

INDOOR AIR QUALITY GUIDELINES



1. Assessment of Indoor Air Quality Parameters

a. Sample Position

The sampling probe should be located between 75 and 120cm from the floor at the center of room or an occupied zone

b. Number of sampling Locations

Indoor :

At least one sample should be taken from each floor or from each area serviced by a separate air handling unit . For large spaces, the guidelines for the minimum required number of sampling points are as follows :

Area of Building (m ²)	Minimum No of Sampling Points
3 000 - < 5 000	8
5 000 - < 10 000	12
10 000 - < 15 000	15
15 000 - < 20 000	18
20 000 - < 30 000	21
30 000 or more	25

Outdoor :

At least 2 samples should be taken at the entrance to the building or at the entrance to the fresh air intake

2. Guideline for Maximum Concentrations for Specific Indoor Air Contaminants

Parameter	Averaging Time	Limit for Acceptable Indoor Air Quality	Unit
Carbon Dioxide	8 hrs	1800	mg/m ³
		1000	ppm
Carbon Monoxide	8 hrs	10	mg/m ³
		9	ppm
Formaldehyde	8 hrs	120	µg/m ³
		0.1	Ppm
Ozone	8 hrs	100	µg/m ³
		0.05	ppm

Note : The guidelines specified have a wide margin of safety such that even if they are exceeded occasionally, toxic effects are unlikely to occur .

3. Recommended Maximum Concentrations for Specific Classes of Contaminants



Parameter	Limit for Acceptable Indoor Air Quality	Unit
Suspended / Respirable Particulate Matter***	150	µg/m ³
Volatile Organic* Compounds (VOC)	3	ppm
Total Bacterial counts	500	CFU**/m ³
Total Fungal Counts	500	CFU/m ³

* Total Photoionisable compounds, reference to Toluene

** Colony Forming Units

*** Respirable particles with aerodynamic diameters less than 10µm sampled with a size selective device (commonly used devices : Cyclones & Impactors) having a median cut size of 4µm and the following penetration characteristics :

Particle Aerodynamic Diameter, µm	Respirable Particulate Mass (%)
0	100
1	97
2	91
3	74
4	50
5	30
6	17
7	9
8	5
10	1

4. Guideline Values for Specific Physical Parameters



Parameter	Range for Acceptable Indoor Air Quality	Unit
Air Temperature	22.5 – 25.5	°C
Relative Humidity (RH)	≤ 70	%
Air Movement*	≤ 0.25	m/s

* At workstation within occupied zone

Based on “Guidelines for Good Indoor Air Quality In Office Premises” by the Ministry of Environment – Singapore