Recent news stories report increasing concern about how mold impacted indoor environments and claims that exposure to mold made people sick. There also is concern and confusion about whether or not wallcoverings cause mold to grow. Many of these reports and litigation treat problems associated with mold as a three-step process:

1. Water and/or moisture get(s) into or occurs(s) in a building.
2. Mold grows.
3. People get sick.

This is an over-simplified approach. The actual process is more complicated and has variables that are not yet well understood. The process is better summarized as follows:

1. Water and/or moisture get(s) into or occur(s) in a building.
2. Building component(s) and material(s) can be affected to greater or lesser degrees.
3. Mold may or may not grow.
4. Exposure to mold may or may not cause health effects to greater or lesser degrees.

What is well understood is:

- **Wallcoverings do not cause mold to grow. In virtually all cases, mold growth is a consequence of excessive moisture.**
- If you find and stop the source(s) of the excessive moisture, you will stop the mold growth.
- In unusual cases where moisture or moisture infiltration from the wall cavity cannot be eliminated or sufficiently reduced, you should consider using a more permeable (or breathable) wallcovering.

- Use a wallcovering primer with a biocide. Follow the manufacturer's instructions for application. Note that some manufacturers require two coats of a wallcovering primer for mold protection.
- Apply the wallcovering primer from factory-sealed containers, and use new rollers and trays.
- Use a wallcovering adhesive that contains biocides recommended by the wallcovering manufacturer.
- Apply the wallcovering adhesive from factory-sealed containers, and use new rollers. Alternatively, a pasting machine may be used instead of rollers.
- Do not soak rollers in water. Leave the rollers in the primer or adhesive or use a new roller each day.
- Change the wash water frequently to limit possible contamination.
- Use dry sponges and clean pails for fresh water each morning.

For More Information

Contact the WA or CFFA to obtain a copy of their publication Mold: Cause, Effect and Response – A Study of Wallcovering Products, or visit their websites.

The Wallcoverings Association
401 N. Michigan Avenue
Chicago, Illinois 60611
Phone (312) 644-6610
Fax (312) 527-6705
www.wallcoverings.org

Chemical Fabrics & Film Association
1300 Sumner Avenue;
Cleveland, Ohio 44115-2851
Phone (216) 241-7333
Fax (216) 241-0105
www.chemicalfabricsandfilm.com

Commercial Wallcoverings

Always an Excellent Decorating Choice

Answers to Your Questions Regarding Mold

***Wallcoverings** are one of the most versatile and diverse decorating products. They can be used on nearly any type of surface in virtually all commercial environments. At any one time, there are thousands of different commercial, or contract, wallcoverings to choose from and the assortment is constantly changing.*

What is Mold and Mildew?

Mold and mildew are generic terms that are used to describe the same thing – fungi that are a natural part of both the indoor and outdoor environments. Mold is often used to describe fungi growing on surfaces, and mildew to describe fungi growing on fabrics. Mold spores are like seeds. When they germinate they form hyphae, which is the primary component of a mold colony. Spores and hyphae can break free from the colony and travel to another area and start a new colony. If the right conditions are present, mold can start growing in as little as 4 to 12 hours, and, if left undisturbed, mold can grow and spread in 24 to 72 hours.

The Wallcoverings Association (WA) and the Chemical Fabrics & Film Association (CFFA) recognize that issues concerning mold and mildew are gaining increased attention. In response to these concerns, the WA and CFFA offer this brochure and a companion publication, Mold: Cause, Effect and Response – A Study of Wallcovering Products, to dispel the myths and confusion, answer your questions, and reassure you that wallcoverings are – and always have been – an excellent and effective decorating choice.

What Causes Mold to Grow?

In order to grow, mold needs four things:

- A nutrient source
- Appropriate temperature
- Moisture
- Source of mold spores

A "Mildew Square" developed by James Kimbrough, Ph.D., and Virginia Peart, Ph.D., of the University of Florida provides an effective illustration of these requirements. Stopping mold growth requires eliminating one or more of these essential elements. Unfortunately, in a normal comfortable human environment – homes or commercial, educational or institutional buildings – eliminating spores, warmth and a food source is almost impossible. One element that can be removed is moisture.

Is Mold Toxic?

Although much has been made in news reports and in recent litigation about health effects from exposure to mold, especially in reference to Stachybotrys chartarum, this topic is somewhat controversial for the following reasons:

- There is little scientific or medical evidence that demonstrates that some molds are toxic.
- There is no conclusive evidence to support the notion that if people are exposed to a particular level of mold or mold by-products, they will get sick.
- Mold can produce allergens, substances called microbial volatile organic compounds (MVOCs), mycotoxins and other irritants, which may cause some people to become ill. Whether or not a person will develop symptoms depends greatly on how susceptible that person is. Some people may react more strongly than others and some not at all.

Are All Molds Harmful?

No. Many types of mold are essential to everyday life and are beneficial to health. We are all exposed to many types of molds everyday, even Stachybotrys chartarum. Mold, for example, can be commonly found on grocery store shelves, such as button mushrooms or more exotic varieties for the gourmets at heart. Molds also are used in baking and for some types of fermentation, including alcoholic beverages, and for making commonly used medicines. Mold is everywhere – even in the air we breathe.

Where Does Mold Grow?

Mold can grow inside buildings near leaky windows and door openings, roofs, foundations, heating, ventilating and air-conditioning (HVAC) equipment and in floors and walls – in short, wherever the conditions are right, and especially where moisture becomes trapped.

What Influences Moisture Levels in a Building?

There are four primary factors, including:

1. Building tightness, which does not allow moisture to escape to the outdoors.
2. Liquid water infiltration from outside as a result of a leaky building envelope or structural failure.
3. Moisture condensation on cold surfaces of building materials or components, which originates from water vapor inside or outside the building.
4. Moisture generated within the building by the occupants and the occupants' activities.

These factors do not act independent of one another. In fact, there is a great deal of interaction.

What Are The Most Effective Strategies for Preventing Mold Growth?

Stop the Moisture at Its Source. In existing buildings, first and foremost, eliminate the source(s) of moisture and air infiltration, and second, ensure that water vapor in the wall cavity can escape to the building's interior through the wall surface.

Design and Build It Right in the First Place. In new buildings, design and build the structure to prevent favorable conditions for mold growth.

Select Finishes and Materials to Prevent Mold. Select the proper wallcovering that balances performance characteristics and permeability. Also, use high-quality materials and finishes as they generally will not degrade as quickly as lower quality products. Here are some guidelines:

- Any wallcovering can be installed in a dry building.
- Questionable walls should use a permeable (breathable) wallcovering or perforated or microvented wallcovering.
- The interior surface of the exterior walls in cooling climates (hot, humid coastal areas) should be installed with permeable (breathable) or microvented vinyl and interior walls with any variety of wallcoverings.

Use Good Practices and Proper Surface Preparation. Keeping the work area and the wallcoverings clean is vitally important for preventing mold growth as is properly preparing the wall surface. The following suggestions will minimize or eliminate problems:

- Remove old wallcovering and residual adhesive. Wash areas with visible mold with a water and detergent solution. Allow the washed wall to dry. Before installing the wallcovering, the wall surface should be dry and free of grease, staining markers and mold. Also, the wall should be structurally sound with no excessive moisture or condensation.
- If a wall area is not dry or structurally sound for installation, do not install the wallcovering. Alert the drywall contractor, general contractor, building owner or homeowner as appropriate, and wait until the problems in the area have been corrected before either starting or continuing with the wallcovering installation.
- Small stained areas should be treated with a stain killing/blocking primer to prevent stains from coming through the wallcovering at a later time.