HOME AIR DISTRIBUTION

Unhealthy Air Quality

The US EPA estimates that the indoor air in many homes contains between two and five times the air pollution as the air found directly outside of its walls. In extreme cases, indoor air can be 100 times more polluted than outdoor air. Polluted indoor air can lead to "building related illnesses" such as Legionnaire's disease and hypersensitivity pneumonitis, or a condition known as "Sick Building Syndrome" Sick building syndrome only affects inhabitants while they are in a particular home or building. It is for these reasons that the exchange of stale inside air for fresh outside air is crucial to a healthy indoor air environment.

Accidental ventilation

Many homes have been and continue to be leaky. However, this "accidental" ventilation often exchanges air unevenly and unpredictably. **By taking control of the way air is exchanged with the outside and the way it is circulated in the home, hazardous indoor air contaminants can be kept to a minimum.**

Common indoor air contaminants

Building materials

Many commonly used building materials release or "off-gas" harmful fumes or shed microscopic particles into indoor breathing environments. Additionally, when air passes through the building's walls in an uncontrolled fashion, air is exposed to potentially hazardous materials held inside them.

AIR CONTAMINANTS	SOURCE
* FIBERGLASS FIBERS	* FIBERGLASS INSULATION
*ACETONE, FORMALDEHYDE	* PLYWOOD/PARTICLE BOARD/ SOME FURNITURE GLUES, ADHESIVES
* 2 ETHOXYTHANOL	* POLYURETHANE WOOD
*ACETONE,LEAD, METHANOL, PENTACHLOROPHENOL	* STAIN &VARNISHES
*DIETHYL PHTHALATE, LEAD	* PAINTS
* 1,3 BUTADINE, 1,2-DICHLOROBENENE, TOLUNE, 1,1,1 TRICHLORETHANE (TO NAME A FEW)	* CARPET

Biological contaminants

Some common contaminants found in homes are caused by living organisms. When these contaminants build up in concentration they can lead to such health effects as allergic reactions, respiratory disorders, hypersensitivity diseases, and infectious diseases. Common biological contaminants include mold, mildew, dust mite feces and body parts, roach body parts, pet dander, pollen, bacteria, and viruses.

CONTAMINANT	SOURCE
CO2	COMBUSTION DEVICES, INHABITANTS, PETS
CO	GAS/PROPANE APPLIANCES, FIREPLACES, ATTACHED GARAGES (CARS)
NO2	GAS/PROPANE APPLIANCES
RADON	DECAYING URANIUM IN THE SOIL
CIGARETTE SMOKE	OCUPANT BEHAVIOR

Other sources of contamination

Other indoor air hazards can stem from the behavior of inhabitants, underground sources, or the operation of household systems. In the case of underground contaminants like radon, a basement that is negatively pressurized can increase the flow o f these contaminants into living space.

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