Acceptable Indoor Air Quality Levels

WorkSafeBC publishes occupational exposure limits for various air quality contaminants, including carbon dioxide, carbon monoxide and dust. In addition, standards for acceptable indoor air quality have been developed by ASHRAE to establish minimum requirements for optimal health and comfort in buildings, and in particular, office environments. The following should be used as a guide for assessing indoor air quality.

Carbon Dioxide (CO_2):
WCB Exposure Limit: 5000 ppm (TWA)
ASHRAE: levels below 1000 ppm indicate that there is adequate air circulation for indoor environments.

Carbon Monoxide (CO):
WCB Exposure Limit: 25 ppm (TWA); 100 ppm (STEL)
ASHRAE: levels for indoor environments should generally not exceed 5 ppm

Relative Humidity:
ASHRAE: Acceptable relative humidity range for indoor environment is 30-60%

Temperature:
ASHRAE: Acceptable temperature range for indoor environment is 20-27°C

Particulates (Dust):
-Total Particulate Matter (TPM): 10 mg/m3 (TWA)
-Respirable Particulates (PM_{10}): 3 mg/m3 (TWA)

Endnotes:

ASHRAE= American Society of Heating, Refrigerating, and Air-Conditioning Engineers.

WCB= Workers Compensation Board.

PPM= parts per million

TWA= 8-hour time weighted average concentration of substance that must not be exceeded.

STEL= short term exposure limit; means the time weighted average (TWA) concentration of a substance in air which may notbe exceeded over any 15 minute period, limited to no more than 4 such periods in an 8 hour work shift with at least one hour between any 2 successive 15 minute excursion periods.

Ceiling= means the concentration of a substance in air which may not be exceeded at any time during the work period.

Total Particulate Matter (TPM)= any particulate matter with a diameter less than 100 microns.

Particulate (PM10)= any particulate matter with a diameter less than or equal to 10 microns (10 µm or smaller); these are also known as Respirable Particulates, as they are capable of reaching the lower regions of the respiratory tract and are responsible for most of the adverse health effects related to particulate exposure.