



WHAM

Why Healthy Air Matters

Air Quality Education by South Coast AQMD

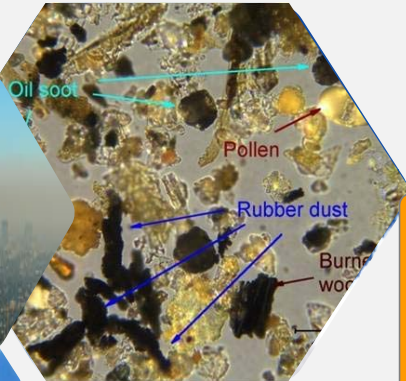
South Coast Air Quality Management District

To clean the air and protect the health of all residents in the South Coast Air District through practical and innovative strategies.

- Regional clean air agency for four-county region in Southern California.
- Over 900 employees, including scientists, planners, engineers, and inspectors.
- Over 10,000 square miles.
- Nearly 17 million residents – about half the population of the state of California.
- Over 12 million vehicles, including hundreds of thousands of diesel vehicles.
- More than 40% of the nation's containerized goods enter through our twin Ports of Los Angeles and Long Beach.



What is Clean Air?



Quality Index - Particulate

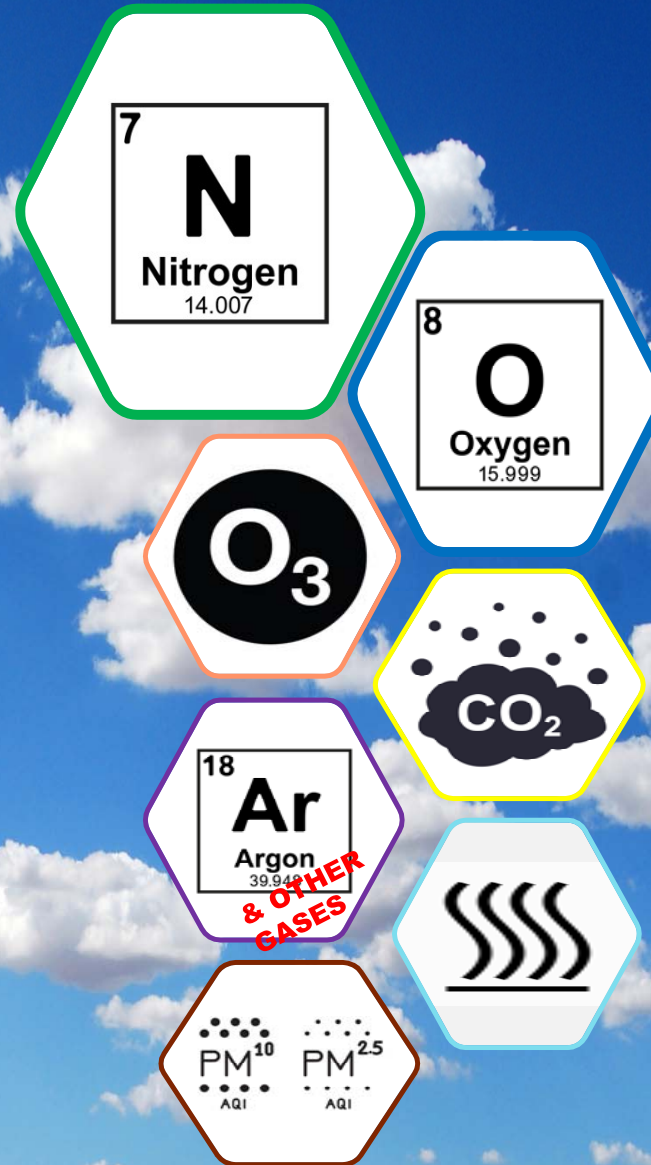
500+	Hazardous
301-500	Very Unhealthy
151-200	Unhealthy
101-150	Unhealthy for Sensitive Groups
51-100	Moderate
0-50	Good

Breaking it down,...

What is Air Made of?

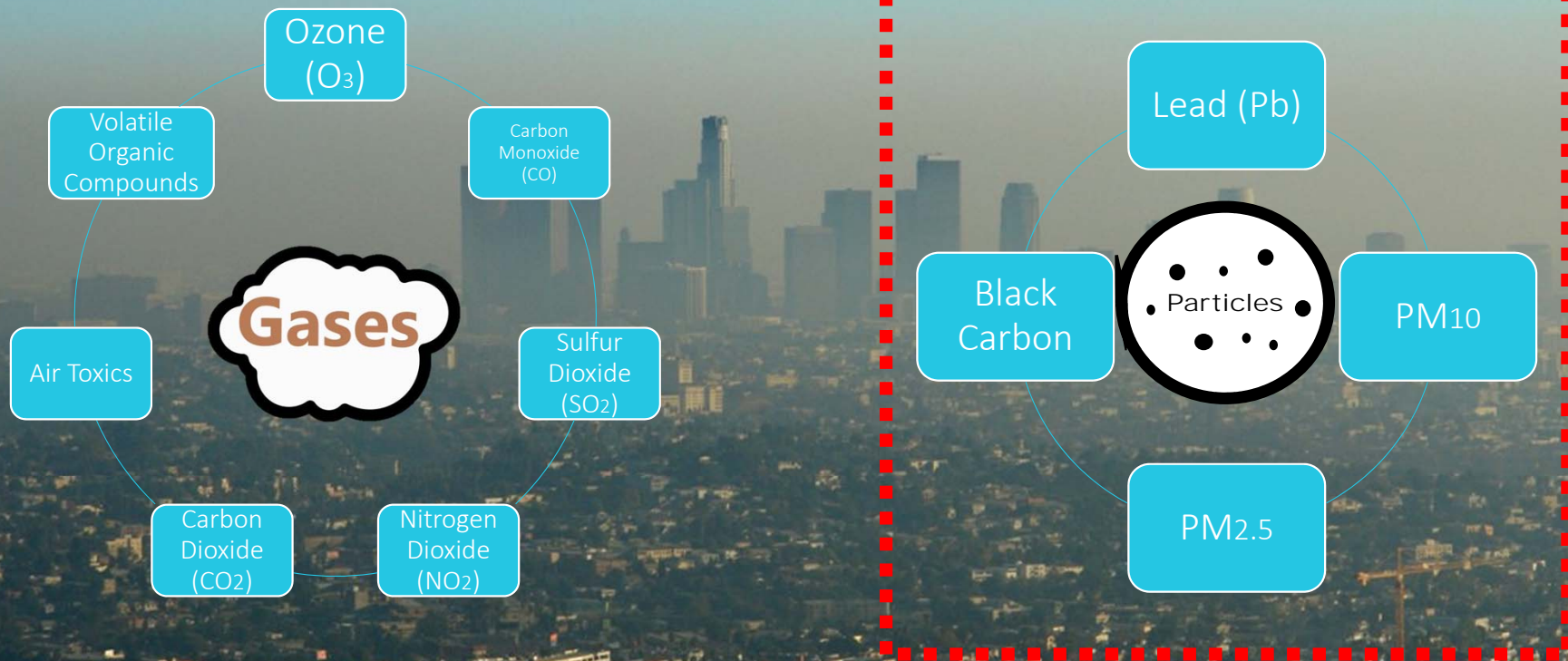
Mostly nitrogen (78%) and oxygen (21%). But it also contains:

- Ozone
- Carbon dioxide
- Argon and other gases
- Water vapor
- Particles



What is Air Pollution?

Any substance (contaminant) in the air that can cause harm to humans or animals.



What is a Particle?

Particle pollution is a complex mixture of extremely small solid and liquid components.

Facts:

- Made of many different materials such as dust, pollen, & metals.
- Either directly emitted from a source like a smokestack or forms through reactions with other substances in the air.
- Form in the air in many different physical & chemical ways.
- Vary tremendously in size: PM2.5, PM10. See diagram to right.
- If you can see a particle, its diameter is greater than 50 microns. These large particles are generally filtered out by our noses before they get into our lungs.
- There are 25,400 microns in one-inch.

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WISCONSIN HEALTH AND ENVIRONMENTAL MONITORING
NO DAILY TOXICITY MONITORING AGENCY

This program focuses on particulate matter. We will be using portable monitors to measure PM.

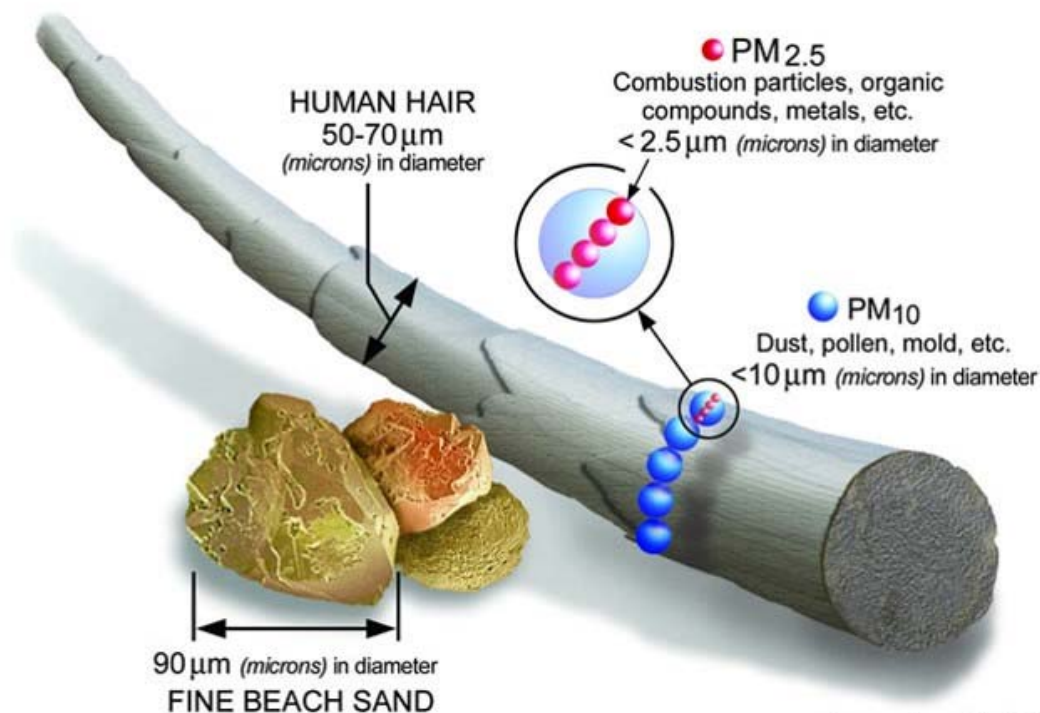


Image courtesy of the U.S. EPA

After a particle enters the air or forms in the air, it stays aloft until one of the following occurs:

Gravity pulls big particles down out of the air faster than small particles & the particles settle on the surface –
Sedimentation.

Water and other gases in the air collect on particles as
Condensation.

Coagulation – When they form together

How Long Do Particles Stay in the Air?

Particle Size (Diameter)	How Particles Are Removed From the Air	How Long Particles Stay in the Air	Typical Distance Traveled by Particles
Ultrafine (<1 micron)	Coagulation and condensation	Hours to days	Less than 100 meters
Fine (PM _{2.5})	Sedimentation	Days to weeks	100s to 1000s of km
Coarse (PM ₁₀)	Sedimentation	Minutes to hours	Up to 10s of km



*The Right to
Breathe
Video*

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Questions?