MOLD ADVISORY BULLETIN

GENERAL INFORMATION FOR NEW JERSEY RESIDENTS

Environmental and Occupational Health Assessment Program ◆ Consumer, Environmental and Occupational Health Service

WHAT IS MOLD?

Molds are fungi and occur naturally in the environment. Many different species of mold exist in New Jersey. Molds can be found almost anywhere and can grow on just about any material as long as conditions are favorable. For growth, molds need nutrients such as oxygen and moisture and a material to grow on. Molds in the environment help break down dead materials and convert it back into organic matter to be used again by living organisms. Molds grow by digesting and destroying the material they grow on.

Molds grow in colonies. Visible mold growth may take on different forms and colors. Some molds may appear circular in growth while others may grow and spread to cover an area. Molds may appear brown or yellow in color or green and black. The appearance will depend on the species of mold present. Some common molds found indoors include species of *Aspergillus*, *Cladosporium*, *Penicillium*, and *Alternaria*.

Molds reproduce by making spores. These spores become airborne and circulate in the air, both outside and inside of buildings. If spores land on a suitable material and conditions are favorable, the mold will begin to grow.

WHY IS MOLD A PROBLEM?

Molds become a problem when they grow inside of homes and buildings. Many building materials such as drywall, ceiling tiles, and wood framing contain cellulose. Cellulose is a basic component of wood and is an excellent material on which molds can grow. As molds grow on building materials they become destructive. Molds may grow unnoticed, above ceilings, behind walls, in attics and basement or in crawl spaces. Molds can cause staining of walls and ceilings and can begin to break down the studs and joists of buildings causing extensive property damage.

Excessive moisture is a key ingredient for molds to grow. Excessive moisture may be caused by plumbing leaks, leaking roofs or windows, high humidity in the building, flooding or condensation inside walls due to poor insulation.

Molds are also a concern because of the health problems that they have been shown to cause.

IS MOLD A HEALTH CONCERN?

Mold can be a health concern. Unfortunately, it is not known how much mold is needed to cause health problems. Also, there are no standards, regulations or guidelines to base a health determination or exposure. However, there are factors that can be used to assess whether an increased health risk may be present. These include evaluating the individuals potentially exposed and the extent and conditions of the mold growth.

Some individuals who have pre-existing health conditions may be at an increased risk. Individuals who have allergies or lung conditions such as asthma or emphysema can exhibit health effects from exposure. Very young infants and the elderly may also be at an increased risk.

WHAT ARE SOME OF THE HEALTH CONCERNS?

Molds emit spores and chemicals as part of their normal life cycle. Individuals may exhibit reactions when exposed to these materials.

Spores emitted by molds are microscopic and once airborne can be inhaled easily. Spores may contain allergens and can cause irritation in the nose, throat and respiratory tract. Common allergic reactions include sneezing, nasal congestion, coughing, and skin rashes. Molds may also trigger asthma attacks in persons who are allergic.

In addition to allergens, molds may emit microbiological volatile organic compounds (MVOCs). These chemicals usually have a strong and unpleasant odor and are associated with the musty smell that many individuals equate to mold being present. These chemicals are released into the air and when inhaled can also cause allergic reactions. MVOCs have also been linked to headaches, nausea, dizziness and fatigue.

Some molds may produce toxic substances called mycotoxins. Mycotoxins can be inhaled, ingested or absorbed through the skin. Mycotoxins are potent, toxic chemicals that can cause significant health problems. Different molds may produce different mycotoxins and some molds may produce different

mycotoxins depending on the surface on which they're growing. Mycotoxins can affect the central nervous system, the immune system, the respiratory system and the digestive system. Some molds may cause more severe reactions than other molds, so it's important that mold be remediated. For any severe exposures or health effects associated with a mold exposure, individuals should consult their physician.

HOW DO I FIND OUT IF I HAVE MOLD?

Identifying mold in your home should always begin with a thorough visual inspection. An inspection can be done by a homeowner or by a qualified environmental consultant. The inspection may be focused on specific areas where moisture has been seen, where flooding or water damage has occurred or in common areas known for mold growth such as basements, attics and crawl spaces. Stained or discolored areas of walls and ceilings that continue to increase in size or change colors can be signs of mold growth. A pungent musty smell is also an indicator of mold growth.

SHOULD MY HOME BE TESTED FOR MOLD?

If a visual inspection reveals the presence of mold additional testing is not necessary. The focus should be on correcting any moisture problems and cleaning up the mold contamination. However, if mold is not found during a visual inspection and is still suspected of being present, additional testing may be necessary.

Testing for mold should always be performed by a qualified person. Your Local Health Department may be able to assist or an environmental consultant who specializes in or has experience in evaluating mold contamination should be contacted.

Additional testing may include an evaluation of the relative humidity in the home and taking moisture readings of building materials in suspected areas. Swab testing of suspected surfaces and bulk samples of building materials may also be performed. Specialized air testing is also an option for identifying mold spores or MVOCs from mold growth. However, these specialized air tests can be very expensive and need to be conducted in context with an overall assessment plan. Caution should be taken when considering air testing since there are no standards for determining an acceptable level of mold in the air. Careful interpretation of air sampling results is also very important since individual susceptibility and health status varies. If air sampling is conducted, an outside reference sample should also be collected at the same time for comparison with the indoor samples.

WHAT SHOULD I DO IF MOLD IS FOUND?

Corrective action and remediation steps need to be taken to address the mold conditions found. Remediation is necessary to prevent further property damage and prevent further exposures. Specific steps have been outlined by the USEPA to remediate mold contamination. These include identifying and correcting the source of moisture, removing and/or cleaning mold contaminated materials, removing the mold and ensuring the area is completely dry before performing any renovation or construction work. The USEPA also notes that it is important not only to kill the mold but to also clean it up since even dead mold remains allergenic.

Who performs this remediation work is not always clear. For small areas affected by mold growth (i.e., less than 10 square feet), a homeowner or building maintenance staff for apartments and condominiums may be capable of performing the work. Larger areas affected (i.e., greater than 100 square feet), should be performed by a qualified contractor who has experience in mold or environmental contamination clean-up. Professional judgment should be used for affected areas that fall within these two dimensions. Mold work can be hazardous, so regardless of who performs the work, work practices that protect the workers as well as the occupants need to be used. Workers need to be protected with gloves, a respirator, protective clothing and goggles. Also, the work area may need to be contained to prevent the spread of mold to other areas.

The New Jersey Department of Health (NJDOH) maintains a list of consultants that can assist in the evaluation of mold contamination and in mold remediation work. For a list of firms or for further information contact the NJDOH as noted in the box below.

References

Mold Remediation in Schools and Public Buildings, USEPA-Office of Air & Radiation, Indoor Environments Division, EPA 402-K-01-001, March 2001

Mold in My Home: What Should I Do?, California Department of Health Services, Indoor Air Quality Info Sheet, July 2001

FOR ADDITIONAL INFORMATION CONTACT:

New Jersey Department of Health
nj.gov/health/ceohs/environmental-occupational/mold/

U.S. Environmental Protection Agency
epa.gov/mold