



# **Residential Leaf Burning**

An Unhealthy  
Solution to  
Leaf Disposal





**Q:** *Why should I be concerned about leaf burning?*

**A:** Leaf burning leads to air pollution, health problems, and fire hazards. Each autumn, homeowners across the United States rake up fallen leaves from their lawns. In the past, people routinely took leaves and other yard trimmings to landfills or relied on waste pick-up services for disposal of the leaves. Because of increasingly scarce landfill space, many State and local governments now ban leaves and other yard trimmings from landfills. With this option removed, there is a growing concern that homeowners may be tempted to burn the leaves in their yards.

**Q:** *What types of air pollutants are emitted from burning leaf piles?*

**A:** The open burning of leaves produces particulate matter and hydrocarbons, which contain a number of toxic, irritant, and carcinogenic (cancer-causing) compounds. Leaf smoke also contains carbon monoxide.

**Q:** *What is particulate matter and why is it a health concern?*

**A:** The visible smoke from leaf burning is composed of tiny particles that contain a number of pollutants. If inhaled, these microscopic particles can reach the deepest regions of the lung and remain there for months or even years. Breathing particulate matter can increase the chances of respiratory infection, reduce the volume of air inhaled and impair the lungs'

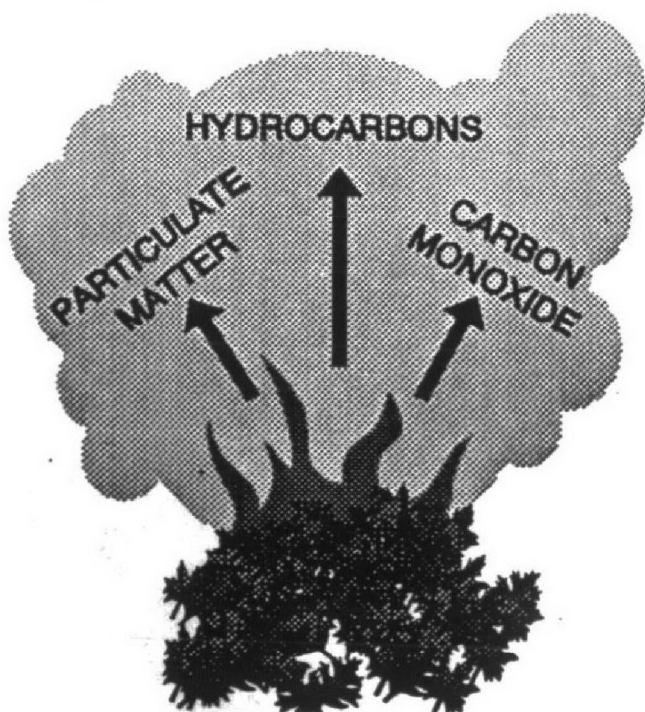
ability to use that air. Particulate matter can also trigger asthma attacks in some people.

**Q:** *What are hydrocarbons and why are they harmful?*

**A:** Hydrocarbons are chemicals that can exist as both gases and solid particles. Because leaves are often moist and burn without proper air circulation, they often burn poorly, producing high levels of hydrocarbons. Some of these hydrocarbons, such as aldehydes and ketones, cause irritation of the eyes, nose, throat, and lungs. A substantial portion of the hydrocarbons in leaf smoke consists of polynuclear aromatic hydrocarbons, some of which are known carcinogens.

**Q:** *What is carbon monoxide and what are its health effects?*

**A:** Carbon monoxide is an invisible gas that results from incomplete combustion, and burning leaf piles are ideal for creating carbon monoxide emissions. Carbon monoxide is absorbed into the bloodstream through the lungs and combines with red blood cells. This reduces the amount of oxygen the red blood cells can absorb and supply to body tissues. Unborn children, newborn infants, smokers, the elderly, and persons with heart and chronic lung disease are more susceptible to carbon monoxide than the general population.



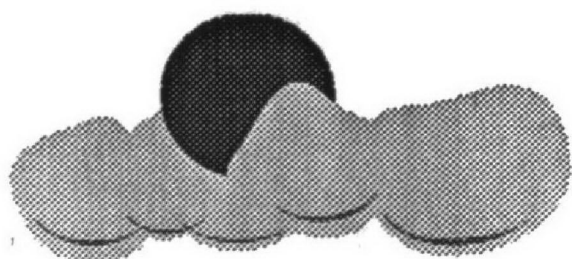


**Q:** *Are there any other reasons homeowners should not burn leaves?*

**A:** Yes. In many communities open burning of leaves is illegal. Furthermore, the total health, financial, and environmental costs of leaf burning can be quite high. These costs include: (1) higher incidences of health problems and increased health care costs; (2) higher incidences of home and forest fires and associated property loss and need for increased fire protection; and (3) the clean-up costs associated with soiling of personal property.

**Q:** *Is there a better alternative for homeowners to dispose of their leaves?*

**A:** Yes! Composting is a safe and environmentally sound method of managing leaves and other yard trimmings. Proper composting does not cause health or fire hazards and, in fact, can be beneficial to gardens and lawns. Composting is a simple process that involves placing yard trimmings and other organic materials in a pile or bin, maintaining adequate moisture, and turning the pile periodically to mix in air. Microorganisms gradually break down the yard trimmings into a humus-like product called compost. Composting can be practical at home or at community operated compost sites. Community-wide programs are already in place in over 2,200 communities in the United States.



***Q:*** *What materials can I compost?*

***A:*** It is fine to compost only leaves, but other materials such as grass clippings, manure, coffee grounds, and vegetable and fruit peelings may be composted as well. Meat, grease, and dairy products should not be composted, however, because they can cause odors and attract pests.

***Q:*** *What can I do with compost?*

***A:*** Compost can serve many purposes in your own yard. It can be used as a mulch in flowerbeds and around shrubs, or it can be added to the garden or to potting soils as a soil conditioner. It can also be spread on lawns as a top dressing.

***Q:*** *What are the benefits of composting?*

***A:*** Composting is a form of recycling and helps reduce soil compaction and erosion. It helps soil retain moisture and nutrients as well as increasing soil fertility. When leaves are composted along with grass clippings, which contain nitrogen, the resulting compost can also serve as an organic fertilizer.

**Q:** *How can I learn more about composting?*

**A:** Several EPA publications are available free to the public. The Environmental Consumer's Handbook describes how to set up a backyard compost pile. The Decision-Maker's Guide to Solid Waste Management, which is targeted at local government decision makers, contains information on composting and other solid waste management issues at the community level. These and other publications can be obtained by calling EPA's RCRA Hotline Monday through Friday, 8:30 am to 7:30 pm EST: call toll free (800) 424-9346 or, for the hearing impaired, (800) 553-7672.

