
ENVIRONMENTAL Fact Sheet



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ARD-33

2008

Open Burning of Residential Trash

Environmental Impacts and Safer Alternatives for “Backyard Burning”

What is “Open Burning”?

“Open burning” means the burning of any type of combustible material in the open, where smoke and other emissions are released directly to the air. During open burning, air pollutants do not pass through a stack, chimney, or flue. Open burning of some materials is only allowed in New Hampshire under certain conditions. For example, homeowners are allowed to burn leaves and brush under controlled conditions with approved permits from local officials and/or the local fire warden.

Open burning of residential trash materials is prohibited by law in New Hampshire. The burning of residential waste materials, such as paper, plastics, household trash and garbage, in a burn barrel or backyard incinerator was once a common practice in New Hampshire. This practice is no longer necessary due to New Hampshire’s progress in providing access to facilities and services that recycle and dispose of solid waste. The practice of open burning, and particularly backyard burning of trash, can result in many harmful public health and environmental effects.

What problems are associated with backyard burning?

Backyard burning of residential trash is not allowed under any circumstances, and burning of leaves and brush is only allowed with a permit from a local fire warden. Burn barrels and backyard incinerators operate at relatively low temperatures (typically 400° to 500° F) and have poor combustion efficiency. As a result, many pollutants are generated and emitted directly into the air. Backyard burning of trash and leaves often releases high levels of particulates, acid gases, heavy metal vapors, carbon monoxide, dioxins and other toxins, some of which are carcinogenic. As described below, these pollutants can cause very serious human health problems.



- One of the most harmful pollutants released during backyard burning of trash is dioxin. Dioxin is a known carcinogen and is associated with birth defects. Dioxin can be inhaled directly or deposited on soil, water and crops where it becomes part of the food chain.
- A common compound given off during open burning of trash and leaves is benzopyrene, a known carcinogen and ingredient in cigarette smoke. Benzopyrene is suspected to be a major factor in lung cancer. One study has shown that open burning fire smoke contains 350 times as much benzopyrene as cigarette smoke.

- Open burning of plastics, or polyvinyl chloride (PVCs), can produce hydrogen chloride gas, or hydrochloric acid, which can cause fluid buildup in the lungs and possible ulceration of the respiratory tract.
- The visible smoke from burning is composed of tiny particles, called particulates, which contain toxic pollutants. If inhaled, these microscopic particles can reach deep into the lungs and remain there for months or even years. Breathing particulates increases the chances of respiratory infection, can trigger asthma attacks, and causes other problems such as coughing, wheezing, chest pain, and shortness of breath.
- Carbon monoxide is generated from the incomplete combustion of trash and garbage. Carbon monoxide is a colorless, odorless gas that prevents oxygen from being absorbed by the blood and lungs. It is especially dangerous when breathed by young children with immature lungs, the elderly, and people with chronic heart conditions or lung diseases.

Additionally, open backyard burning often poses a fire hazard for surrounding property and subjects neighboring residents to nuisance conditions of smoke and odor. This condition infringes on their right to enjoy and use their property, and to breathe clean air.

What should homeowners do with household trash, garbage and leaves?

New Hampshire communities are required to provide access to solid waste management facilities for their residents. Some municipalities provide curbside pickup, and most have transfer stations and recycling facilities. Call your local town office if you have any questions about where residents can take their trash for proper management. Your town may also have a list of solid waste haulers that can provide pickup for a fee. Homeowners are strongly encouraged to properly recycle glass, plastics, aluminum, newspaper, cardboard, used motor oil, and other recyclable materials as much as possible.



Composting yard waste and using leaves and grass clippings for mulch are good alternatives to open burning of yard waste. Composting produces valuable soil fertilizer through the natural process of decomposition. Compost piles are simple to begin and maintain, and take up relatively little space. Leaves, grass clippings, manure, coffee grounds, and vegetable and fruit peelings are all suitable for composting. Finished compost can improve soil texture, increase the ability of the soil to absorb air and water, suppress weed growth, decrease erosion, and reduce the need to apply commercial soil additives.

Towns are allowed to burn brush that is five inches in diameter or less, subject to regulations of the local fire department and New Hampshire Department of Environmental Services. Also, until December 31, 2010, towns are allowed to burn unpainted and untreated wood from construction and demolition projects at municipal transfer stations. All other non-recyclable materials (e.g., metals, plywood, painted wood, box springs, etc.) should be disposed of properly.

For more information on open burning, contact the New Hampshire Department of Environmental Services Air Resources Division, at (603) 271-1370.