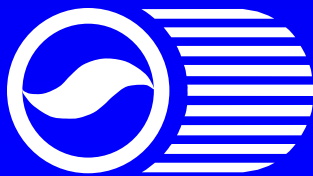


Diesel Health Effects

Barbara L. Weller, Ph.D.

California Air Resources Board



California Environmental Protection Agency

Air Resources Board

Who Is *Most Sensitive* to Diesel Air Pollution?

- Children
- Elderly People
- People with Asthma
- Chronic Heart Disease Patients
- People with Bronchitis
- Athletes



Harmful Components of Diesel Exhaust

Gases

Nitrogen Oxides

Sulfur Dioxide

Hydrocarbons

Aldehydes

PAHs

Carbon Dioxide

Carbon Monoxide

Particles

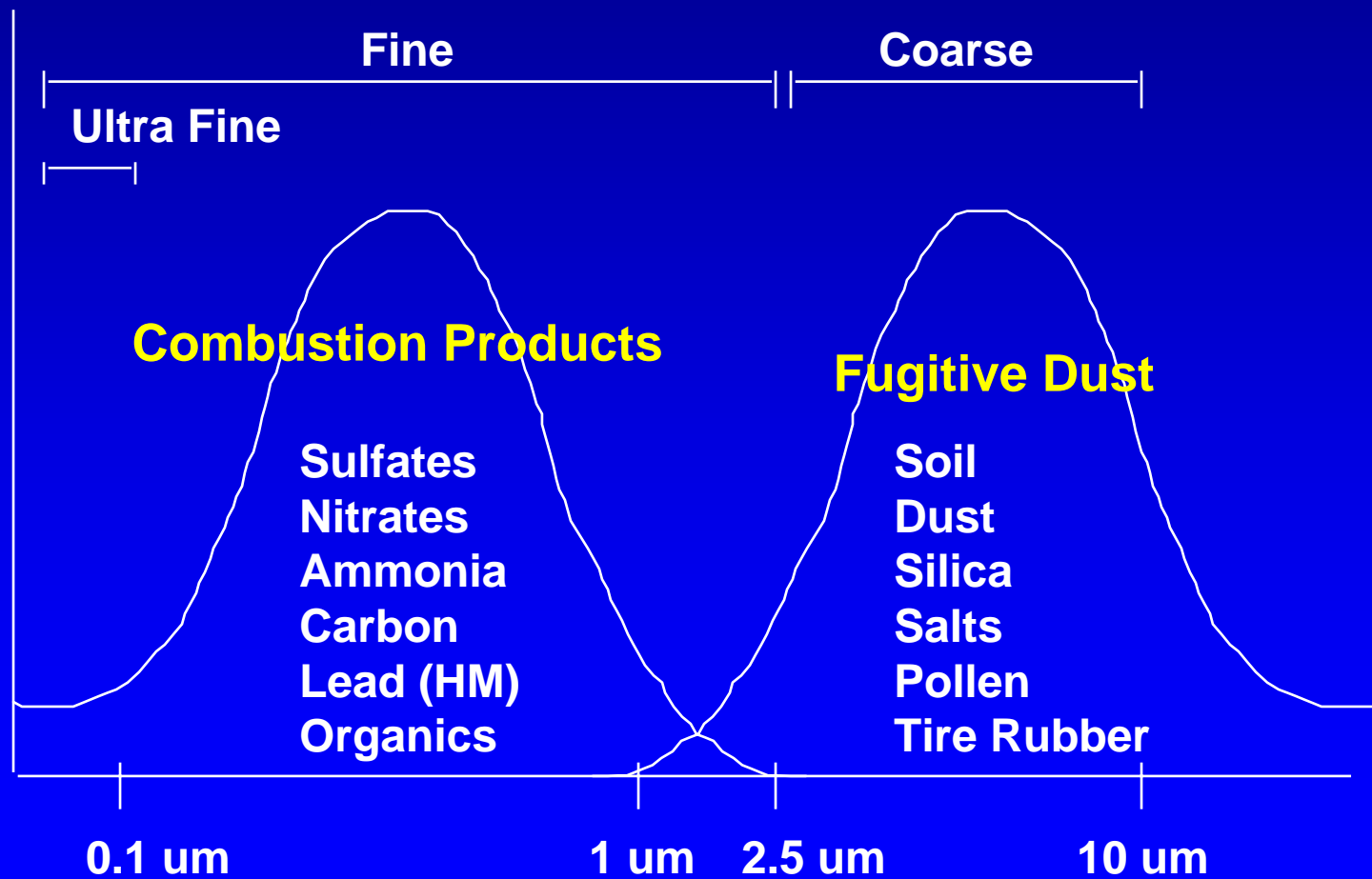
Elemental Carbon

Hydrocarbons

PAHs



PM₁₀ Air Pollution Size and Composition



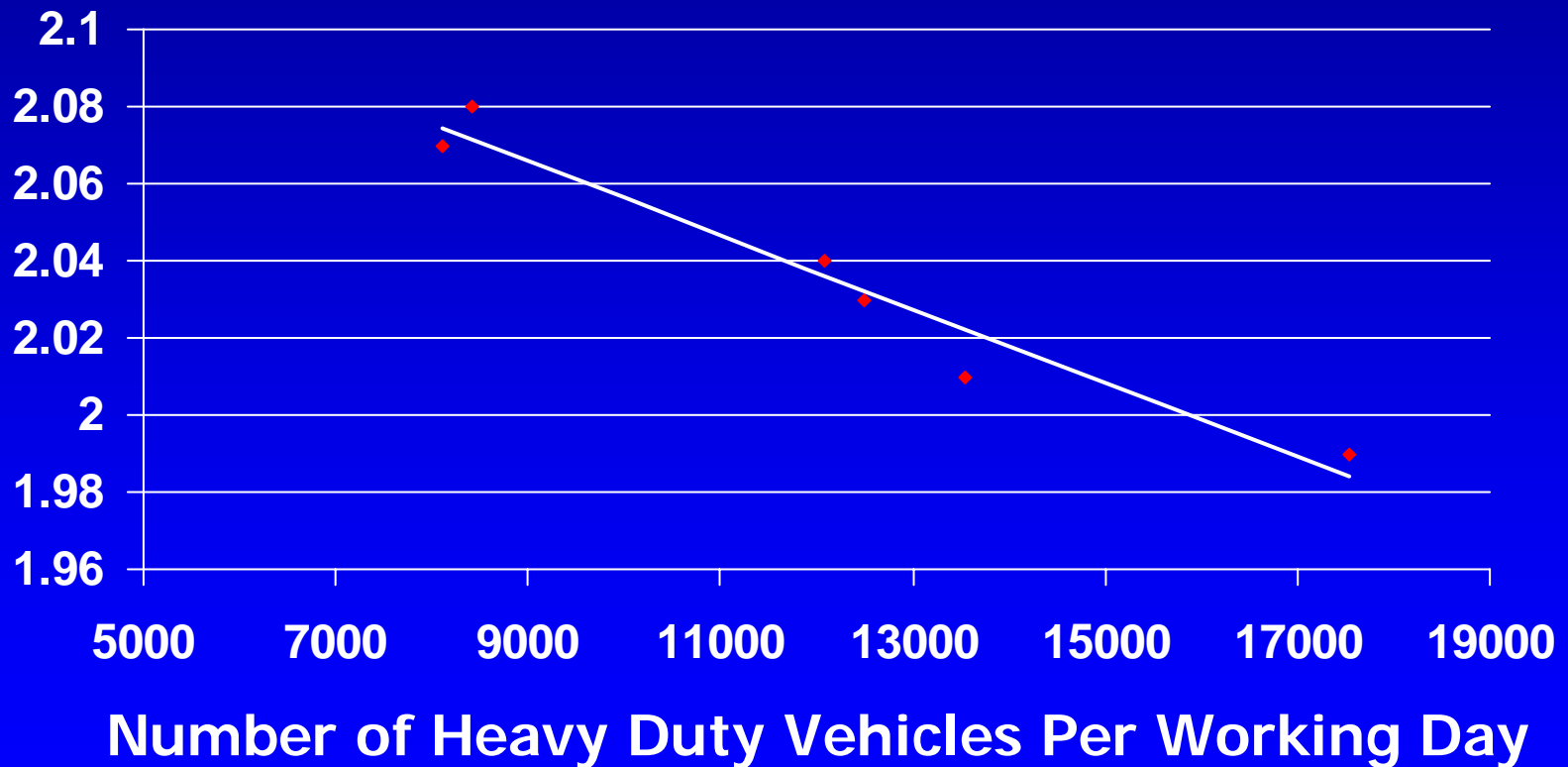
Health Effects of Particulate Matter

- Increases asthma attacks
- Aggravates bronchitis
- Reduces lung growth in children
- Lower birth weight and increased number of premature births
- contributes to premature deaths



Association Between Lung Function of Children Living <300 Meters From Motorway and Intensity of Cargo Traffic

Lung Function
FEV1 (Liters)



Source: Brunekreef B, et al, Air Pollution from truck traffic and lung function in children living near motorways

Review of the Ambient Air Quality Standards

- **Particulate Matter is under review**
- **Ozone is the next standard to be reviewed**

**More information can be found at the
ARB PM Standard Review Website:**

www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm

75% Reduction in Diesel PM by 2010

(On- and Off-road Vehicles, Stationary Engines)

- New vehicle and engine standards
- Retrofits where technically feasible and cost-effective
- International Advisory Committee
- Low-sulfur (15 ppmw) diesel fuel
- Enforcement programs



www.arb.ca.gov/diesel/dieselrrp.htm

Thank you

