

Breathing Made Easier

Fact: *the air in your home is likely three or four times more polluted than outdoor air.*

Fact: *houses frequently contain more contaminants, at more concentrated levels, than 'sick' public buildings do. Our experts offer common sense solutions.*

Text by Sandra McKenzie

Who's to blame?

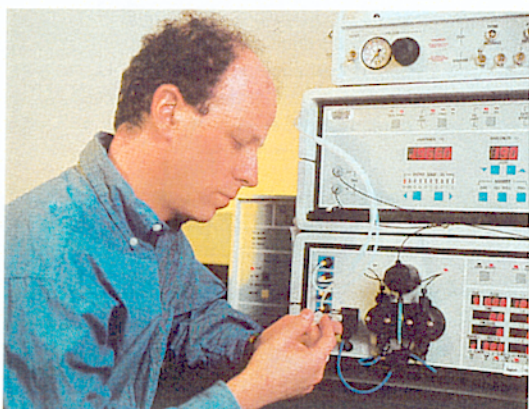
The late, unlamented 1970s have a lot to answer for. Besides disco and polyester leisure suits, that decade's legacies include Sick Building Syndrome.

In response to the energy crisis of the mid-70s, builders began constructing highly insulated, airtight buildings. At about the same time, new synthetic building and furnishing materials and adhesives came on the market, adding to the problem by emitting formaldehyde and other harmful gases. Result? With the resulting decline in indoor air quality came an alarming rise in reports of related ailments, ranging from vague discomfort to life-threatening respiratory and allergic reactions.

If you associate Sick Building Syndrome with our workplaces, think again. Our own homes frequently contain more contaminants, at more concentrated levels than public buildings do. In fact, according to Canada's leading authority on indoor air quality, CMHC (Canadian Mortgage and Housing Corporation), the air in your home is likely three or four times more polluted than outdoor air!

Are our homes killing us?

Not most of us. But for those who suffer from respiratory problems, severe allergies or asthma the issue is critical. And we all benefit from breathing cleaner air.



Michael Brauer is an associate professor of Occupational Hygiene at the University of British Columbia.



Elia Sterling, with the Dynamic Filter. Sterling's firm tested the high-efficiency particulate filter with carbon mesh for odour removal. "It was extremely effective in removing odour and tobacco smoke," says Sterling, "and works in homes with or without a furnace." For more information about Dynamic Filters, call Air Quality Industries at (604) 681-2750.

Who's got the answers?

We asked experts Elia Sterling, an environmental consultant and president of Theodor D. Sterling and Associates of Vancouver, and Michael Brauer, an associate professor of Occupational Hygiene at the University of British Columbia, for their advice on improving the indoor air quality in your home.

Here are their tips – often surprisingly simple – for better house-keeping and smarter shopping (see pages 22 and 23), along with CMHC's higher tech 'whole house solution' approach.

Room-by-Room Tips for a Healthier Home

The good news for consumers is that improving your indoor air quality can be as simple and refreshingly low-tech as opening a few windows, vacuuming regularly, and leaving our shoes at the door. To breathe even easier, shop smarter – or consider a 'whole house' ventilation system.

Sniff out your problems!

The 'sniff' test is a simple diagnostic tool that can help you identify a variety of potential problems, suggest air quality experts Elia Sterling and Michael Brauer. Close up all your windows and doors, then leave your home for several hours. On returning, smell the air thoroughly. Are there any odours that might indicate pollutants?

Problem #1: moulds

Earthy, musty scent? Mould is present – not all of which will be visible. Moisture is the culprit here, setting up ideal incubation conditions for all kinds of microorganisms, none of which are conducive to clean air or respiratory health. Solution? Find and repair – or prevent – any sources of excess humidity.

Problem #2: air-borne pollutants

'Chemical' or even perfumed scent? Cleaning compounds, aerosol sprays, adhesives, paints, solvents, even cosmetics, are other common sources of air-borne pollutants. Many are found in furnishings. "Beware of the amount of chemicals you use daily," advises Brauer. "By then consciously limiting or eliminating altogether those chemicals, you also eliminate the unnecessary pollutants."

One of the largest sources of indoor air pollution at home? Kitchen cabinets made from particle board may use a glue containing the gas urea formaldehyde.

KITCHEN

- Where possible, substitute non-toxic cleansers such as baking soda, vinegar or unscented soaps for toxic cleaning products.
- Never mix cleaning products. Some cleaners contain products, such as bleach and ammonia, which when mixed produce poisonous gases.
- When cooking, use a kitchen range exhaust fan which vents to the outdoors to remove moisture and cooking odours.
- Choose formaldehyde-free kitchen cabinets when renovating. If you have particle board cabinets (and many are), be sure to seal them with arborite or other plastic coatings. (Particle board uses glues containing urea formaldehyde.)

Severe allergies, asthma, or a respiratory problem?

If someone in your family does suffer from severe allergies, asthma, or a respiratory problem, you may consider a 'whole house' approach to better indoor air quality. You should also talk to your doctor – and consider a professional environmental assessment of your home to pinpoint the problem.

UTILITY ROOM/BASEMENT

- A dehumidifier might be necessary. Otherwise, vent rooms where moisture collects, and mop up excess water immediately.
- Use high-efficiency filters in your natural gas furnace.
- Install a balanced ventilation system, such as a Heat Recovery Ventilator [see page 21] that eliminates stale air and replaces it with fresh air.
- Install a carbon monoxide detector that will alert you if a harmful amount of carbon monoxide is present in your home. You cannot smell carbon monoxide, but it can cause severe illness and even death.
- Use any chemical, whether it's ammonia, hair spray or paint thinner, in a well-ventilated area. Combustible? Do not use near water heater or furnace.

ENTRY

- A good doormat helps remove bigger bits of contaminated soil. Better yet, get into the habit of removing shoes at the door.

Renovating, redecorating or refurbishing?

Wait for good weather, when you can throw open a few windows and doors to let any objectionable fumes from paints, solvents, upholstery or adhesives escape. "The labels on these products will always say 'use in well-ventilated conditions only'. You should believe that these labels mean what they say," says Elia Sterling. Check CMHC brand lists for low-emission paints and carpet adhesives.

LIVING ROOM

- Open windows to circulate fresh air when dusting or vacuuming.
- Redecorating? Wait for good weather when you can throw open windows and doors to let fumes from paints, solvents, adhesives – even upholstery – out.
- Better yet, choose furniture and rugs made from natural fabrics such as cotton or wool.
- Avoid furniture and carpets treated with chemicals (such as stain retardants). Beware of that 'new smell'!
- Instead of wall-to-wall broadloom, choose hardwood, tile or concrete floors, covered with washable area rugs.
- If you do lay carpet, remember adhesives used in laying new carpeting can give off emissions that trigger sensitivities. Air out the room during installation, and for some time after.

BEDROOM

- Wash bedding and vacuum mattress weekly to get rid of dustmites. (A 10-year-old mattress contains 10 years' worth of dustmite dung!)
- Vacuum and damp mop floors regularly. This is particularly important if there are small children in the home who might be exposed to the pesticides, fertilizers and contaminated soils that we track in from outside.
- Keep pets out of the bedroom! Fur and dander from Fido or Kitty can cause severe allergic reactions.
- You spend eight hours in this room doing nothing but breathing. Use air-friendly paint, furniture, flooring and cleansers.

GARAGE

- Close lids tightly on paints, solvents, gasoline, propane and hobby materials and store in a well ventilated space outside – either in the garage or in a storage shed.
- Lock up paint, antifreeze and garden chemicals – all very poisonous to children.
- Door between garage and home? Keep it tightly closed to prevent carbon monoxide exhaust fumes from your car entering your home.
- Never leave your car engine running in the garage. It releases harmful carbon monoxide. Start your car with the garage doors open and immediately move it into the driveway if you need to warm it up.

INTERIOR – GENERAL

- Immediately dry any surface where water has collected. That includes condensation on windows, puddles forming in the bathroom or spills in the kitchen.
- Use chlorine bleach (but only under well-ventilated conditions) to clean any visible evidence of mould from surfaces. Make sure you do not store bleach or other chemicals near your furnace or hot water tank. The vapours from these substances will be drawn into the furnace and spread throughout the house. Also, these vapours can be corrosive and shorten the life of your furnace.

BATHROOM

- When using any chemical, whether it's ammonia, hair spray or paint thinner, do so only in a well-ventilated area. Some may be combustible – do not use these near sources of ignition including your water heater or furnace.
- Use bathroom exhaust fans to remove moisture during and after showers and baths. Consider the use of a dehumidistat to automatically control moisture levels.

One of the biggest concerns?
Excess moisture: ideal incubation for microorganisms.

EXTERIOR

- Keep your roof, gutters and eaves in good repair. If leakage problems occur, take care of them quickly.
- Redirect downspouts so that they pour water away from your foundations.