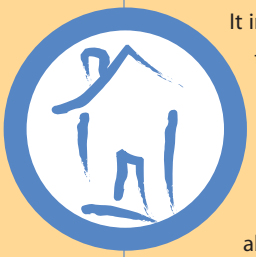
healthy homes

EPA United States Environmental Protection Agency New England

introduction



Most people spend over 90% of their time indoors. Your home is a very important environment where you and your family may spend much of your time. This brochure offers ways to make your home a healthy place. It includes information on indoor and outdoor air quality, pesticides, toxic household products, mold, tobacco smoke, radon, drinking water contaminants and making your home "green". It has a little information about a lot of different topics and links to web sites to learn more. You can try the web links throughout the brochure or go to the federal agency web sites listed below to learn more about a particular topic that interests you.

- U.S. Centers for Disease Control at **www.cdc.gov**
- U.S. Department of Agriculture at **www.usda.gov**
- U.S. Department of Health and Human Services at **www.hhs.gov**
- U.S. Department of Housing and Urban Development at **www.hud.gov**
- U.S. Environmental Protection Agency at **www.epa.gov**

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first and secondhand smoke

First and secondhand smoke comes from a burning cigarette, cigar, or pipe, or from an exhaling smoker. Not only is secondhand smoke an asthma trigger but those exposed to it tend to have more ear and respiratory infections such as bronchitis, pneumonia, respiratory and ear infections. EPA estimates that secondhand smoke is responsible for about 3,000 lung cancer deaths each year among nonsmokers in the U.S. About 800 of these are estimated to be from exposure to secondhand smoke at home, and 2,200 deaths are from exposure in work or social situations. Smoking greatly increases the risk of lung and heart disease. In addition, smokers, and former smokers, are at greater respiratory risk from other exposures such as asbestos and radon. Smoking also is associated with an increased risk for Sudden Infant Death Syndrome (SIDS). Consider quitting smoking today!

EPA estimates that secondhand smoke is responsible for about 3,000 lung cancer deaths each year among non-smokers in the U.S.

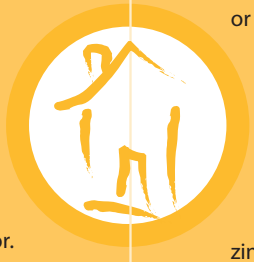
➡Action you can take:

▶ Take the smoke-free pledge.

▶ Choose not to smoke in your home and do not permit others to do so. Small children are especially vulnerable to the health effects of secondhand smoke.

▶ Choose to smoke outside, if you must smoke. Moving to another room or opening a window is not enough to protect your children.

radon



Radon is a naturally occurring radioactive gas that can seep into your home through cracks or holes in the basement walls and floor. Radon gas is colorless, odorless and tasteless. Much of the New England region has elevated levels of radon due to high amounts of granite bedrock. Risk depends on how much and how long you have been exposed to radon gas, which is believed to be the second leading cause of lung cancer after smoking.

➡Action you can take:

Test your home for radon. Radon test kits are available at hardware stores. If the level exceeds the standard, have a professional help you design a plan to vent the gas to the outside. Look in the phone book under "radon" for professionals in your area. While radon test kits are available at hardware stores, they also can be purchased through the National Safety Council at a discounted rate. For information on these discounted test kits go to **www.nsc.org/issues/radon/radonkitcoupons.pdf** or to **www.epa.gov/radon** and look for the link to the discounted test kits.

carbon monoxide (CO)

Carbon Monoxide (CO) is a colorless, odorless, tasteless gas produced by incomplete burning of fuels such as gas, oil, propane or wood. People with anemia or with a history of heart or respiratory disease can be especially sensitive to CO exposure. Depending on the level and length of exposure, carbon monoxide can cause shortness of breath, nausea, headaches, dizziness, impairment of vision and coordination, mental confusion, fainting or even death.

➡Action you can take:

To prevent CO poisoning:

▶ Make sure your heating systems, gas or propane stoves, ovens, and dryers are well-vented and in proper working order.

▶ Don't idle your car or lawnmower or other gasoline-powered equipment in the garage.

▶ Don't use propane heaters or candles inside of tents.

COPD (Chronic Obstructive Pulmonary Disease)

This respiratory illness primarily affects people over age 45 and has no known cure. COPD includes chronic bronchitis and emphysema. It is a serious health threat for New Englanders and likely affects as many as 24 million Americans nationally. Chronic coughing, chest tightness and breathlessness of COPD make everyday activities difficult because even simple actions put too much strain on damaged lungs.

The best way to prevent COPD is to avoid smoking. While smoking is the primary cause of COPD, air pollution can play a significant role in both causing the disease and making it worse. Air pollution irritates the lungs and contributes to the total overall burden. Individuals with respiratory diseases like COPD are especially sensitive to air pollution. Exposure to air pollution may aggravate symptoms and make it difficult to breathe.

Exhaust from cars, trucks, and power plants reacts with sunlight on hot summer days to create ozone and emit tiny or fine particles, both of which contribute to air pollution or smog. Air quality in New England is closely tied to temperature and precipitation — the hotter and drier the summer, the higher the concentration of regional pollutants.

People who are living with COPD need to pay careful attention to the air quality. When levels of pollution are unhealthy, slow down your activities and consider postponing outdoor activities. Throughout the summer, listen for radio or television announcements by meteorologists about "Ozone Action Days" designated by EPA New England or your state. An Ozone Action Day is announced when ozone is predicted to exceed national health standards. On these days it's especially important to try to reduce pollution production.

➡**Action you can take:** *Early detection can help prevent further lung damage and alter the progress of the disease. Your healthcare provider can perform a simple test using a spirometer to determine if you have COPD.*

- When the power goes out, be careful with generators and avoid unconventional heating and cooking methods.
- Put CO monitors/alarms that meet UL (Underwriters Laboratories), IAS (International Approval Service) standards in sleeping areas and basements.
- Consider purchasing a vented space heater when replacing an unvented one.
- Use proper fuel in kerosene space heaters.
- Install and use an exhaust fan vented to outdoors over gas stoves.
- Open flues when fireplaces are in use.
- Choose properly sized wood stoves that are certified to meet EPA emission standards. Make certain that doors on all wood stoves fit tightly.
- Have a trained professional inspect, clean, and tune-up central heating system (furnaces, flues and chimneys) annually. Repair any leaks promptly.

organic vapors or volatile organic compounds (VOCs)

Organic vapors or volatile organic compounds (VOCs) are found in many household products, including: paints; paint strippers and other solvents; wood preservatives; aerosol sprays; cleansers and disinfectants; moth repellents and air fresheners; stored fuels and automotive products; hobby supplies; and dry-cleaned clothing.

VOCs vary in their potential to affect health. Possible health effects of exposure include: irritation to eyes, nose and throat; damage to the liver, kidneys and central nervous system; and cancer.

➡Action you can take:

Look for safer alternatives and choose environmentally friendly products. If you must use products with VOCs, reduce your exposure by ventilating work areas and buying only the amount of product that you need. Take care to dispose of any unused products as directed and in a safe manner (for example, take advantage of municipal household hazardous-waste collection days).

mold

Mold thrives in moist environments. Mold spores, which are found almost everywhere in our environment, need moisture to germinate. If mold spores from the air land on a wet surface in your home, they may just need a day or two to grow. Potential health effects and symptoms associated with mold exposure include allergic reactions, asthma and other respiratory complaints. For more information on mold, go to: **www.cdc.gov/health/mold.html**

➡Action you can take:

The key to controlling mold problems in your home is to control moisture! Fix leaks. Dry water-damaged areas and items within 24-48 hours. Reduce indoor humidity (to 30%-60%) by:

- venting bathrooms, dryers, and other moisture-generating sources to the outside
- using air conditioners and de-humidifiers
- increasing ventilation
- using exhaust fans whenever cooking, dishwashing, and cleaning

If mold is in your home, killing it with bleach or cleaner is not enough. The mold itself has to be removed.

➡Action you can take:

To remove mold from hard surfaces, scrub it with a detergent cleaner and water. Be sure to wear safety gear such as goggles, gloves and a mask. After removing the mold, take care to dry the surface completely! Certain mold-damaged, non-washable items may have to be thrown away or treated by a specialist. For more information, go to **www.cdc.gov/mold/**

asbestos

Asbestos is a mineral found in some older construction materials. It was used in shingles for roofing and siding, pipe and boiler insulation. It was also used in floor tiles, ceiling panels (including acoustical tiles), coatings, gaskets and some vermiculite insulation, and in brake linings and disc-brake pads of older and some imported vehicles. Asbestos-containing materials in good condition do not pose a health risk, so the safest, easiest and least expensive option may be to leave it alone. When construction materials break down, are damaged or disturbed, tiny fibers of the mineral can be released into the air. Inhaling asbestos fibers can cause serious lung damage, including lung cancer.

➡Action you can take: If you decide to have asbestos removed, hire a state-certified asbestos abatement professional to remove any asbestos from your home. Do NOT do it yourself! Look in the phone book under "asbestos" for professionals in your area. Hire a professional mechanic to maintain or repair any vehicle parts that may contain asbestos.

lead

Lead, once widely used in many different materials, is still found in many older New England homes. It was added to paint before being banned in 1978. Lead paint that is chipping, peeling or in high use areas (like window sills, doors, or stairways) can form dust. When this lead, contained in dust and paint chips, is breathed into the lungs or eaten, it poses a risk to children. Toys may also pose risks. Some old toys contain lead or lead paint, and toys can pick up lead from contaminated soil or house dust. Lead was also used in older pipes, solder and plumbing fixtures that can corrode and release lead into drinking water.

Exposure can result in lower intelligence in children and has been associated with behavioral and attention problems. It can lead to kidney, liver, brain and nerve damage. At very high levels, it can cause seizures, coma and even death. In addition, lead exposure can contribute to osteoporosis, can cause high blood pressure and heart disease, especially in men. Lead exposure may also lead to anemia.

➡Action you can take:

- ▶ Get kids tested for lead by their doctor or health care provider.
- ▶ If your home was built before 1978 test it and the soil in your yard for lead paint hazards and their source.
- ▶ Wash children's hands before they eat; wash bottles, pacifiers, and toys often.
- ▶ Wash floors and window sills to protect kids from dust and peeling paint contaminated with lead - especially in older homes.
- ▶ Run cold water until it becomes as cold as it can get. Use only cold water for drinking, cooking, and making baby formula.
- ▶ If you, or a family member, suspect exposure to lead, have a health professional test your blood for lead levels, and follow up as recommended.
- ▶ For information on how to test and/or remove lead in soil, go to **www.epa.gov/region1/eco/ne_lead/index.html**

healthy homes

staying healthy indoors: toxics

mercury

Mercury is a potent neurotoxin that can cause damage to the brain and central nervous system. The primary route of human exposure is eating fish that have acquired and accumulated mercury in their tissues. Some commercially available fish, especially large fish such as shark, swordfish, king mackerel and tilefish, tend to have higher levels of mercury. Canned light tuna has lower mercury levels than albacore, fresh/frozen tuna and canned white tuna. Get more information at: **www.epa.gov/mercury/advisories.htm**

Mercury can also enter the body by breathing vapors from broken mercury thermometers, broken fluorescent bulbs, or spilled liquid mercury. In addition, some people may unknowingly expose themselves to mercury (also called azogue or vidajan) through cultural and spiritual practices. These practices, which include sprinkling or burning mercury, release mercury vapors into the home.

Exposure to mercury may result in irritability and mood swings, changes in vision, hearing or speech, and memory and mental problems. It can also cause serious kidney damage. Children exposed to mercury, either before they are born by the mother's exposure or as very young children, may have developmental and learning delays and disorders.

➡Action you can take:

- Avoid exposure to mercury!
- Pregnant women and children should limit or avoid eating fish with higher mercury levels.
- Check local fish advisories with your state health department to find out which fish have higher levels of mercury in your area.
- Find alternatives to mercury-containing products such as digital thermometers, or substitutes in cultural and spiritual practices.
- Take precautions when cleaning up spills.
- For more information, go to: **www.epa.gov/mercury/disposal.htm/todo**

drinking water contaminants

Clean drinking water is necessary for good health. High concentrations of bacteria, synthetic chemicals and natural contaminants in drinking water all can pose a threat to your health. Public water supplies are monitored by the government and the vast majority are safe and dependable. Every year, water suppliers are required to send a water quality report to the households they serve. In the rare case when there is a problem with the public water supply, the supplier must alert, either by mail or through the media, everyone who might be affected. If you have a private well, in most cases it is your responsibility to have it tested. You should consider testing it anually to ensure the quality of your drinking water.

➡Action you can take:

Find out about the quality of your drinking water. If your water comes from a public water system, read your water quality report carefully. If you have a private well, have it tested!

pesticides and toxic household products

Exposure to some household chemicals, such as pesticides, may cause harm to children, pets or the environment. Always carefully read and follow all instructions on product labels regarding use and storage.

Examples of household pesticides include:

- cockroach sprays and baits
- insect repellents for personal use
- rat and other rodent poisons
- flea and tick sprays, powders, and pet collars
- kitchen, laundry, and bath disinfectants and sanitizers
- products that control or kill mold and mildew
- some lawn and garden products, such as weed killers

Examples of household chemicals include:

- disinfectants and cleaning supplies
- cosmetics
- medicines
- paints and stains
- air fresheners
- swimming pool chemicals

By their nature, many pesticides may pose some risk to humans, animals, or the environment because they are designed to kill or otherwise adversely affect living organisms. At the same time, pesticides are often useful because of their ability to control disease-causing organisms, insects, weeds, or other pests. The pesticide label is your guide to using pesticides safely and effectively. It contains pertinent information that you should read and understand before you use a pesticide product. Poisoning from household chemicals may have a range of effects from mild distress like nausea or dizziness to more serious harm including injury to the lungs, or damage to the nervous, reproductive, endocrine and immune systems. Health effects depend on the toxicity of the product and the amount and length of exposure.

EPA regulates pesticides in the United States under the pesticide law (the Federal Insecticide, Fungicide, and Rodenticide Act). Before EPA allows a pesticide to be marketed for use in the U.S., EPA carefully reviews scientific data on the chemical to understand its toxicity and any potential concerns for human health and the environment. EPA periodically re-evaluates older pesticide chemicals to ensure that they conform to current health and safety standards. EPA also sets health-protective standards on the amount of a pesticide residue that may remain on food if pesticides are applied to a crop.

All pesticide product labels carry a signal word of "danger," "warning" or "caution" to indicate relative hazards to people (from higher concern to lower concern). EPA requires certain pesticides to be in child-resistant packaging. It is important for parents to take precautions to keep all pesticides and other household chemicals in secure places safely out of the reach of children and pets.

➡Action you can take:

- Try to use the least toxic and environmentally friendly options available for the job.
- READ THE LABEL before you buy, use, store or dispose of household pesticides and chemicals.
- Wash fruits or vegetables to remove dirt, chemicals, bacteria, and chemicals.
- Eat a variety of foods, from a variety of sources to obtain a better mix of nutrients and reduce the likelihood of exposure from a certain pesticide.
- Always wash your hands after using any chemical product.
- Store pesticides and toxic household products in their original containers in high, locked cabinets, away from the reach of children.
- If you suspect poisoning, call POISON CONTROL at 1-800-222-1222.
- For more information on using pesticides properly, visit EPA's web site at **www.epa.gov/pesticides/health/safely.htm**

healthy homes

staying healthy indoors: toxics

asthma

Asthma is the leading cause of long-term illness in children and is also common in older adults who may have managed it for years or developed it later in life. Indoor asthma triggers, such as smoke, dust mites, pet fur and skin flakes, molds, cockroaches, house dust, and pollen are some of the irritants and allergens common in many homes. These irritants and allergens can cause more frequent or more severe asthma attacks for some children with asthma.

Research on environmental factors that cause or worsen asthma has focused on indoor and outdoor environmental triggers, including nitrogen dioxide, pesticides, plasticizer, volatile organic compounds, and fine particles. Chronic exposure to ozone may be linked to development of asthma in children who exercise outside. Chronic exposure to fine particles may affect lung function and growth. Such pollutants also can exacerbate asthma, leading to breathing difficulties, increased use of medication and visits to doctors' offices, emergency rooms and hospitals.

➡Action you can take:

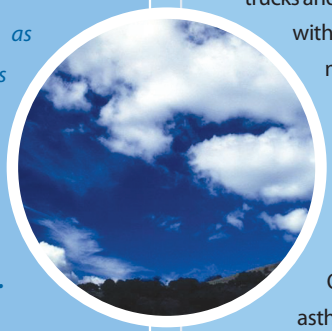
▶ *Keep your home as free of these triggers as possible.*

▶ *For more in-depth information on asthma, go to:* ***www.epa.gov/envirohealth/children/*** *or to* ***www.asthmaregionalcouncil.org***

staying healthy outdoors: air quality

ozone

Ground-level ozone (one of the main ingredients in smog) is created when pollution from cars and trucks and industrial sources reacts with sunlight on hot summer days. Ozone near ground level can harm the respiratory system, causing irritation in the throat, coughing and chest discomfort. Ozone can aggravate asthma, emphysema and bronchitis and can inflame and damage, temporarily or permanently, the cells that line the lungs.



➡Action you can take:

▶ Listen to forecasts for high ozone or smog in your area. This advice applies especially to children and adults with respiratory problems.

▶ If levels are high, limit your outdoor activities or slow down your activities to reduce your exposure. On high ozone days, take steps to minimize emissions, such as refraining from using gas-powered lawn and garden equipment and reducing the number

of trips you take in your car.

▶ Fuel your vehicle in early morning or in the evening.

airborne particles

Airborne particles (also called fine particles or particulate matter) are another major ingredient of smog and the main ingredient of haze. Airborne particles come from various sources, including fuel burning activities such as power plants, incinerators, trucks and buses, and wood stoves and fireplaces. Smoke, airborne dust, dirt, soot and liquid droplets can pose serious air quality problems in the home and to children. Particle pollution can occur year-round and can affect both the lungs and heart. Short-term exposure to particles can aggravate lung disease, causing asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. Particle levels can be elevated indoors, especially when outdoor particle levels are high.

➡Action you can take:

To reduce indoor levels of fine particles, refrain from smoking and reduce the use of candles, wood-burning stoves and fireplaces. Certain filters and room air cleaners can help reduce indoor particle levels. However, some air purifiers release potentially harmful levels of ozone and some fail to effectively remove unwanted particles. Listen to local forecasts to find out when particle levels are high in your area and reduce outdoor activities to reduce exposure. This advice applies especially to people with respiratory or heart disease, the older adults and children.

contaminated soil

Soil surrounding the home can become contaminated by lead and other metals, especially from chipping and peeling lead-based house paint. Vegetables or fruits grown in lead-contaminated soil may also contain lead.

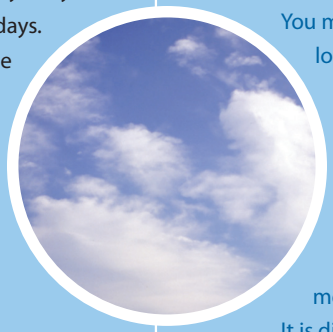
➡Action you can take:

Have your soil tested for lead (see Actions, p.5). Don't grow vegetables if the testing shows high

levels of lead in the soil. If your soil is contaminated and you still want to grow fruits or vegetables, purchase topsoil and potting soil and grow the plants in containers. Also, landscape your yard to minimize exposure. Go to **www.epa.gov/region01/leadsafe** for detailed information on what more you can do.

ultraviolet (UV) radiation

Ultraviolet (UV) radiation from the sun may damage skin, cause eye damage and suppress the immune system when exposure is excessive. Sunlight tends to be strongest in the summer in the middle of a clear day; however, UV is present at some level whenever the sun is up, all day, all year — even on cloudy days. Overexposure to the sun's harmful UV light may damage skin, cause eye damage and suppress the immune system.



➡Action you can take:

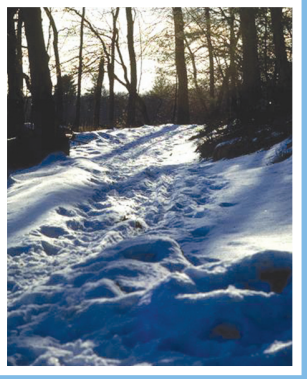
- Avoid overexposure to the sun by using sun screen, staying in the shade or inside and covering up with light clothing and a hat when the UV radiation is at its peak.
- Wear sunglasses.

air quality forecast

EPA works in coordination with local weather forecasters to provide a color-coded chart that reports air quality levels in communities across New England. You may see this chart on local weather forecasts. The purpose of the Air Quality Index and Forecast is to help you understand what local air quality means to your health. It is divided into categories that corresponds to a different level of health concern.

For more information, please refer to the detailed AQI chart on page 14.

temperature extremes



New England's unusually hot or cold weather can present a threat to the health of older adults people. When winter temperatures drop significantly below normal, staying warm and safe can become a challenge. Many homes will be too cold, either due to a power failure or because the heating system isn't adequate for the weather. When people must use space heaters and fireplaces to stay warm, the risk of household fires increases, as well as the risk of carbon monoxide poisoning. In summer the opposite can be true. During a heat wave, it can be difficult to find cool relief and homes can become dangerously overheated. Sensitivity to temperature extremes increases as we age.

➡Action you can take: *Those with chronic diseases are at greatest risk. Stock food, fluids and clothing appropriate for extreme cold or heat. Identify some public places you could go to escape the extreme weather. Be aware of current and forecasted air quality by signing up to receive free air quality alerts at* ***www.epa.gov/ne/aqi/****, and plan activities accordingly. Know who to call if you need help.*

reuse

The old adage "One man's trash is another man's treasure" defines reuse. Reusing items by repairing them, donating them to charity and community groups, or selling them reduces waste. Reusing products, when possible, is even better than recycling because the item does not need to be reprocessed before it can be used again.

➡Action you can take: Consider reuse when disposing of household items such as old computers, clothing and appliances. For reuse opportunities, see EPA New England's pamphlet titled Reuse in New England, a resource guide to donation opportunities at **www.epa.gov/region1/assistance/reuse/index.html**

recycle

Recycling includes collecting recyclable materials that would otherwise be considered garbage, sorting and processing recyclables into raw materials, and manufacturing raw materials into new products. Recyclable materials typically include: paper and paperboard (like newsprint, cardboard, direct mail), glass, metals (such as steel and aluminum), plastics (like bottles, grocery bags), yard waste (such as grass clippings, brush), electronic equipment (like computers, televisions, cell phones) and food wastes. Collecting recyclables varies from community to community; however, there are four primary methods of recycling: curbside, drop-off centers, buy-back centers, and deposit/refund programs.

➡Action you can take: Identify your community's recycling program at **www.epa.gov/region1/communities/recycling.html** or contact your local department of public works or state environmental agency.

recycling electronics (eCycling)

Electronic equipment, sometimes referred to as "e-waste" is an emerging and growing waste stream. E-waste includes electronic products discarded by consumers such as TV and computer monitors, CPUs and computer peripherals (e.g., keyboards, mice), cell phones, and printers/copiers.

Check what kind of electronics can be collected in your community and which retailers and manufacturers will take their products back for free or for a fee.

E-waste contains natural resources, including metals and plastics that can be reclaimed. In addition, computer monitors and older TV picture tubes contain an average of two to four pounds of lead (depending on their age) and require special handling when disposed. Electronics also can contain other substances of concern, including mercury, cadmium, and brominated flame retardants. When electronics are disposed of improperly, these toxic materials can present problems.

➡Action you can take:
Extending the life of your electronics or donating your most up-to-date and working electronics can save you money and saves valuable resources. Safely recycling outdated electronics promotes safe management of hazardous components and supports the recovery and reuse of valuable materials. For detailed information on what you can do, go to: **www.epa.gov/region01/solidwaste/electronic/what-u-can-do.html**

composting

Composting, the controlled biological decomposition of organic matter such as food and yard wastes into humus, a soil-like material, is another form of recycling. It is nature's way of recycling organic wastes into new soil which can be used in vegetable and flower gardens, landscaping and many other applications. Composting can be done in your backyard in a compost pile or bin or in your home with a worm bin. It is nature's way of recycling organic waste into new soil, which can be used in vegetable and flower gardens, landscaping, and many other applications.

➡Action you can take: Collect your yard and food wastes and start your own composting at home. See **www.epa.gov/NE/composting/index**.html and check your state environmental agency's composting site.

household hazardous waste

Discarded household products that contain corrosive, toxic, ignitable, or reactive ingredients are considered to be household hazardous waste. Products, such as paints, cleaners, oils, batteries, pesticides and solvents, which contain potentially hazardous ingredients, require special care at disposal. If mishandled, these products can be dangerous to your health and the environment.

➡Action you can take:
Never pour household hazardous wastes down the drain, on the ground, into storm sewers, or put them out with the trash.

➡Action you can take:
Proper disposal opportunities generally include community sponsored household hazardous waste days. Go to **www.epa.gov/NE/communities/hazwaste.html** for detailed information.

pressure treated wood

Pressure-treated wood is wood that has been treated with a preservative to protect it against dry rot, fungi, molds, termites and other pests. Since the 1970s, the majority of wood used to build outside structures, such as swing and play sets, decks, walkways, fences and picnic tables, was treated with chromated copper arsenate (CCA). CCA is a chemical wood preservative containing chromium, copper and arsenic. Exposure to inorganic arsenic may present certain hazards. Use of CCA for wood products around the home and in children's play areas is no longer allowed as of December 31, 2003. Even though CCA can no longer be used in residential settings, many existing decks and other structures are made of wood treated with CCA. Although EPA's review of CCA is still ongoing, the agency does not believe there is any reason to remove or replace CCA-treated structures, including decks and playground equipment.

➡Action you can take: *Always wash hands thoroughly after contact with any treated wood, especially prior to eating and drinking. Food should not come into direct contact with any treated wood. Wash play clothes and toys if they have come in contact with any treated wood. If you are concerned, you may want to consider the application of a coating product to pressure-treated wood on a regular basis. The following link provides information on sealants: (www.epa.gov/oppad001/reregistration/cca/index.htm#sealants). Some studies suggest that sealants can reduce the amount of CCA that leaches from treated wood. Treated wood should never be burned in open fires, stoves, fireplaces, or residential boilers. For more information on CCA, see EPA's web site at* ***www.epa.gov/oppad001/reregistration/cca/***

how to start saving energy with Energy Star® today

Money Isn't All You're Saving

Energy Star® is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency. Energy efficient choices can save families about a third on their energy bill with similar savings of greenhouse gas emissions, without sacrificing features, style or comfort. There are several simple actions you can take to save energy.

▶ Change a light and save a bundle. Energy Star® qualified light bulbs are 75% more efficient than incandescent bulbs. When just one room in every home is brightened by Energy Star® lighting, the change will keep over one trillion pounds of carbon dioxide out of our air.

▶ Make a quick trip to the hardware store or home improvement center for a hot water insulation kit to wrap your water heater and save on water heating costs.

▶ Use an Energy Star® qualified programmable thermostat that can automatically adjust the temperature of your home when you are away.

▶ Ensure that your whole system (i.e., furnace, heat pump, air conditioner, and heating and cooling) is energy efficient. Leaky ducts can decrease the overall energy efficiency of your heating and cooling system by as much as 20%. Duct sealing increases efficiency and lowers your utility bills.

▶ Upgrade your refrigerator if it is 10 years old or older. Refrigerators use more energy than any other appliance in your home, but an Energy Star® qualified refrigerator uses about half the energy of a 10-year old conventional model.

▶ Consider replacing your central air conditioning system if it is more than seven years old. Look for the Energy Star® label when you buy and use 20% less energy than a standard model. If just one household in 10 bought Energy Star® heating and cooling equipment, the change would keep over 17 billion pounds of pollution out of our air.

▶ Replace your clothes washer with an Energy Star® labeled model when it is time. Clothes washers use energy to both clean clothes and heat water, so to save on energy costs, wash your clothes in cooler water. Energy Star® qualified clothes washers use 50% less water and 70% less energy per load; that's up to $100 every year.

▶ Run your washer, dryer, and dishwasher only with a full load.

▶ Seal and insulate your home to improve comfort and reduce heating and cooling costs. EPA recommends Home Sealing to improve your home's "envelope" or the outer walls, ceiling, windows and floors. To improve the envelope of your home: Add insulation, seal air-leaks, and choose an Energy Star® labeled window if you're in the market for new windows.

▶ Check with your local utility or use our Special Offers search to see what incentives or rebates are available for the purchase of Energy Star® qualified appliances, lighting, or HVAC systems.

▶ Start saving energy by using our Home Improvement Tools. These tools can tell you how efficiently you use energy at home and recommend the most cost-effective improvements.

Air Quality Index (AQI) Values	Levels of Health Concern	Cautionary Statements for Ozone	Cautionary Statements for Particle Pollution
0-50	Good	None	None
51-100	Moderate	Unusually sensitive people should consider reducing prolonged or heavy exertion outdoors.	Unusually sensitive people should consider reducing prolonged or heavy exertion.
101-150	Unhealthy for Sensitive Groups	Active children and adults, and people with lung disease, such as asthma, should reduce prolonged or heavy exertion outdoors.	People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.
151-200	Unhealthy	Active children and adults, and people with lung disease, such as asthma, should avoid prolonged or heavy exertion outdoors. Everyone else, especially children, should reduce prolonged or heavy exertion outdoors.	People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion. Everyone else should reduce prolonged or heavy exertion.
201-300	Very Unhealthy	Active children and adults, and people with lung disease, such as asthma, should avoid all outdoor exertion. Everyone else, especially children, should avoid prolonged or heavy exertion outdoors.	People with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion.
301-500	Hazardous	Everyone should avoid all physical activity outdoors.	People with heart or lung disease, older adults, and children should remain indoors and keep activity levels low. Everyone else should avoid all physical activity outdoors.

The Air Quality Index (AQI) is a standardized method of reporting air pollution. It measures pollutant concentrations in a community's air to a number on a scale of 0 to 500. It enables the public to determine whether air pollution levels are good, moderate, unhealthful—or worse. It is often seen on weather broadcasts on television.

AQI air quality index

ten ways to make your home healthier

1. Clear the air.
Take the smoke-free pledge. Choose not to smoke in your home and do not permit others to do so. Small children are especially vulnerable to the health effects of secondhand smoke. Choose to smoke outside, if you must smoke. Moving to another room or opening a window is not enough to protect your children.

2. Air quality.
Listen to local forecasts for ozone, smog and particulate matter. When levels are high, limit your outdoor activities.

3. Rid your house of radon.
Test the level of radon gas in your home with a radon test kit. If the test result is 4pCi/L or higher, takes steps to reduce radon.

4. Some household products are toxic.
Use with caution! Look for alternatives to pesticides and household chemicals. If you must use them, always read the label and follow directions exactly. Always store them in high locked cabinets and in their original containers.

5. Check for carbon monoxide.
Check that all potential sources of carbon monoxide, such as space heaters and wood stoves, are well-vented and in proper working order. Never idle the car or lawnmower in the garage, or use propane heaters in tents!

6. Water, water everywhere.
Know the quality of your drinking water. If you have a private drinking water well, test it periodically.

7. Get the lead out.
Avoid potential sources of lead. If your home was built before 1978, have your home tested for lead paint. When remodeling or doing home repairs, be careful that you do not create lead dust. Keep children visiting your home away from lead hazards.

8. Keep mercury from rising.
Limit your intake of specific types of fish with high levels of mercury. Have a mercury-free home—find alternatives to mercury thermometers or mercury used for cultural or spiritual practices.

9. Too much sun is not much fun.
Cover up, use SPF 15 or higher sun screen, and stay out of the midday sun to avoid damaging UV rays.

Talk about the weather. Make a plan for temperature extremes—keep food, fluids and clothing stocked for extreme cold or heat, think of public places to go to escape the extreme temperatures, and identify who you can call for help if you need it.

10. Wash your hands of it.
Keep the dirt outside. Remove shoes at the door. Wash your hands to keep dirt that might be contaminated with lead, and pesticides off you and your kids.

healthy homes

10 Ways to make your home healthier

poison control information

National Poison Control Hotline:
1-800-222-1222 (emergency)
202-362-8563 (TDD)
202-362-3867 (administrative materials requests)

American Association of Poison Control Centers:
info/ (information about poisoning)
www.aapcc.org

air quality information and forecasts

www.epa.gov/ne/aqi
(information about New England air quality)

www.airnow.gov
(information on national air quality)

general information

EPA New England
1 Congress Street, Suite 1100
Boston, MA 02114-2023
www.epa.gov/ne/

EPA New England's Customer Call Center:
1-888-EPA-7341 (1-888-372-7341)

National Pesticide Information Center Hotline
1-800-858-7378 (PEST)

National Service Center for Environmental Publications:
1-800-490-9198
email: ncepimal@one.net

children

EPA New England Children's Health website:
www.epa.gov/ne/topics/humanh/childrenh.html

EPA National Headquarters Office of Children's Health Protection website:
www.epa.gov/children

Environmental Justice Hotline:
1-800-962-6215
email:
environmental-justice-epa@epa.gov

Pediatric Environmental Health Center at Children's Hospital:
1-888-CHILD14 (1-888-244-5314)
email:
suzanne.giroux@tch.harvard.edu

aging

EPA National Headquarters Aging Initiative website:
www.epa.gov/aging

healthy homes

Contacts & Links

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