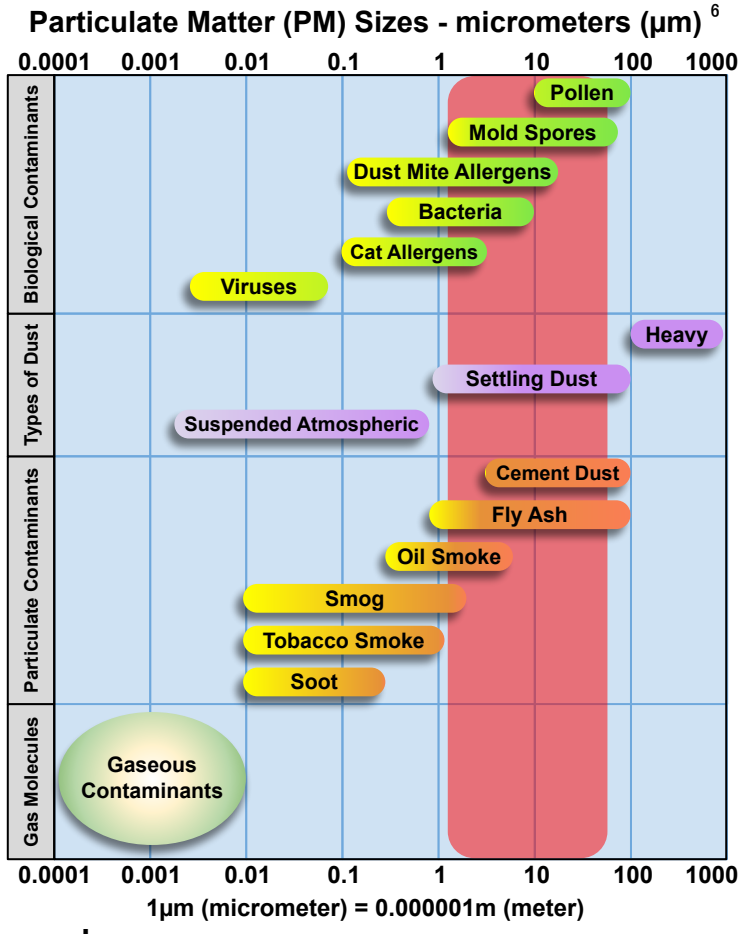
WHAT DOES THE AIR QUALITY SURVEY DATA MEAN?

PM2.5 & PM10 - Particulate Matter:

Reductions in airborne particulate matter have been shown to have a wide range of positive effects[1]. The toxicity of particulate matter depends on the type of particulate matter, but elevated particulate levels of all types have been associated with adverse health effects.

PM2.5/10 (µg/m³)	LEVEL[2]	MEANING
0 - 50	Good	Air quality is considered satisfactory air pollution poses little or no risk
50 - 100	Moderate	Air quality is acceptable
100 - 150	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects
150 - 200	Unhealthy	Everyone may begin to experience health effects
200 - 300	Very Unhealthy	Health Alert: Everyone may experience more serious health effects
300 - 500	HAZARDOUS	Health Warning: Emergency conditions



eTVOC - Equivalent Total Volatile Organic Compound:

Total VOC concentration represents all VOCs in the air. Some types of VOCs like formaldehyde are very dangerous and should be monitored at lower levels. Below is guidance published by the German Federal Environmental Agency that allows for direct comparison to the assessment data readings.

eTVOC (ppb)	LEVEL	EXPOSURE LIMIT	RECOMMENDATIONS[3]
0 - 65	Background	No Limit	No action required
65 - 220	Normal	No Limit	Ventilation recommended
220 - 660	Elevated	< 12 Months	Ventilation recommended, look for sources
660 - 2,200	High	< 1 Month	Intensified ventilation, look for sources
> 2,200	Dangerous	Hours	Should be avoided, intense ventilation

eCO_2 - Carbon Dioxide Equivalent:

Elevated levels of carbon dioxide can cause headache and fatigue, while very high concentrations can cause dizziness, nausea, and vomiting. Extremely high levels can cause loss of consciousness and even death.

eCO_2 (ppm)	LEVEL	HEALTH EFFECTS[4–5]
250 - 350	Background	Normal level for outdoor air
350 - 1,000	Normal	Typical concentrations found in indoor air
1,000 - 2,000	Elevated	Symptoms will begin to develop, starting with drowsiness
2,000 - 5,000	High	Headaches, sleepiness, poor concentration, increased heart rate and slight nausea
> 5,000	Dangerous	Dizziness, fatigue, nausea, vomiting, loss of consciousness and death

[1] Fisk, W.J. (2013). Health benefits of particle filtration. Indoor Air,23(5), 357-368. doi:10.1111/ina. 12036
[2] https://www.airnow.gov/index.cfm?action=aqibasics.aqi#good
[3] http://www.innenraumanalytik.at/pdfs/handreichung.pdf
[4] https://www.dhs.wisconsin.gov/chemical/carbondioxide.htm
[5] https://ohsonline.com/articles/2016/04/01/carbon-dioxide-detection-and-indoor-air-quality-control.aspx?m=1
[6] https://www.medical-reference.net/2014/01/what-are-particulate-matter-25.html