

# The Hypoallergenic Home: A Constant Quest



*Environmental Protection for America's Great Indoors™*

## A Strategy for Improved Health

Being allergic to molds, dust mites and other common allergens is a respiratory handicap. Simple exposure to outdoor or indoor allergens can cause upper and lower respiratory complications. Upper respiratory problems include allergic rhinitis (inflammation of the nose, with sneezing, congestion and drainage) and sinusitis (inflammation and congestion of the sinus cavities). This congestion often leads to sinus and middle ear infections. In fact, chronic sinus infections have now replaced arthritis as the No. 1 chronic illness in the U.S., according to the Centers for Disease Control. Lower respiratory problems include bronchitis, asthma and pneumonia. Furthermore, asthma is the number one fastest growing disease condition in children.

Respiratory problems cause general discomfort, insomnia, headaches and fatigue. For some asthmatics, the consequences are life threatening. Fortunately, modern

medicine has made tremendous progress in controlling allergic reactions to molds, pollens and dust mites. As a result, there are improved antihistamines, advanced inhalers and improved immunotherapy (allergy shots).

Most of us spend over 70% of our time in our homes, so reducing your exposure to these allergens inside the home is essential for improved health. But making your home hypoallergenic is not so easy. Indoor airborne mold, dust mites and pollen have complex sources and have been extremely difficult to reduce.

*AEGIS Environments* has put together this booklet with consulting allergists to inform you about indoor environmental problems and their practical solutions. Your use of these hints, along with proper medical care, will clearly reduce the sources of pollutants in your home and improve you and your family's ability to cope with all of the stresses that affect your health and well being.



**Chronic sinus infections are the #1 chronic illness in the United States according to the CDC**

## MOLD INDOORS CAN BE WORSE THAN OUTDOORS

Avoiding exposure to mold outdoors is difficult because outdoor air is often laden with mold. This is particularly true around houses in heavily wooded areas and during warm months and wet seasons. Even raking leaves can stir up mold. In fact, a single teaspoon of dirt can contain as many as a billion spores of mold.

People who are not allergic to mold are often skeptical and unsympathetic because they have no reaction to airborne mold. They can't see the organisms and they can inhale them with no allergic reactions.

Unfortunately, the problem doesn't stop outdoors. Much of this airborne mold and mold

spores comes into a home through doors and windows or on clothing, shoes and pets. Inside it finds an ideal environment to settle and reproduce.



In fact, research microbiologists and indoor air quality experts with the Environmental Protection Agency have found that indoor levels of airborne mold are frequently higher than levels found outdoors. And its not as simple as just counting the number of molds. Very often, in our indoor environments, certain types of microorganisms will begin to dominate specific areas.

## CARPET IS OFTEN THE CULPRIT

Surprisingly, the greatest reservoir and contribution to airborne mold in the home is the carpet and often other soft fabrics. Researchers have confirmed that carpets provide a fertile environment for non-visible microorganisms (mold, fungi and bacteria) to settle and grow.

Even though the carpet may appear clean, it rapidly becomes heavily contaminated and a major reservoir of these microscopic organisms. Carpet in basements is particularly troublesome. Pets also contribute microorganisms that settle on the carpet and cause familiar pet odors.



Normal activity easily disturbs these organisms and releases the allergens into the air where they remain airborne for hours before settling back on the carpet.

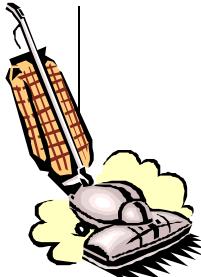
Toddlers get a particularly heavy exposure when they sit or crawl on the carpet. Having carpet or other contaminated textiles or surfaces is like having ragweed and pigweed (common allergenic weeds) as houseplants.



## WHY CONVENTIONAL CLEANING DOESN'T WORK

Vacuuming carpet removes dirt but spreads the tiny organisms around. Steam cleaning is equally inefficient. In fact, the added moisture causes spores to germinate and multiply, making matters worse.

Carpet remains in place for years, accumulating and breeding billions of non-



visible microorganisms. Doctors typically recommend the removal of as much carpet as possible. But most patients elect to keep their carpet because of acoustic, thermal, comfort and aesthetic benefits. Removing carpeting is seldom the best answer.

## MOLD MAY BE GROWING IN YOUR AIR CONDITIONING SYSTEM

Modern central air conditioning systems can be the source of many problems. Without periodic purging, condensation drain lines on the side of your house often clog. Condensation water coming from the evaporator coils then overflows the drain pan, wetting the interior of the air handler and the ductwork, with a resultant "bloom" of mold. The evaporator coils themselves, if not cleaned annually, become contaminated with mold, fungi and bacteria. Central humidifiers become highly contaminated as well, and can

cause major respiratory problems.

Contamination from these hidden surfaces is picked up and spread into every room of the house. Dirty and moldy evaporator coils exist in about 70% of the houses in the mid-south and south, and mold inside the air handler in about 20%.



Proper operation of your air conditioner is also important in dehumidifying your home. Low humidity slows the growth of certain types of mold, but it is not a cure-all. Even in homes with low humidity, microbial contamination occurs.

## YOU COULD BE BREATHING AIR FROM YOUR CRAWLSPACE

All crawlspaces become moldy over time because of the presence of dirt and moisture. This can cause deterioration of floor joists and equipment stored there. If the furnace and ductwork are located in moldy crawlspaces or basements, contaminated air can get drawn into the system through improperly sealed seams and then be disturbed throughout the house.

Leaky ductwork exists in over 90% of houses. Openings in the floor around floor registers, pipes and wires often lack caulking, allowing more mold laden crawlspace or basement air to seep into the house.

A large percentage of the air you are breathing in your home probably originates from the moldy crawlspace or basement.



All mold needs to grow is moisture and warm temperatures. Leaky pipes are a prime environment for contamination!



## HOW POLLEN FOLLOWS YOU INDOORS

Certain pollen seasons are particularly difficult for those allergic to trees, grasses and weeds. There are many ways you can reduce your exposure. Pollen is heaviest in the late morning, so take walks late in the afternoon. Limit outdoor activities on windy days. Avoid riding in a car with the windows rolled down. Wear a high-quality dust mask when mowing the lawn.

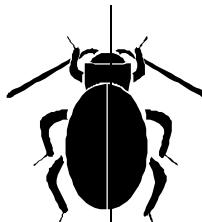
Indoors is not the escape you think it is. Outdoor air, laden with pollen, comes into our homes through cracks and doors. Efficient return air filters are vital.

Unfortunately, standard return air filters are only about 12% efficient at removing airborne pollen, dust and mold. Washable electrostatic air filters are only slightly more efficient. Expensive electronic air cleaners are hard to maintain and can create ozone, an irritating pollutant.

## DUST MITES: HIDING IN YOUR BEDDING AND CARPET

Millions of dust mites live in bedding and carpet. Their feces (waste) and dead body parts contain the allergens that cause the allergic reactions. These allergens become airborne whenever the bedding or carpet is disturbed. Recent studies show that children exposed to high levels of dust mites are five times more likely to develop asthma.

Removing dust mites and their waste from carpet is not so easy. Regular vacuuming only removes about 10% because the mites are deep in the carpet and their allergenic waste sticks to the carpet fibers. Steam cleaning removes a



higher percentage but it leaves residual detergents, making future soil and dust mite waste adhere even more to the fibers. Shampooing the carpet leaves even more residual detergents, causing the carpet to become rapidly resoiled.

Low humidity is important in controlling dust mites, which thrive in a humid environment. Dust mites are invisible to the naked eye and feed off human dander (flakes of dead skin), which we are constantly shedding. The AGIS Microbe Shield technology eliminates the *Aspergillus repens*, breaking the dust mites food chain.

## **HELPING YOUR HOME FIGHT BACK**

By now you may be somewhat overwhelmed by all these complex sources of indoor allergens. Maybe you are tempted to "throw in the towel" and continue living with them. Is there really any hope of effective control?

There are no simple answers, but the AEGIS Environments network of Certified Applicators can help you focus on potential problem areas in your homes. Go to our website for a comprehensive list of Certified Applicators in your area, or contact our office and speak to an indoor environmental specialist.

The best antimicrobial is safe to you and your environment, durable and effective. The best antimicrobial on the market today is the AEGIS Microbe Shield technology! Ask for it by name.



---

### **AEGIS Environments**

Marketing & Administrative Offices:  
2525 Washington Avenue • Suite 500  
Midland, MI 48642-4619  
Phone: 989-832-8180 • Fax: 989-832-7572

Technical & Laboratory:  
3106 Swede Avenue  
Midland, MI 48642-4619  
Phone: 989-832-8775 • Fax: 989-633-7112

Visit our website:  
**[www.aegisasia.com](http://www.aegisasia.com)**

#### Singapore Office:

AEGISASIA PTE LTD  
Blk 3018, Bedok North Street 5,  
#01-15, Eastlink Building,  
Singapore 486132.  
Tel: +65 6241 9443  
HP: +65 9221 9221  
Facsimile: +65 6242 9042  
Email: [info@aegisasia.com](mailto:info@aegisasia.com)