

Air

Though invisible, it is the most basic, life-sustaining feature of your home. Preventive measures, ventilation, and daily habits play a role in protecting your home's precious supply.

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Quick Guide

THREATS TO THE BREATHING SPACE (or 'Things to Worry About')

Dirt and Dust: Outdoor soil can contain fertilizer, pesticides and more. Tracked in, it becomes part of the indoor dust, which already holds dander, dust mites, plastics, possibly lead or asbestos from indoor sources, etc. As dust becomes airborne, these substances may enter the body and cause symptoms ranging from asthma and allergy flare-ups to even nervous system damage and cancer.

Mold: Airborne mold spores and mold fragments can trigger asthma and allergy episodes.

VOCs: Volatile organic compounds are found in cleaning liquids, paints, solvents and many more household supplies. They volatilize or "off gas" into the air. Not all are harmful, but at high levels, many can cause a range of symptoms from short-term irritation to more ominous organ damage and cancer. The impact of lower levels and of mixtures of VOCs is under discussion or unknown, but reducing exposure is generally a good policy.

Formaldehyde: This VOC is used in a wide variety of household products. Manufacturers have scaled back — but in many cases not eliminated — its use. It is a known carcinogen and may also trigger asthma attacks and irritate the eyes and respiratory system. Off gassing can continue for years, decreasing over time.

Asbestos: Found in some insulation, fireproofing materials, acoustic tile and "popcorn" ceilings, these tiny particles can cause lung-tissue damage and cancer. Asbestos containing materials are harmless as long as they stay intact, but disintegration frees the fibers to enter the airspace and the lungs.

Lead: Damaging to the nervous system, lead can enter the air as dust. Blood lead levels have dropped dramatically since the 1980s, indicating that unleaded gasoline and strategies regarding lead paint and lead pipes are working. Continued vigilance in the home is recommended, especially if your home is older.

Moisture: Water leaks and high relative humidity encourage mold growth, dust mite proliferation and increased formaldehyde emissions from building materials, furnishings and other household items. These irritants can trigger allergy and asthma symptoms.

Carbon Monoxide: Fuel-burning appliances and idling cars in attached garages can release carbon monoxide into the home, causing about 500 preventable deaths each year. The gas causes thousands more to become ill.

Radon: Radioactive gas can cause lung cancer — no smoking necessary. The EPA estimates radon causes 21,000 preventable deaths each year. Radon testing is quite inexpensive and almost effort-free.

3 ACTION PRINCIPLES (or 'The General Idea')

Eliminate

Often, the most reliable method of protecting yourself from unhealthy exposures in the home is simply to make sure harmful materials and contaminants are not present. Building or furnishing carefully with less hazardous materials, as well as proper cleaning eliminates many health threats.

Separate

When removal is not advisable or not possible, reduce exposure by creating a sealed barrier. For example, tight wall construction keeps potentially hazardous insulation particles out of the living space.

Ventilate

Reduce remaining air contaminants by regularly letting stale air out and fresh air in. Balancing in and out airflows in this process provides fresh air for your family and prevents a vacuum from forming and drawing air from a dangerous source like the furnace exhaust.



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ACTION PLAN (or 'How to Stop Worrying & Love Your Home')

Regular Habits

- Use a central vacuum that exhausts outside, or a well-filtered (e.g., sealed HEPA) portable vacuum.
- Dust using tools that don't flip dust into the air.
- Declutter to remove dust harbors.
- Sweep entry walks and keep large mats at doors.
- Remove shoes when coming in from outside.
- Keep relative humidity at 30% to 50%.
- Reduce spray and aerosol cleaner use.
- Use low-VOC cleaning solutions and products.
- Run exhaust fans while cooking and showering. Open a window slightly if necessary to keep air pressure balanced.
- Air out bedding daily to release body moistures before making bed; launder weekly in hot water.
- Continuously use ventilation systems to provide healthful air in the home.

Annual Protections

- Replace batteries in carbon monoxide alarm(s).
- Clean and/or inspect furnace ducts and A/C unit.
- Sweep chimney.
- Inspect roof and repair as needed.
- Winterize outdoor faucets.

As Needed

- Test for radon at least once and as house settles.
- Fix window leaks — caulking, weather stripping, etc.
- Check for and repair plumbing leaks.
- Monthly to quarterly, replace central A/C and ventilator filters with MERV 10 or 11, or the highest-efficiency filtration your units can handle (see manuals).

New Construction & Special Projects

- Install hard floors or remove old (dust-filled) carpet and replace with low-pile, low-VOC carpeting.
- Use low- or no-formaldehyde alternatives to traditional particleboard and plywood building materials and furnishings. Substitutes include solid wood or outdoor grade plywood.
- Apply moisture barriers during flooring foundation and wall construction.
- Install a whole-house, continuous ventilation system.
- Build in radiant rather than forced air heat.
- Create or renew a 5% to 6% grade of soil sloping away from the house, for good drainage.

Hire a Certified Pro

Have a professional handle these in-depth tasks:

- Deep cleaning carpet and upholstery
- Cleaning chimney
- Home inspection
- HVAC inspection
- Mold abatement
- Asbestos remediation
- Radon mitigation
- Lead abatement



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