

Indoor Environment

May Be Hazardous to Health

Julie A. McDonnell

It may be surprising to many people that the air inside our living spaces is likely polluted - often more so than outdoor air. Modern day windows and doors with tight seals allow for less air exchange than in leaky older buildings.

Noxious gases coming from fireplaces and gas stoves, mold caused by excessive moisture or dust build-up, radon, tobacco smoke, and 'off-gassing' from chemicals in furniture, building materials, and cleaning products all contribute to the quality of our air and affect our health. Exposure to pollutants can cause a range of health problems including eye and throat irritation, headaches, fatigue, respiratory diseases, and even legionnaire's disease and cancer.



photo by David Ballard Photography

Public health and environmental protection efforts over the past several years have addressed the most obvious causes of poor indoor air, like improper or dirty ventilation, radon, tobacco smoke, mold, carbon monoxide, and asbestos (although these contaminants continue to exist and cause problems in buildings).

We must, however, also consider other toxins such as formaldehyde, pesticides, and harmful chemicals in our flooring, furniture, paint, and cleaning supplies. The numbers of chemicals that we are exposed to on a daily basis from a variety

of sources can be astounding. It can be overwhelming to try to sort through all of the environmental and health concerns to be aware of in these modern times.

People in North America typically spend over eighty percent of their time in indoor environments, whether those are homes, schools, offices, automobiles, etc. While we do our best to make these public and private spaces aesthetically pleasing and comfortable, we may be doing ourselves a disservice with the very materials we use to finish and clean the spaces.

Formaldehyde, a significant pollutant which causes cancer in laboratory animals and is recognized by the US Environmental Protection Agency (EPA) as a probable human carcinogen, can often be found airborne in homes. Likely sources are building materials, cigarette smoke, household products, furniture, unvented fuel burning, glues, adhesives, and paints.

Pesticides are another source of toxic chemicals in our living spaces. Carpets, adhesives in flooring and wood products, paints and other wall coverings, flame retardants, fabrics, and foams are all sources of potential indoor air contamination.

The primary chemical used for dry cleaning, perchloroethylene (PERC), is



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another threat to our indoor air and health. The National Institute of Environmental Health Sciences states that: "Short-term exposure to PERC can cause adverse health effects on the nervous system that include dizziness, fatigue, headaches, sweating, lack of coordination, and unconsciousness. Long-term exposure can cause liver and kidney damage." The International Association for Research on Cancer classifies PERC as a probable carcinogen. When you do have items dry cleaned, you can reduce your exposure to PERC by removing the plastic and airing the items outside for several hours (or days) prior to bringing them indoors.

If we are remodeling or building new, there are steps we can take to prevent indoor air pollution and contamination. Request that builders and other professionals on your project use non-toxic products such as formaldehyde free fiber board, non-toxic paint, strippers, stains, adhesives and finishes with low or no volatile organic compounds (VOCs). We can limit carpet, which harbors mold, bacteria, dust, and dirt. If using carpet, choose natural fibers made without pesticides or petroleum products.

Non-toxic, or 'green' materials are widely available. It is up to us to ask for what we need and insist that our spaces are safe and healthy for all as we work, live, and play. Read labels and ask questions about chemicals used in products you purchase.

Several green plants are known to remove chemicals from air - including several varieties of palm, Boston fern, English ivy, peace lily, and rubber plant. Proper ventilation in kitchens and bathrooms, as well as clean air exchange systems in our homes, are important for reducing mold and removing other harmful airborne substances. Non-toxic cleaning supplies are widely available both locally and on the Internet. ♦

Julie McDonnell is the owner of ECO (a supplier of environmentally friendly materials) and is a green consultant.

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