



AIR & WASTE MANAGEMENT
A S S O C I A T I O N

◆
SINCE 1907

Understanding Air Quality Outreach Kit CD-ROM

Table of Contents

	<u>Page</u>
Forward.....	3
Acknowledgements.....	4
Composition of Air.....	8
Major Subdivisions of the Atmosphere.....	9
Ambient Air.....	12
Air Pollutants.....	13
The History of Air Pollution.....	16
Mobile Sources of Air Pollutants.....	19
Thermal Inversion.....	21
Air Pollution Accidents.....	25
Criteria Pollutants.....	27
Particulate Matter.....	31
Sulfur Dioxide.....	34
Nitrogen Oxides.....	36
Ozone.....	39
Carbon Monoxide.....	42
Lead.....	44
Hazardous Air Pollutants (HAPs).....	49
Indoor Air Pollutants.....	52
“Greenhouse” Gases.....	54
Pollution Prevention Options.....	57

May 2005

Understanding Air Quality Outreach Kit CD-ROM

The *Understanding Air Quality* CD slide show is complete in the Adobe Acrobat format. The CD contains more than 60 high-quality slides, and is accompanied by an informative script which clearly explains the causes and potential solutions for various forms of air pollution. As a bonus, the CD-ROM also features EPA and NC State's *Ozone: Double Trouble*, a 16-min. video in the .avi format for Windows.

Subject Summary

Air plays a vital role in sustaining life on earth. Composed of three major elements, nitrogen, oxygen, and argon, air exhibits fluid properties and has mass, which allows it to carry pollutants from both natural and man-made sources. These pollutants become trapped in our troposphere, which is the closest layer of air to the earth, and the one we depend on for survival.

Air pollutants are found in two physical forms: particulate matter and gases. In the United States, the Environmental Protection Agency (EPA) has established standards through the Clean Air Act to help reduce the concentration of common air pollutants in our environment. The National Ambient Air Quality Standards (NAAQS) set ambient air limits for six criteria pollutants: particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, ozone, and lead. If the established limits are not attained in a particular region of the country, steps must be taken in order to reduce the pollution.

In addition to the NAAQS, standards were created to regulate Hazardous Air Pollutants (HAPs), which can be toxic to organisms at certain levels. The HAPs include pollutants such as asbestos, arsenic, and mercury, among others. Control technology is required by the EPA for industries releasing these pollutants to the environment.

Another growing concern in the United States is the quality of our indoor air. Pollutants such as dust, pollen, mold, and even cigarette smoke have gained more attention recently. Also, concern about greenhouse gases remains, and constantly sparks new debates and theories on what should be done to decrease carbon dioxide, methane, and nitrogen oxide emissions.

As options for reducing air pollution from a regulatory basis can be complicated and at times unattainable for many industries, the focus of regulatory officials has begun to shift more toward pollution prevention. New technology, however, can be costly, and options must be weighed by all parties involved to ensure the most economically and environmentally sensible solutions to air pollution.

To order, visit www.awma.org/onlinelibrary. Search for **Order Code CD-AQ**. \$20 A&WMA members, nonprofit groups, governmental agencies, and educational institutions; \$30 All others. Bulk discounts are also available with prices posted.