



Home Air Pollution

Should I Worry?

A Resource Guide to
Preventing Indoor Air Pollution



INTRODUCTION

Is the air in your home making you sick?

It may be. The U.S. Environmental Protection Agency (U.S. EPA) rates indoor air pollution a top environmental health risk. People spend about 90 percent of their time indoors, most of that time at home. So it is important to try to limit the use of materials and behaviors that cause indoor air pollution.

Who should worry about indoor air quality?

We all need to be concerned, but young children, the elderly, and people with chronic illnesses are especially vulnerable to the effects of indoor pollutants. Children's bodies have underdeveloped immune systems that cannot defend well against dangerous substances. People with asthma or allergies are more sensitive to allergens and irritants in the environment. The elderly, and people with chronic illnesses, have weakened immune systems making them more vulnerable to indoor pollution.

How can I use this Guide?

This guide is published by the Cleveland Clean Air Century Campaign to help you learn how to make the air in your home healthier. In this guide you will find separate sections which explain some common causes of indoor air pollution. Each section offers advice on how you can prevent the air pollution in your home and where you can get more information or assistance.

What is the Cleveland Clean Air Century Campaign?

The Cleveland Clean Air Century Campaign is a project that was started in 2001 by local community organizations who wanted to help improve health and the environment in northeast Ohio by reducing air pollution. The initial funding for the campaign was provided by U.S. EPA. The campaign is currently administered by the American Lung Association® of Ohio.

Cleveland Clean Air Century Campaign

6100 Rockside Woods Blvd., #260

Independence, OH 44131

(216) 532-8211

The following checklist will help you determine if there are actions you can easily take to improve your indoor air quality. If you check any of the following questions, please read the specified section for advice on how to protect your family.

Did you know asbestos was used in some home heating systems?

- ☐ Do you have asbestos in your home?
- ☐ Have you been exposed to asbestos?

If you checked any of these questions (or don't know the answers) and/or need more information, please refer to the section called

AsbestosPage 3

Did you know that anything that burns could produce harmful gases and particles?

- ☐ Do you use an unvented gas or kerosene space heater?
- ☐ Do you use a fireplace?
- ☐ Does your home have a furnace, hot water heater, stove or clothes dryer that uses natural gas or liquid petroleum (LP)?

If you checked any of these questions and/or need more information, please refer to the section called

Fuel Burning Appliances.....Page 5

Are your household products potentially hazardous?

- ☐ Do you use sprays, air fresheners, or other chemical products in your home?
- ☐ Do you use household products with strong odors which can trigger asthma attacks?
- ☐ Do you store fuels, paint products, or other chemicals in your home?

If you checked any of these questions and/or need more information, please refer to the section called

Household ProductsPage 7

Do you need to worry about lead hazards in your home?

- ☐ Do you live in a home built before 1978?
- ☐ Do young children live in or visit your home?
- ☐ Do you have areas of bare soil in your yard?

If you checked any of these questions and/or need more information, please refer to the section called

Lead.....Page 9

Do you need to worry about mercury in your home?

- ☐ Do you have a mercury thermometer in your home?
- ☐ Do you have other mercury containing objects (thermostats, barometers, etc.)?

If you checked any of these questions and/or need more information, please refer to the section called

Mercury.....Page 11

Do you have problems with excess moisture and mold in your home?

- ☐ Does water seep or backup into your basement or crawl space?
- ☐ Is there a damp feel or musty smell anywhere in your home?
- ☐ Has a roof or plumbing leak soaked surfaces in your home?
- ☐ Do you see water condensing on the inside of windows?
- ☐ Do you see mold on household surfaces?

If you checked any of these questions and/or need more information, please refer to the section called

MoldPage 13

Do you know that pests and pesticides can be hazardous to your family's health?

- ☐ Do you have mothballs in your home?
- ☐ Do you use bug sprays?

If you checked any of these questions and/or need more information, please refer to the section called

Pests and Pesticides.....Page 15

Do you know that second hand smoke from products like tobacco is hazardous to your family's health?

- ☐ Is there a smoker in the house?
- ☐ Will you take the Smoke-Free Home Pledge?

If you checked any of these questions and/or need more information, please refer to the section called

Tobacco Smoke.....Page 17

Do you need to worry about radon in your home?

- ☐ Are you unsure of what radon is?
- ☐ Do you know how to test your home for radon?

If you checked any of these questions and/or need more information, please refer to the section called

Radon.....Page 19

Why Should I Worry?



Asbestos is a mineral fiber that was commonly used in insulation and as a fire-retardant. Asbestos insulation is often found on old boilers, heating pipes and ducts. If asbestos insulation is damaged or removed improperly,

invisible asbestos fibers can be released into the air. Exposure to asbestos can increase the risk of lung cancer.

What Can I Do?

- If you think your home may have asbestos, don't panic! Usually it is best to leave asbestos material that is in good condition alone. There is no danger unless fibers are released and inhaled into the lungs.
- Do not cut, rip, or sand asbestos-containing materials.
- Leave undamaged materials alone and prevent them from being damaged, disturbed, or touched.



- If asbestos insulation is more than slightly damaged, it may need to be covered or removed. An asbestos abatement contractor licensed by the Ohio Department of Health can help determine the best way to fix the problem.
- If you are going to make changes in your heating system that might disturb asbestos insulation, you should consult with an asbestos abatement contractor for safety advice.



Where Can I Learn More?

Cleveland Department of Public Health, Division of Air Quality
(216) 664-2297

or <http://www.clevelandhealth.org>

U.S. Environmental Protection Agency, Cleveland Office
(440) 250-1700

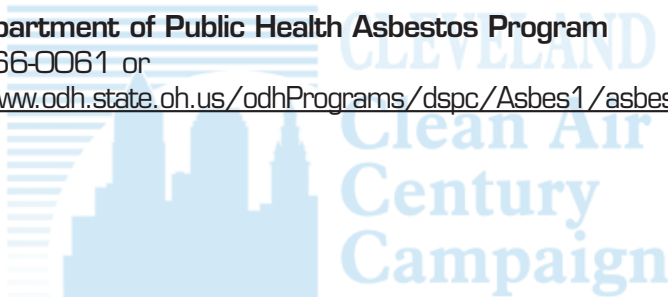
or <http://www.epa.gov/reg5ohio/>

U.S. Environmental Protection Agency, Indoor Air Quality Information Clearinghouse (800) 438-4318

or <http://www.epa.gov/iaq>

Ohio Department of Public Health Asbestos Program
(614) 466-0061 or

<http://www.odh.state.oh.us/odhPrograms/dspc/Asbes1/asbestos1.aspx>



Why Should I Worry?

Fuel burning appliances in the home can release poisonous gases into the air if they are not maintained or vented properly. One of these gases is carbon monoxide, which can be deadly.



Carbon monoxide gas can be produced by fireplaces, gas furnaces, gas clothes dryers, gas water heaters,

gas stoves, and fuel burning space heaters. You cannot smell or see carbon monoxide gas but you can protect yourself from being poisoned by taking some simple precautions.

What Can I Do?

- Have your furnace inspected annually by a professional heating contractor. Make sure they test for carbon monoxide. Consider using pleated filters to better trap indoor air pollutants.
- Do not use gas or kerosene space heaters that do not vent gases to the outside. These are difficult to use safely. You can use an electric space heater instead if you are careful to use it safely to prevent a fire.
- Never use a gas cooking stove or oven to heat your home.
- Never use propane or charcoal grills indoors.

CO

FUEL BURNING APPLIANCES, *Continued*

- Install an exhaust fan over your stove to vent gases and particles outside and use it when you cook. Keep stove burners properly adjusted.
- Have your fireplace inspected each year by a chimney sweep. A chimney sweep can also clean your chimney when needed. Install a chimney screen to keep debris and animals out of the chimney. Do not overload your fireplace. Never burn garbage, painted wood, treated wood, or glossy paper products. Keep a fire extinguisher nearby.
- Install carbon monoxide detectors and smoke detectors on every level of your home and outside of sleeping areas. Test detectors monthly.
- Replace CO detectors every five years and smoke detectors as recommended by manufacturer or every 10 years, whichever comes first. Replace batteries when you hear the “low battery” beep.

Where Can I Learn More?

U.S. Environmental Protection Agency, Cleveland Office

(440) 250-1700

or <http://www.epa.gov/reg5ohio/>

Chimney Safety Institute of America (800) 536-0118

**U.S. Environmental Protection Agency, Indoor Air Quality
Information Clearinghouse** (800) 438-4318

or <http://www.epa.gov/iaq>



Why Should I Worry?



Some household products contain chemicals that are released into the air and can be hazardous to your health by worsening respiratory conditions, such as asthma.

These products include household cleaning products, paint, paint thinner, paint

remover, lawn and garden chemicals, air fresheners, hobby supplies, nail polish, nail polish remover, and fuels.

You can tell if a product is potentially hazardous if words such as “caution,” “poison,” “danger,” “warning,” “flammable,” “corrosive,” “combustible,” “toxic,” or “caution” appear on the label.

What Can I Do?

- Avoid using potentially hazardous products. Look for non-toxic alternatives. Avoid using spray products. Spray products can put tiny droplets of hazardous products into the air that you breathe.
- Use gloves and protective clothing when you use hazardous products so the product does not get on your skin.



HOUSEHOLD PRODUCTS, *Continued*

- When using household products, if you notice an increase in asthma attacks, worsening of respiratory issues, skin irritations, or other negative health effects, discontinue the use of that product.
- Use hazardous products outside when possible. If you must use hazardous products indoors, open windows and doors and turn on a fan to ventilate your home. Do not mix products. In particular, mixing chlorine products and products containing ammonia can cause poisonous vapor or an explosion.
- Store products in their original and properly sealed containers and place them in a ventilated area away from children, pets, heat, sparks, or flame.
- Follow label directions and use only what is needed for the job. Twice as much does not mean twice the results.
- Properly dispose of unwanted hazardous products. Contact your local household hazardous waste agency for collection events.

Where Can I Learn More?

Cuyahoga County Solid Waste District

Cuyahoga County Household Hazardous Waste Round-Up
(216) 443-3749

Northeast Ohio Regional Sewer District (216) 641-6000

or <http://www.neorsd.org/internet/do/viewhome.do>

U.S. Environmental Protection Agency, Indoor Air Quality Information Clearinghouse (800) 438-4318

or <http://www.epa.gov/iaq>

Why Should I Worry?

Lead poisoning is a serious problem, especially for children. About one-in-five children tested in Cleveland (2002) have lead poisoning. Many houses and apartments built up to the late 1970's were painted with lead-based paint. If your home was built prior to 1960, it is likely that the exterior siding, porches, and windows are painted with lead-based paint.

Children can be poisoned by breathing dust and fumes when lead paint is dry-scraped sanded or burned off with a heat gun or torch. Most children are poisoned by ingesting household dust that gets on their hands and toys. Lead dust is produced when lead paint deteriorates or is disturbed during home repairs or renovation.

What Can I Do?

- Do not remove lead paint yourself. Consult your state health or housing department for suggestions on which private laboratories or public agencies may be able to help test your home for lead paint.
- Cracking, chipping, and flaking lead paint is a hazard. Lead paint in good condition is not a hazard, unless it is being rubbed, such as on a window frame.



- Hire a licensed lead abatement contractor to correct lead-based paint problems. Occupants, especially children and pregnant women, must leave the building until all the work is finished and clean-up is done.

- If lead painted surfaces will be disturbed during repairs and renovations or redecorating, make sure that the people doing the repairs and renovations have lead-safety training and follow lead-safe practices.
- Wet mop and dust your house weekly to cleanup dust that may be contaminated with lead. Clean floors, windowsills, and window wells frequently.
- The soil around your home may be contaminated with lead. Cover bare soil with grass or mulch. Prevent soil from being tracked into your home by using rugs at each door and asking everyone to remove their shoes when entering your home.
- To help protect your children from lead poisoning, give them a sandbox with clean sand to play in and wash their toys frequently to remove lead dust. Wash children's hands when they come in from the outdoors and before they eat.
- Get your child tested for lead exposure. To find out where to do this, call your doctor or local health clinic.

Where Can I Learn More?

Cleveland Department of Public Health (216) 664-2525

Cuyahoga County Board of Health (216) 201-2000

Environmental Health Watch (216) 961-4646

or <http://www.ehw.org>

National Lead Information Center 1 (800) 424-LEAD (5323)

U.S. Environmental Protection Agency

<http://www.epa.gov/lead>

HUD Office of Healthy Homes and Lead Hazard Control

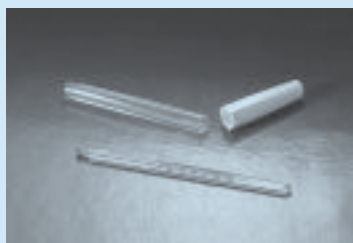
<http://www.hud.gov/offices/lead/index.cfm>

Why Should I Worry?

Mercury is a dense silvery metal that can be found in old fever thermometers, thermostats, and appliance switches. Mercury is a toxic material to both humans and the environment. If a mercury item breaks in your home, the liquid mercury will separate into small droplets and the mercury vapor will get into the air. Breathing in this mercury vapor can be a serious threat to your health.

What Can I Do?

- Replace your mercury fever thermometers and thermostats with mercury-free devices before they break. This will reduce your chance of coming into contact with mercury.



- Do not dispose of mercury or mercury devices in your trash or down a drain because mercury can pollute the environment.
- Properly dispose of your mercury thermometers, thermostats, or other mercury devices. Contact your local mercury collection program for disposal information.

- If a thermometer or other mercury device breaks in your home, immediately open all your windows to let in fresh air. Keep people and pets out of the room. Then call Ohio EPA for information on cleaning up the spill. Never use a vacuum to clean up spilled mercury. This will put more mercury into the air you breathe.

Where Can I Learn More?

Cuyahoga County Solid Waste District

Cuyahoga County Mercury Collection Program (216) 443-3749

U.S. Environmental Protection Agency,

Mercury Spill Clean Up Response Hotline (800) 282-9378

Northeast Ohio Regional Sewer District

Mercury Collection Program (216) 641-6000

or Email: mercuryprogram@neorsd.org

U.S. Environmental Protection Agency

<http://www.epa.gov/mercury>

Centers for Disease Control Agency for Toxic Substances & Disease Registry

<http://www.astdr.cdc.gov/tfacts46.html>

Ohio EPA (800) 686-6330



Why Should I Worry?

Tiny mold spores float in the air everywhere, indoors and outdoors. When mold spores land on a wet or damp surface they can grow. Molds have the potential to cause health problems. Molds can cause allergic reactions in sensitive people. Molds can also cause asthma attacks in people who are allergic to mold. Mold can grow in your home if moisture is present, such as where there is high humidity, leaky plumbing, a wet basement or poor air circulation.

What Can I Do?

- Control moisture in order to control mold
- Identify places where water may be leaking into your home. Look at your walls, floors, pipes, sinks, attic, basement, or crawl space. Find the source of moisture, fix the problem, and clean up any standing water.
- If mold is a problem in your home, you should clean up the mold promptly (24-48 hrs.) and fix the water problem. If you clean up the mold, but don't fix the water problem, most likely, the mold problem will come back.
- Use exhaust fans in the kitchen and bathrooms; make sure they are vented to the outside. Also make sure the clothes dryer is vented to the outside. If the relative humidity in your basement or crawl space is above 60 percent consider using a dehumidifier to take moisture out of the air. If you use a dehumidifier, be sure to clean it on a regular basis and follow manufacturer's instructions.



- Run humidifiers sparingly and be sure to clean them on a regular basis and follow manufacturer's instructions. If you have moisture on your windows and walls, your humidifier is set too high.
- Make sure your home has proper drainage around its foundation so that water flows away from your home, not towards the foundation.
- Avoid storing paper, books, clothes, or cardboard boxes in humid areas of your home where mold can grow.
- If porous materials, furnishings, and carpet become wet they must be quickly and thoroughly dried (24-48 hrs.). If materials have been wet for more than a couple of days, they may have to be discarded.
- Avoid carpet in areas that are frequently wet or damp.
- Get information on how to clean up mold safely and how to decide if professional help is needed. Visit U.S. EPA's website listed below or call the Indoor Air Quality Clearinghouse for a copy of the document "A Brief Guide to Mold, Moisture, and Your Home."

Where Can I Learn More?

U.S. Environmental Protection Agency, Indoor Air Quality Clearinghouse (800) 438-4318
or <http://www.epa.gov/iaq>

Cleveland Department of Public Health, Division of the Environment (216) 664-2525
or <http://www.clevelandhealth.org>

Cuyahoga County Board of Health (216) 201-2000

U.S. Environmental Protection Agency, Cleveland Office (440) 250-1700
or <http://www.epa.gov/reg5ohio/>

Environmental Health Watch (216) 961-4646
or <http://www.ehw.org>

Center for Disease Control and Prevention
<http://www.cdc.gov/health/mold.html>

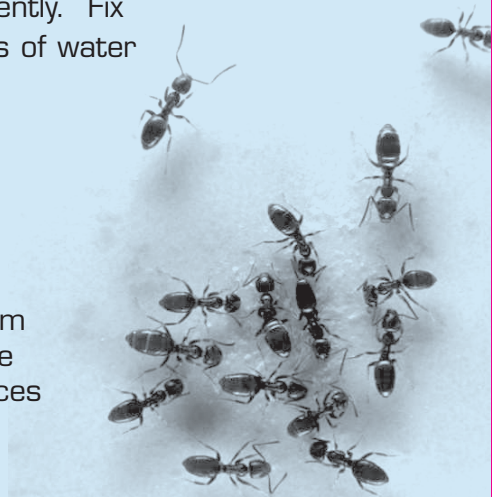
Why Should I Worry?

Bugs, ants, mosquitoes, cockroaches, and mice can be hazardous to your health. For instance, mosquitoes can transmit the West Nile Virus and other diseases. Roach and mouse urine can trigger asthma attacks in people who are allergic to them. Also the bug sprays you may be using to get rid of the pests are potentially dangerous. These spray poisons get into the air you breathe and the surfaces you touch and can harm your family and your pets.

What Can I Do?



- Try non-chemical controls first. Trap rodents using snap traps. Place the snap traps in areas away from children and pets. Get rid of bugs using sticky traps or by vacuuming.
- Bug-proof your home! Block areas where rodents and bugs can get into your house by using window screens and by caulking and sealing cracks and crevices. Get rid of hiding places for bugs by cleaning up clutter.
- Don't feed pests! Keep your home and your kitchen free of food debris. Clean up food spills and store your food in tight containers. Do not leave dirty dishes out overnight and take out your trash frequently. Fix leaks. Do not provide sources of water for bugs, pests, and mold.
- Use pesticides with caution. Sometimes pesticides may be necessary to repel or kill dangerous bugs. But the chemicals can be dangerous. Sprays are especially a problem because the poison gets in the air you breathe and the surfaces you touch.



- If you must use a pesticide, use the least toxic one you can find and in the smallest amount. For example, if you have cockroaches, you can use borate powders and gel baits. If you have moths, you can use cedar chips to repel them. Do not use moth balls, which contain poisonous chemicals.
- If you use a pesticide, ventilate the area well after pesticide use, especially when using a spray.

Where Can I Learn More?

U.S. Environmental Protection Agency, Cleveland Office
(440) 250-1700
or <http://www.epa.gov/reg5ohio/>

U.S. Environmental Protection Agency, Pesticide Hotline
(800) 858-7378
or <http://www.epa.gov/pesticides>

National Coalition Against the Misuse of Pesticides
(202) 543-5450
or <http://www.beyondpesticides.org>

Environmental Health Watch (216) 961-4646
or <http://www.ehw.org>

National Pesticide Information Center (800) 858-7378

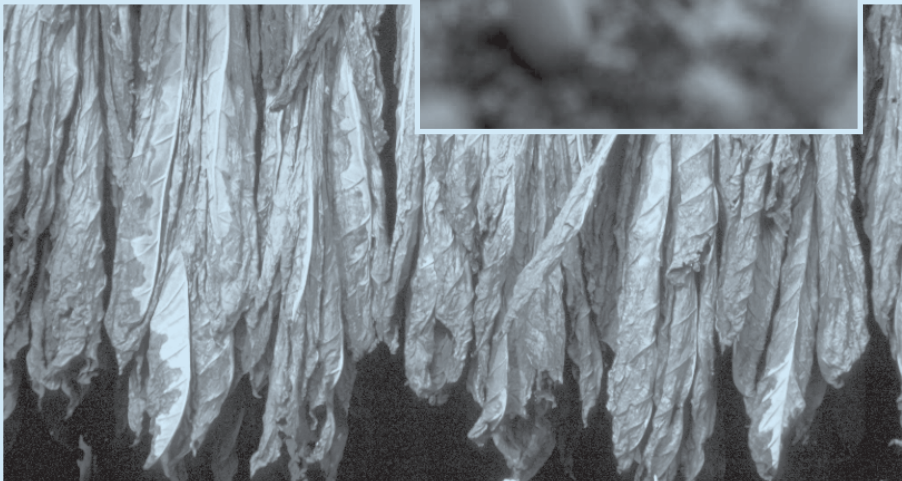
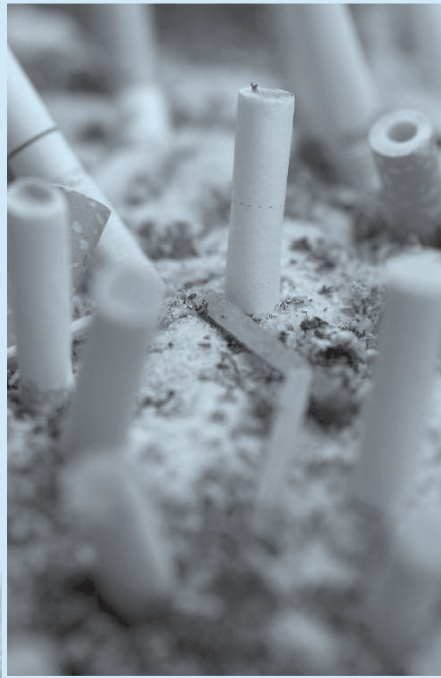


Why Should I Worry?

Tobacco smoke is a danger to everyone in your home. Second hand smoke is a mixture of the smoke given off by the burning end of a cigarette, pipe, or cigar, and the smoke exhaled from smokers. Second hand smoke is especially dangerous for children because they are still growing. It is also dangerous to people with asthma and other breathing problems because it may trigger more frequent attacks. Wherever people smoke in the house, the pollution lingers, even after the smoking stops.

What Can I Do?

- Until you can quit smoking, smoke outside your home and your car.



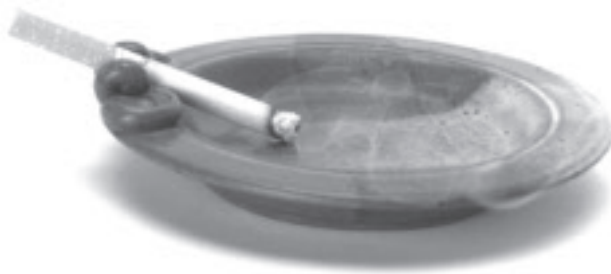
- Do not let others smoke in your home or in your car.
- Pledge to make your and car smoke-free. Sign the Smoke-Free Home Pledge by calling 1-866-SMOKE-FREE (1-866-766-5337) or visiting www.epa.gov/smokefree/pledge.

Where Can I Learn More?

Smoke-Free Home Pledge 1-866-SMOKE-FREE
or <http://www.epa.gov/smokefree>

American Lung Association of Ohio 1-800-LUNG-USA
or <http://www.ohiolung.org>

U.S. Environmental Protection Agency, Cleveland Office
(440) 250-1700
or <http://www.epa.gov/reg5ohio/>



CLEVELAND
Clean Air
Century
Campaign

Why Should I Worry?

Radon is a radioactive gas that is found naturally in soil. You cannot see or smell radon but it may be a problem in your home. Radon can enter your home through your basement. When you breathe air that contains radon, you increase your risk of getting lung cancer. The Surgeon General has warned that radon is the second leading cause of lung cancer in the United States today. People who smoke or live in basement bedrooms are at greater risk.

What Can I Do?

- Test your home for radon. This is the only way to know if your home has a high level of radon. You can purchase a do-it-yourself home test kit through the mail, at hardware stores or other retail outlets. Follow the instructions carefully. You can also hire a trained contractor to do the testing.
- If you find that your home has a level at or above 4 picocuries per liter (pCi/l), EPA's Action Level, have it fixed to reduce the concentration. You may want to take action if the levels are in the range of 2 - 4 pCi/l. Generally, levels can be brought below 2 pCi/l fairly simply.



- The State of Ohio requires the use of state-licensed personnel to conduct radon testing or to install radon reduction systems. Call the Ohio Department of Health for more information.
- Some radon reduction systems can reduce radon levels in your home by up to 99%. The cost of fixing a home generally ranges from \$800 to \$2500 (with an average cost of \$1200). Your costs may vary depending on the size and design of your home and which radon reduction methods are needed.

Where Can I Learn More?

Ohio Department of Health Radon Action Line
(800) 523-4439

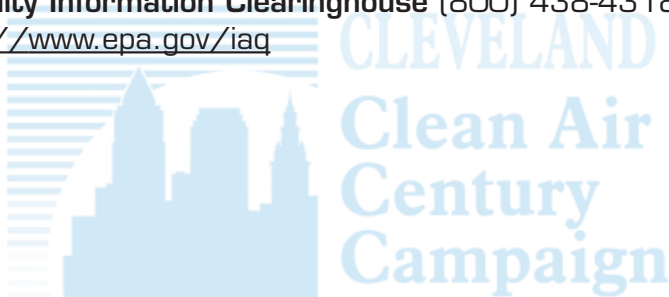
Ohio Department of Health
<http://www.odh.ohio.gov>

National Radon Info Line 1(800) SOS-RADON (767-7236)

U.S. Environmental Protection Agency, Cleveland Office
(440) 250-1700
or <http://www.epa.gov/reg5ohio/>

U.S. Environmental Protection Agency
<http://www.epa.gov/radon>

**U.S. Environmental Protection Agency, Indoor
Air Quality Information Clearinghouse** (800) 438-4318
or <http://www.epa.gov/iaq>





Information provided in this booklet is based on current (2004) scientific and technical understanding of the issues presented. To the best of our knowledge, the recommended actions will improve the indoor air quality in homes. The Cleveland Clean Air Century Campaign does not endorse any program listed nor does it assume responsibility for the effectiveness of the programs. Following the advice given will not necessarily provide complete protection in all situations or against all health hazards that may be caused by indoor air pollution.

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To order additional copies of this free booklet,
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