



# The Green Door

April/May 2005

**GreenWorks**  
REALTY

The Green Door is a monthly newsletter of sustainable living and real estate geared to present and future homeowners.

To Understand Man, One Must Understand the Environment in Which He Lives.  
- Aristotle

## The Air We Breathe-Indoors

We must educate ourselves and be vigilant in reducing the sources of poor indoor air quality. Indoor air pollution is simply the presence of substances within a home that negatively affect human health. The Environmental Protection Agency has identified indoor air quality as one of the top five most urgent environmental risks to public health. Additionally, more than 50 percent of Americans are not aware of the risks posed by indoor air. Our homes are not considered an environment in the eyes of the law and there are no laws protecting us from hazardous products in our homes. The University of Washington Medical School reports that symptoms caused by exposure to organic chemicals are indistinguishable from panic attacks which strike millions every year.

The three routes of exposure to indoor pollutants are **Inhalation**, **Ingestion** and **Absorption**. Everything we smell enters our bloodstream, but not everything that enters our bloodstream can necessarily be smelled. Each day we breathe ten to twenty thousand liters of air and approximately two heaping tablespoons of assorted chemicals and particles (Source: Health Canada). Proportionately, children breathe even more. Absorption of toxic chemicals through our skin can be just as dangerous as if we had swallowed them.

### Types of Pollutants

**Asbestos** is a thin, needle-like, crystal when released into the air. Asbestos can cause lung cancer, cancer of the chest lining and abdominal cavity and scarring in the lungs. The main sources of asbestos in older homes are vermiculite (popcorn ceilings), furnace ducts, insulation, vinyl sheet flooring, adhesives for installing flooring, textured paints, cement shingles, cement roofing, ironing board covers and artificial ashes/embers in fireplaces. Asbestos has to be disturbed to become airborne. If it is sealed it is not a hazard. The only way to detect it is to hire a professional or take a sample to the lab for testing (follow careful instructions if doing this yourself).

**Biological Pollutants** include bacteria, viruses, fungi, pollen, dust mites and other insects, animal dander (tiny scales from hair, feathers or skin) and molds. These pollutants travel through the air and are often invisible. They are usually inhaled, either alone or by attaching themselves to particles of dust. Two conditions are essential to support biological growth of all kinds: nutrients & moisture. The main sources of these biological pollutants are pets, improperly ventilated spaces and what shoes carry in from outside. Sofas, cushioned chairs, carpets, bedding, potted plants, air conditioners, humidifiers, refrigerator drip pans, toilets and other such household items can be breeding grounds. Detection can be relatively easy through musty odors, condensation on hard surfaces, water stains or leaks, general staining and allergic reactions. The most susceptible population are children with asthma. It is not necessary to keep a home sterile but preventative measures such as washing your bedding regularly, covering furniture (especially if pets are using it), removing mold infestations, cleaning air conditioners/humidifiers, vacuuming and washing carpets regularly, keeping areas dry and dust free, making sure you have an entry mat and removing your shoes at the door, can all help tremendously.

**Volatile Organic Compounds or VOCs** include Formaldehyde, Phenol and Chlorine. **Formaldehyde** forms other carcinogens when it combines with household chemicals such as ammonia. Exposure to formaldehyde vapors can cause eye, nose and throat irritation; coughing; skin rashes; headaches; dizziness; nausea; vomiting and nosebleeds. The EPA ranks it as a probable human carcinogen. The main sources of formaldehyde off-gassing are building materials (insulation), particle board (cabinets, shelves, furniture), resins,

## Top Ten Things You Can Do To Improve Your Indoor Air Quality

- 1 Read all labels.
- 2 Buy only as much as you need.
- 3 Pinpoint all potential sources of toxics in your home.
- 4 Store pesticides & paint in a shed or garage, someplace cool & dry.
- 5 Educate yourself about alternatives.
- 6 Take your shoes off at the door.
- 7 Open windows.
- 8 Reduce carpeted areas.
- 9 Have your ducts cleaned.
- 10 Prevent standing water in plants, refrigerator drip pans etc...

Jim Verhey's Project Management Maxim:

If you don't attack the risks, the risks will attack you.

In an underdeveloped country, don't drink the water; in a developed country,  
don't breathe the air. ~ *Changing Times* magazine

adhesives, paints, varnishes, cars, cigarettes, burning wood, natural gas and kerosene. It has no odor but can be measured in the air. The source must be removed or coated (for the short term). It is also important to maintain moderate humidity and good ventilation as heat and moisture accelerate emissions.

**Phenol** is an extremely caustic chemical that burns the skin. Absorption through the lungs or skin can cause central nervous system damage, heart rate irregularities, respiratory disease, kidney & liver damage and death. Synonyms for phenol are carboic acid, (mono)hydroxybenzene, phenyl hydroxide, and phenyl alcohol. The largest single use of phenol is as an intermediate in the production of phenolic resins, which are low-cost, versatile, thermoset resins used as a plywood adhesive and in the construction, automotive, and appliance industries. Phenol is also regularly used as a slimicide (a chemical toxic to bacteria and fungi) in disinfectants; and as an anesthetic in medicinal preparations including ointments, ear and nose drops, cold sore lotions, throat lozenges, and antiseptic lotions.

**Chlorine-based chemicals.** The 1990 Clean Air Act lists chlorine bleach as a hazardous air pollutant. It is also the most common household cleaning product accidentally swallowed by children. Inhaled chlorine-based chemicals can cause respiratory problems including emphysema and bronchitis. DDT, dioxin, PCB's and other chlorine-based chemicals, collectively called organochlorines, contain some of the most dangerous carcinogens ever tested. Chlorine exposure itself is usually limited to industrial sites but household chlorine bleach can release chlorine gas if it is mixed with other cleaning agents.

**Radon** is a radioactive gas. It comes from the natural decay of uranium found in nearly all soils. Radon exposure is the second leading cause of lung cancer, killing thousands of Americans each year. The EPA estimates that nearly 1 out of every 15 homes in the US have radon levels above the recommended level. On January 13, 2005, the US Surgeon General issued a Health Advisory warning Americans about the health risks from exposure to radon in indoor air. The Nation's Chief Physician urged American's to test their homes to find out how much radon they might be breathing. Dr Carmona also stressed the need to remedy the problem as soon as possible when the radon level is 4pCi/L or more.

**Pesticides** can cause headache, respiratory and skin irritation, dizziness, muscular weakness and nausea. Possible sources include contaminated soil or dust that floats or is tracked in from outside, household surfaces that collect and then release the pesticides and food brought home from the grocery store. One study suggests that 80% of exposure to pesticides occurs indoors and that measurable levels of up to a dozen pesticides have been found in the air inside homes. Store any necessary pesticides in a secondary sealed container away from common areas of the home. Do not spray pesticides where children or pets can come in contact with them-your lawn, garden, front steps etc... Try organic, non toxic alternatives, there are many out there.

By *Eva Otto, GreenWorks & Dr Jake Felice, Naturopathic Physician*

### A Greener Seattle Highlight-

Seattle Asthma provides free-in-home visits to Seattle residents that have a child with asthma. An Environmental Health Specialist will survey the home environment to identify things you can do to reduce the presence of asthma triggers. To be eligible, you must be a resident of the City of Seattle and have a child with asthma or asthma-like symptoms. To make an appointment, please call David Williams at (206) 205-4399. For more information go to <http://www.metrokc.gov/health/hazard/indoorair.htm>

### April Websites

<http://www.nwasthma.com/resources/pollen.asp>  
Asthma resources.

<http://es.epa.gov/techinfo/facts/safe-fs.html>  
Safe alternatives for all your household needs.

<http://www.epa.gov/radon/pubs/citguide.html>  
A Citizen's Guide to Radon.

<http://www.hhinst.com/>  
The Healthy House Institute

<http://www.watoxics.org/pages/root.aspx>  
Washington Toxics Coalition.

<http://www.davidsuzuki.org/WOL/Challenge/Pesticides.asp>  
Pesticide free lawns.

### Seattle Sustainable Residence Diary-Entry #9

The trees are gone...and we are sorry!! No shade this summer. The excavator arrived last week and the site has been reduced to dirt with a large square hole where the foundation will be. Now if it could only rain everywhere in Seattle except for our temporary moonscape!! So far we have salvaged cabinets for use in our kitchen to be and clear fir trim for inside the house. I also made a trip down to Second Use to see what goodies they had. We are currently deciding on colors. What color for the 50 year, Ultra Cool coated, corrugated steel siding and what color for the Eagle windows (wood with a steel skin)? JRF

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