**Toxic Air Pollutants**

**What Are Toxic Air Pollutants?**

Toxic air pollutants (also known as air toxics or hazardous air pollutants) are generally defined as those pollutants that are known or suspected to cause serious health problems. "Routine" toxic air pollutants are emitted by a variety of industrial sources and motor vehicles. In addition to routine releases, sudden accidental air releases of toxics threaten many Americans.

Toxic air pollutants include metals, other particles, and certain vapors from fuels and other sources. An example of such a pollutant is the chemical benzene, which is in gasoline. Inhaling fumes that contain benzene could increase your chances of getting cancer.

**What Are the Effects of Toxic Air Pollutants?**

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food.

**Which Pollutants Are Considered Toxic?**

Government agencies are most concerned about substances that fit one or more of these descriptions:

- Can cause serious health effects, such as cancer, birth defects, immediate death, or other serious illnesses.
- Are released to the air in large enough amounts to be toxic.
- Reach many people.

The Clean Air Act (Section 112) currently lists 188 toxic air pollutants to be regulated by EPA. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present tangible hazard, based on scientific studies of exposure to humans and other mammals.
How Are Toxic Pollutants Released Into the Atmosphere?

Air toxics can come from natural sources, such as radon gas coming up from the ground. The majority of toxic air pollutants, however, come from man-made sources such as factory smokestacks that release chemical compounds into the atmosphere.

In response to the Clean Air Act's mandate to regulate the 188 toxic pollutants, EPA has identified 174 categories of industrial and commercial sources that emit these pollutants.

What is Being Done About Toxic Air Pollution?

The Clean Air Act, as amended in 1990, directs EPA to set standards requiring companies to sharply reduce routine emissions of toxic air pollutants. EPA is required to establish and phase in specific performance standards for all of the industries that emit one or more of the pollutants in significant quantities.

EPA has established an Air Toxics Program to work towards meeting the mandates of the Clean Air Act, and to attempt to reduce the risks to the public health and the environment.

Health Effects

Toxic air pollutants are chemicals that are known to or suspected of causing cancer or other serious health effects, including damage to the respiratory or nervous systems, birth defects, and reproductive effects. Some can cause death or serious injury if accidentally released in large amounts.

The following items contain additional information about the health effects of air toxics. All are available from U.S. EPA’s Air Risk Center.

*Air Pollution and Health Risk*

How do we know when a risk from a hazardous substance is serious? How do researchers estimate risk, and how does the government use this information to develop regulations that limit our exposure to hazardous substances? This brochure from EPA's Air Risk Center discusses these questions.

*Evaluating Exposures to Toxic Air Pollutants: A Citizen's Guide*

Toxic air pollutants can increase the chance of health problems and cause ecological impacts. This brochure from EPA's Air Risk Center discusses the process used to determine how much
of a toxic air pollutant people are exposed to and how many people are exposed.

_The Health Effects Notebook for Hazardous Air Pollutants_
Detailed information about the health effects of hazardous air pollutants is available in 189 separate fact sheets. There's also an explanation of topics and terms used in the fact sheets.

Risk assessment is the process used to estimate the risk of illness from a specific human exposure to a toxic air pollutant. This brochure from EPA's Air Risk Center gives an overview of the 4-step assessment process.