CONVERSION FACTORS USED IN AIR QUALITY CALCULATIONS

Emission rate in pounds per million BTU:

\[ m = \frac{(C \cdot V/q \cdot MW)}{(1000000 \cdot MV)} \]

where

- \( m \) = Pounds of emission per million BTU, usually based on higher heating value (HHV)
- \( C \) = Concentration of emission in parts per million, (cu. ft./million cu. ft.), usually based on dry gas
- \( V \) = Flow rate of products of combustion in standard cubic feet per hour on the same basis as \( C \), usually dry basis
- \( q \) = Fuel burning rate in million BTU/hr. on the same basis as \( m \), usually HHV
- \( MW \) = Molecular weight of emission, pounds/mole
  - 46 for NO₂
  - 28 for CO
  - 44 for CO₂
- \( MV \) = Volume of one pound mole of gas, SCF/mole
  - 379
- 1000000 = Converts ppm to cu. ft. of emission

Convert emission rate in ppm at one oxygen level in products of combustion to another oxygen level

\[ ppm_x = ppm_m \times \frac{(20.99 - x)}{(20.99 - y)} \]

where

- \( ppm_x \) = Parts per million of emission at an oxygen level of \( X\% \) in the products of combustion (POC)
- \( ppm_m \) = Ppm of emission as measured in the POC
- 20.9 = Percent of oxygen in pure air
- \( x \) = Adjusted percent oxygen in POC, same basis (i.e., wet or dry) as \( ppm_x \)
- \( y \) = Percent oxygen as measured in the POC