Confined Space Entry

Certified Trainer: Ed Fitzgerald

DOHENY TECHNICAL INSTITUTE

OSHA 29 CFR 1910.146
PERMIT REQUIRED
CONFINED SPACE ENTRY

DOHENY TECHNICAL INSTITUTE

Jack Doheny Companies

Who Are We?

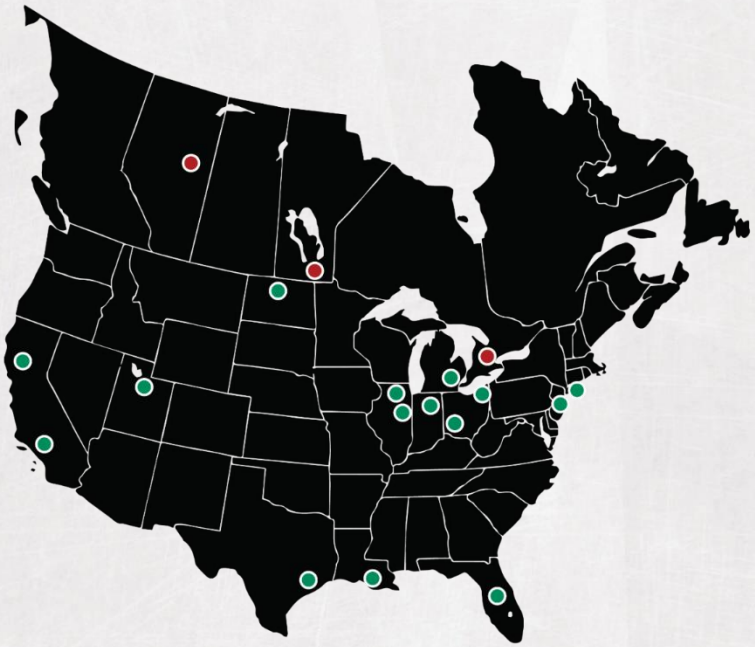
Jack Doheny Companies is the world's largest distributor of sewer cleaning and industrial air handling equipment.

We specialize in:

- Nations Largest Rental Fleet
- Flexible Rental Options
- Remanufactured Equipment
- "We Service What We Sell"

Jack Doheny COMPANIES

Locations



Antioch, California
Bay Shore, New York,
Cincinnati, Ohio
Gonzales, Louisiana
Island Lake, Illinois
Joliet, Illinois
La Porte, Texas
Long Beach, California
Minot, North Dakota
Northville, Michigan
Orlando, Florida
Salt Lake, Utah
Twinsburg, Ohio
Wharton, New Jersey
Whitestown, Indiana

Alberta, Canada
Manitoba, Canada
Ontario, Canada

Parts & Service







HAZARDOUS ATMOSPHERE

29 CFR 1910.146(b)

Means an atmosphere that may expose employees to risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, and, or acute illness from one or more of the following;

1. Flammable gas, vapor, or mist in excess of 10% of its Lower Flammable Limit (LFL);

2. Airborne combustible dust that meet or exceeds its Lower Flammable Limits (LFL)

3. Atmospheric oxygen concentration below 19.5% or above 23.5%;

4. Atmospheric condition of any substance for which a dose or a PEL (Permissible Exposure Limit) is published in subpart G and Z of 29 CFR 1910, which could result in an employees exposure in excess of its dose or permissible limits

5. Any other atmospheric condition that is IDLH (Immediately Dangerous to Life and Health)

OXYGEN

THE NUMBER 1 KILLER

The ambient, or normal, atmosphere is composed of 20.9% oxygen, 78% nitrogen, and 1% argon with small amounts of various other gasses mixed in at small amounts.

23.5% HIGH ALARM (FLAMMABLE)

20.9% NORMAL

19.5% LOW ALARM

17.0% LOSS OF NIGHT VISION INCREASED BREATHING VOLUME ACCELERATED HEARTBEAT

14%-16% volume, rapid	Physiologic effects are increased breathing heartbeat, poor muscular coordination, fatigue, and intermittent respiration.
6%-10%	Nausea, vomiting, inability to perform and unconsciousness. Death in minutes

FLAMMABLE ATMOSPHERE

LEL / LFL

The Lower Explosive or Lower Flammable Limits are terms that are synonymous with each other. This is the lowest level of gas or vapor in air that will support combustion.

UFL / UEL

The Upper Flammable and Upper Explosive Limits. The highest level of gas or vapor that will support combustion.

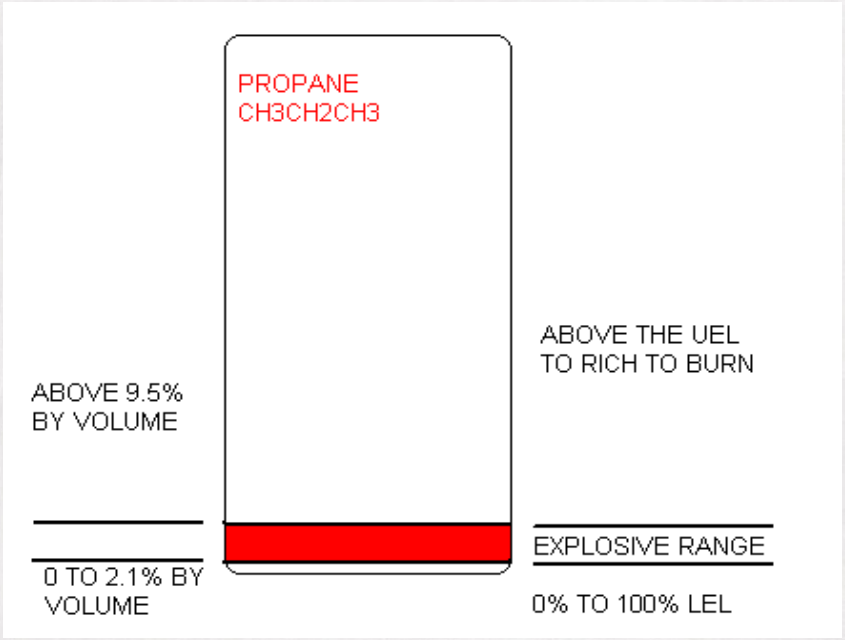
Our portable air monitors read in % LEL not % by volume.

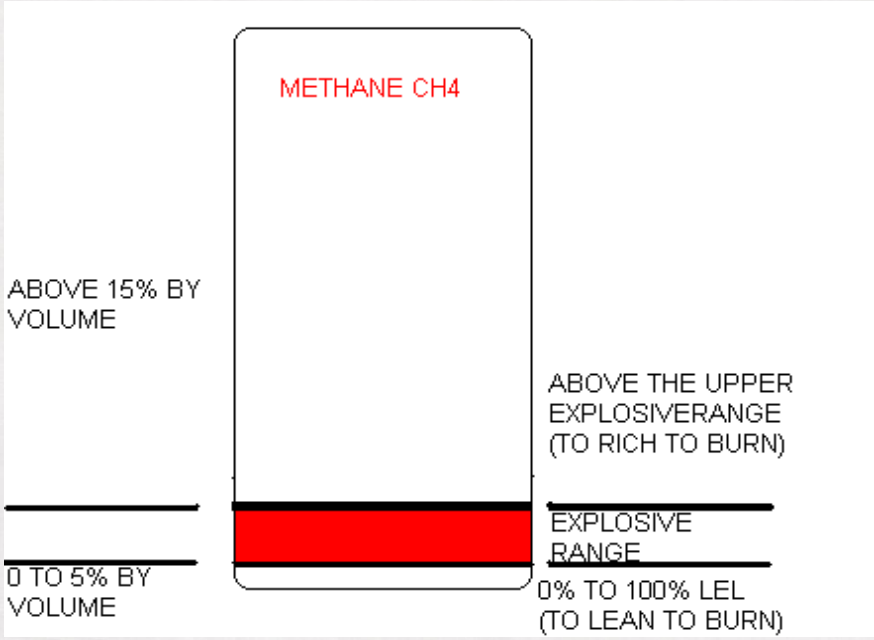
EXAMPLE:

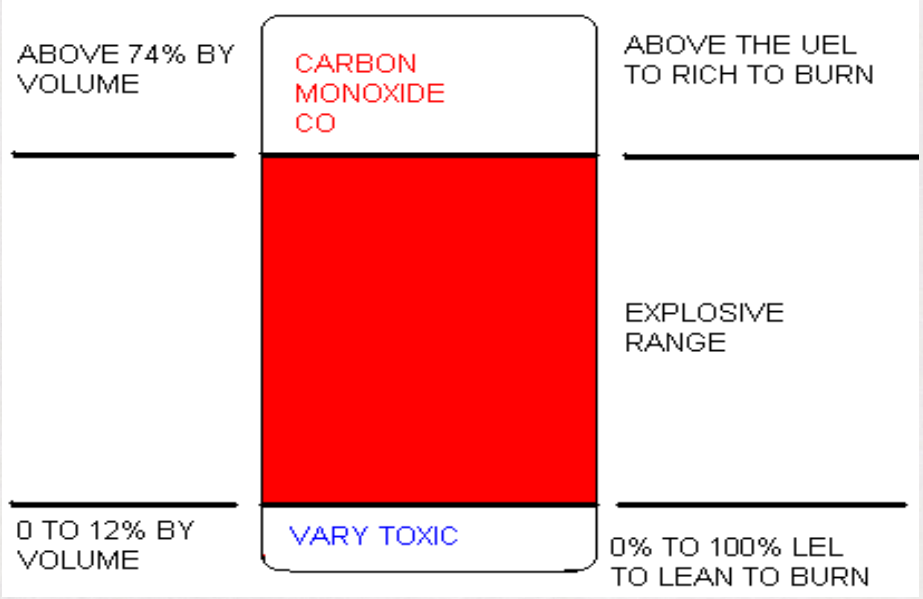
Methane 5% of the space is filled with methane. When you lower your portable air monitor in, the reading will be 100% LEL. The lowest level of methane in air that will support combustion.

GAS MIXED IN AIR:	LFL / LEL	UFL / UEL
METHANE (CH4)	5%	15%
BENZENE (C6H6)	1.2%	8%
PROPANE (CH3CH2CH3)	2.1%	9.5%

0% LEL is good – 10% LEL Contact Supervisor







VERY TOXIC

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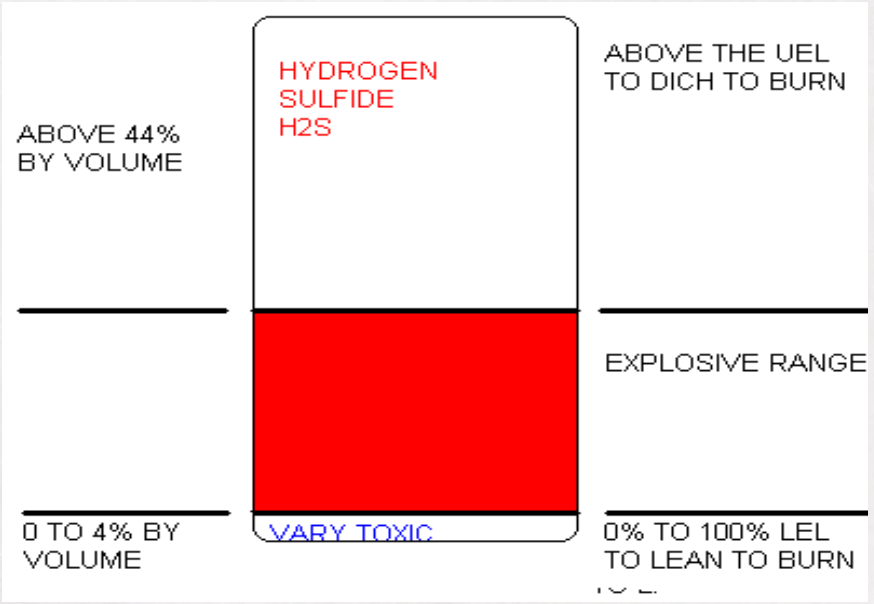

TOXIC

IT'S THE DOSE THAT MAKES POISON

MEASURED IN

PPM (PARTS PER MILLION)

- ONE INCH IN 16 MILES
- ONE DOLLAR IN A MILLION
- ONE DROP IN 80 5th OF JACK DANIELS

COMMONLY USED TERMS

PEL - Permissible Exposure Limit
(usually the same as a TWA)

TWA - Time Weighted Average
(8-hour average)

STEL - Short Term Exposure Limit
(15 min. average)

IDLH - Immediate Dangers to Life and Health
(no exposure)

	CARBON MONOXIDE	HYDROGEN SULFIDE
TWA	35 PPM	10PPM
STEL	200 PPM	15 PPM
IDLH	1200 PPM	100 PPM

SAMPLING

ALWAYS

HIGH

MEDIUM

LOW

Once your confined space is deeper than eight feet, you will need to sample every four feet.

The sample time will vary from air monitor to air monitor. Look for response time (READ THE MANUAL) for the slowest sensor in your air monitor and use that as your sample time.

Calibration is the most important maintenance you can do to your air monitor. Before each use check the calibration date on your air monitor or in your calibration records. (READ THE OWNERS MANUAL FOR CALIBRATION INTERVALS)

When using a sample pump, don't forget to add the additional sample time for drawing the sample through the sample hose.

(YES, THAT'S RIGHT, READ THE OWNERS MANUAL!)