



## LEL & UEL of substances

LEL: The Lower Explosive Limit (LEL) is the lowest concentration of a gas, vapor or dust that will burn in air.

UEL: The Upper Explosion Limit (UEL) is the highest concentration of a gas, vapor or dust, that will burn in air.

These values for gases and vapors are mostly expressed as a volume-% (vol%) in air. For dust mostly as the mass-concentration in air in gr/m<sup>3</sup>.

When the concentration of the substance in air is between these values there is an explosive atmosphere. When the concentration is beneath the LEL, the mixture is too lean and when the concentration is above the UEL the mixture is too rich to ignite.

In the figure below the typical relationship of LEL, UEL with the Minimum Ignition Energy needed for a combustion is shown.

