

# **EPA - MOLD**

**U.S. Environmental Protection Agency**

<http://www.epa.gov/iaq/molds/moldresources.html>

**\*\*\*\*\* EPA states that Moisture Control is key to Mold Control and to reduce the moisture in the Crawlspace, the Crawlspace should be Well-Ventilated!!!!!!**

## **Indoor Air – Mold/Moisture**

### **Introduction to Molds**

Molds produce tiny spores to reproduce. Mold spores waft through the indoor and outdoor air continually. When mold spores land on a damp spot indoors, they may begin growing and digesting whatever they are growing on in order to survive. There are molds that can grow on wood, paper, carpet, and foods. When excessive moisture or water accumulates indoors, mold growth will often occur, particularly if the moisture problem remains undiscovered or un-addressed. There is no practical way to eliminate all mold and mold spores in the indoor environment; ***the way to control mold growth is to control moisture.***

### **Basic Mold Cleanup**

The key to mold control is moisture control. It is important to dry water damaged areas and items within 24-48 hours to prevent mold growth. If mold is a problem in your home, clean up the mold and get rid of the excess water or moisture. Fix leaky plumbing or other sources of water. Wash mold off hard surfaces with detergent and water, and dry completely. Absorbent materials (such as ceiling tiles & carpet) that become moldy may have to be replaced.

### **Ten Things You Should Know About Mold**

1. Potential health effects and symptoms associated with mold exposures include allergic reactions, asthma, and other respiratory complaints.
2. There is no practical way to eliminate all mold and mold spores in the indoor environment; the way to control indoor mold growth is to control moisture.
3. If mold is a problem in your home or school, you must clean up the mold and eliminate sources of moisture.
4. Fix the source of the water problem or leak to prevent mold growth.
5. Reduce indoor humidity (to 30-60% ) to decrease mold growth by: venting bathrooms, dryers, and other moisture-generating sources to the outside; using air conditioners and de-humidifiers; increasing ventilation; and using exhaust fans whenever cooking, dishwashing, and cleaning.
6. Clean and dry any damp or wet building materials and furnishings within 24-48 hours to prevent mold growth.
7. Clean mold off hard surfaces with water and detergent, and dry completely. Absorbent materials such as ceiling tiles, that are moldy, may need to be replaced.
8. Prevent condensation: Reduce the potential for condensation on cold surfaces (i.e., windows, piping, exterior walls, roof, or floors) by adding insulation.

9. In areas where there is a perpetual moisture problem, do not install carpeting (i.e., by drinking fountains, by classroom sinks, or on concrete floors with leaks or frequent condensation).
10. Molds can be found almost anywhere; they can grow on virtually any substance, providing moisture is present. There are molds that can grow on wood, paper, carpet, and foods.

## Moisture Control

Water in your home can come from many sources. Water can enter your home by leaking or by seeping through basement floors. Showers or even cooking can add moisture to the air in your home. The amount of moisture that the air in your home can hold depends on the temperature of the air. As the temperature goes down, the air is able to hold less moisture. This is why, in cold weather, moisture condenses on cold surfaces (for example, drops of water form on the inside of a window). This moisture can encourage biological pollutants to grow.

There are many ways to control moisture in your home:

- Fix leaks and seepage. If water is entering the house from the outside, your options range from simple landscaping to extensive excavation and waterproofing. (The ground should slope away from the house.) Water in the basement can result from the lack of gutters or a water flow toward the house. Water leaks in pipes or around tubs and sinks can provide a place for biological pollutants to grow.
- Put a plastic cover over dirt in crawlspaces to prevent moisture from coming in from the ground. **Be sure crawlspaces are well-ventilated.**
- Use exhaust fans in bathrooms and kitchens to remove moisture to the outside (not into the attic). Vent your clothes dryer to the outside.
- Turn off certain appliances (such as humidifiers or kerosene heaters) if you notice moisture on windows and other surfaces.
- Use dehumidifiers and air conditioners, especially in hot, humid climates, to reduce moisture in the air, but be sure that the appliances themselves don't become sources of biological pollutants.
- Raise the temperature of cold surfaces where moisture condenses. Use insulation or storm windows. (A storm window installed on the inside works better than one installed on the outside.) Open doors between rooms (especially doors to closets which may be colder than the rooms) to increase circulation. Circulation carries heat to the cold surfaces. Increase air circulation by using fans and by moving furniture from wall corners to promote air and heat circulation. Be sure that your house has a source of fresh air and can expel excessive moisture from the home.
- Pay special attention to carpet on concrete floors. Carpet can absorb moisture and serve as a place for biological pollutants to grow. Use area rugs which can be taken up and washed often. In certain climates, if carpet is to be installed over a concrete floor, it may be necessary to use a vapor barrier (plastic sheeting) over the concrete and cover that with sub-flooring (insulation covered with plywood) to prevent a moisture problem.
- Moisture problems and their solutions differ from one climate to another. The Northeast is cold and wet; the Southwest is hot and dry; the South is hot and wet; and the Western Mountain states are cold and dry. All of these regions can have moisture problems. For example, evaporative coolers used in the Southwest can encourage the growth of biological pollutants. In other hot regions, the use of air conditioners which cool the air too quickly may prevent the air conditioners from running long enough to remove excess moisture from the air. The types of

EPA - MOLD.doc

construction and weatherization for the different climates can lead to different problems and solutions.