

**BACKYARD BURNING AND ITS HEALTH EFFECTS:  
A FACT SHEET  
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**WHY IS BACKYARD BURNING DANGEROUS?**

Burning trash produces three exceptionally dangerous products: toxic gases, particulate matter (soot), and ash residue.

**Toxic Gases:**

All studies on burn barrels report that they produce immense quantities of some of the most toxic gases known, including formaldehyde, hydrogen chloride, sulfur dioxide, dioxins and furans (Environmental Advocates). Dioxins and furans are especially dangerous. When inhaled as gases, hydrochloric acid can form in the human lungs. This acid could cause ulcerations in respiratory tracts. Furthermore, dioxins and furans are two of the most toxic chemicals known today. Dioxins and furans can cause disease at the lowest doses of all man-made chemicals. They are regularly linked to cancer and birth defects (Otsego County). A study performed by the United States Environmental Protection Agency (EPA) in conjunction with the New York State Departments of Environmental Conservation and Health in 1998 found that 2 to 40 households burning trash daily can produce emissions of dioxin and furan comparable to those of a modern municipal incinerator that burns 200 tons of waste per day (U.S. EPA, "Evaluation of Emissions from the Open Burning of Household Waste in Barrels", November 1999.). That is the amount produced by approximately 18,000 homes (Environmental Advocates/Cornell Waste Management Institute)!

**Particulate matter (soot):**

Backyard burning is also extremely dangerous because the trash is not burned at a high enough temperature (GLOW Region Solid Waste Management Committee). The result is particulate matter, particles which are too large to be safe for humans to breathe (Washington State Department of Ecology). The U.S. EPA reports that of all toxic air pollutants, 'products of incomplete combustion' pose the greatest risk of cancer. Particulate matter falls into this category (GLOW). When these particles are inhaled, they collect in the throat and nose. The larger particles can be eliminated by coughing, sneezing, spitting or the digestive system. Smaller particles, those found most in studies of backyard burning, pose a more serious threat because they cannot be eliminated. These particles can remain in the human lungs. These small particles can cause structural and chemical damage and act as carriers for carcinogens and other toxic chemicals. Chronic diseases

such as emphysema, chronic bronchitis, and cancer are associated with exposure to particulate matter (Washington State Department of Ecology).

**Ash residue:**

All of the dangerous products that are not carried away as gases or particulate matter end up in the ash leftover in the burn barrels. This ash consistently tests to be highly toxic. It poses a threat to the health of those who drink from well water near the burning source (Environmental Advocates). Any gardens that are nearby can also become contaminated by the ash. Fish and wildlife are also at great risk of impact from burning (St. Lawrence County).

**Specific related health problems:**

Besides being related to cancer, emphysema and chronic bronchitis, the harmful products of backyard burning may also cause the following: eye, nose, and throat irritation, lung irritation and congestion, skin irritations or burns, stomach and intestinal upset, eye damage, headaches and/or memory loss (Tompkins County – verbatim).

**WHO IS AT RISK?**

**Anyone who burns trash:**

Dangerous gas, soot and ash come from burning regular, everyday trash. Typical household garbage, including newspapers, books, magazines, junk mail, milk cartons, food waste, plastics and cans, can produce these deadly chemicals. Consider, as well, hazardous garbage like old paint, used oil, light bulbs, batteries; these items contain highly toxic materials such as mercury, lead and other heavy metals which are especially dangerous (GLOW).

**Especially children, the elderly and pregnant women:**

Kids are the most susceptible to the dangers of particulate matter because their lungs are still forming. Exposure to these fine particles is linked to higher frequencies of childhood illnesses, including reduced lung function and aggravated asthma. These sicknesses all result in more absences from school and limitations in normal childhood activities (Otsego County). Additionally, contaminated by the ash residue, soil becomes a very dangerous place to play.

The elderly, due to their weak immune systems, and people with existing respiratory ailments are also at a high risk of disease from particulate matter in their lungs. Pregnant women run the risk of harming developing fetuses (Washington State Department of Ecology/Tompkins County).

## IS IT LEGAL?

### New York State law:

The State of New York bans backyard burning in cities, towns and villages with more than 20,000 residents.

In 2001, the NYS Assembly passed a bill (A.7202, Koon) that would completely ban backyard burning across the state. The bill would not preclude local rules and regulations that are more protective than state law. A similar bill did not pass in the NYS Senate.

### Broome County law:

Broome County's Sanitary Code strictly bans all open burning where private or public waste disposal is available. Public or private waste disposal, however, is available in all parts of the County. Specific circumstances, such as outdoor grills and fireplaces, campfires for recreational purposes where no nuisance is created, fire training exercises, and certain agricultural operations may be exempt from this ban.

\*\* If you are contemplating any type of burning, contact the Broome County Health Department at (607) 778-2887 to make sure that your burning plan is legal. The Health Department can advise you on how to obtain an appropriate permit. \*\*

## WHAT ARE PROPER ALTERNATIVES TO BACKYARD BURNING?

### Reduce, Reuse and Recycle:

There are easy and cheap ways to avoid burn barrels and the harmful chemicals that they produce. **Reduce** the trash that you create, by reducing the amount of disposable items you buy. **Reuse** the things you do buy, and **recycle** when you can. Also, by having your trash hauled away and disposed of properly and safely, you will be doing a favor to yourself, your family and your neighbors. A monthly pick-up schedule may be offered by some haulers, and could save you money over weekly pickups. Check the local yellow pages under "Rubbish and Garbage Collection" for a list of haulers.

## FOR MORE INFORMATION

-General information:

Broome County Environmental Management Council, 778-2116.

-Information on permissible burning:

Broome County Health Dept., Division of Environmental Health, 778-2887.

-Information about recycling and waste disposal  
Broome County Division of Solid Waste Management, 778-2482.

-New York State Legislative updates:  
NYS Legislative Commission on Solid Waste Management, (518) 455-3711.

#### REFERENCES

Cornell Waste Management Institute. "Backyard Waste Burning Emits Much More Dioxin than Municipal Incinerators". June 2000. p. 13.

Environmental Advocates. "Opposes S.7305 (Wright, et al.) / A.10970 (Destito)".  
Bill Memos website: [http://www.envadvocates.org/public\\_html/bm2k/76.html](http://www.envadvocates.org/public_html/bm2k/76.html), June 12, 2000.

Genesee/Livingston/Ontario/Wyoming (GLOW) Region Solid Waste Management Committee brochure. Is This Your Idea of Taking Out the Trash?

Legislative Committee on Solid Waste Management. "Hochberg Legislative Priorities".  
The New York State Solid Waste Examiner, Fall 1999.

Otsego County. Air Pollution Has No Boundaries: There's Always Someone Downwind  
(brochure)

St. Lawrence County. Plastic Disposal: The Issues and Concerns (brochure).

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(brochure).

Washington State Department of Ecology. "Particulate Matter". Ecology Publication  
No. FA-92-29 (<http://www.wa.gov/ecology/air/focuspm.html>), April 1998.