.

Leak source: Where are the most likely leak sources of gas in the room? Sensors should be located near where the leak situation might occur. For example, if you have a large room and there is a gas tank or a process involving gases or solvents in one corner of the room, it is important to install the sensors close to the potential leak source(s). If gas could leak from anywhere in the room, or many locations in the room, then it is necessary to monitor the whole room.

How much area does one sensor cover? A sensor is like your nose, meaning it can only sense what immediately surrounds it. The trick is to strategically place the sensors to detect the gas leak, using the techniques listed above. For a large, open area, an industry rule of thumb is to space sensors 30-40 feet apart. This can be more or less depending on the area to be monitored and the budget.

Lighter than air %LEL / % Vol. (On or near the ceiling)	Breathing Zone PPM (4-6ft above floor)	Near The Floor % LEL / % Vol. (6 inches above floor)
Hydrogen (H ₂)	Acetylene (C ₂ H ₂)	Alcohol
Methane (CH ₄)	Ammonia (NH ₃) ppm	Benzene (C ₆ H ₆)
	Carbon Dioxide (CO ₂) ppm	Carbon Dioxide (CO ₂) %Vol.
	Carbon Monoxide (CO)	Diesel Fuel
	Chlorine (Cl ₂)	Ethanol (C ₂ H ₆ O)
	Ethylene (C ₂ H ₄)	Gasoline
	Formaldehyde (CH ₂ O)	Hexane (C ₆ H ₁₄)
	Fluorine (F ₂)	Isobutane (i-C ₄ H ₁₀)
	Hydrogen Chloride (HCl)	Isobutylene (C ₄ H ₈)
	Hydrogen Cyanide (HCN)	Jet Fuel
	Hydrogen Fluoride (HF)	Propane (C ₃ H ₈)
	Hydrogen Sulfide (H ₂ S)	Pentane (C ₅ H ₁₂)
	Methanol (CH ₄ O)	Propylene (C ₃ H ₆)
	Oxygen (O ₂)	Refrigerants
	Ozone (O ₃)	Toluene (C ₇ H ₈)
	Nitric Oxide (NO)	Xylene (C ₈ H ₁₀)
	Nitrogen Dioxide (NO ₂)	
	Phosphine (PH ₃)	
	Silane (SiH ₄)	
	Sulphur Dioxide (SO ₂)	
	TVOC (target gas dependant)	