

Toxic Mold

CIRSA SAFETY QUIZ RESOURCE



Molds are a type of fungi that grow almost everywhere and are widely distributed in both the natural and artificial environment. There are thousands of known species, but all require moisture for growth. Molds are visible to the human eye as staining or furry growth on surfaces when large colonies exist. When favorable conditions for growth exist, mold will attempt to colonize porous building materials such as wood, drywall, cardboard, or paper products. When conditions for growth are not favorable mold can exist in a dormant state as spores. Many spores are adapted for dispersal by wind or by clinging to clothes or fur, and can survive for prolonged periods of time in harsh environments.

Mold growth in buildings or homes usually occurs after flooding or some other type of water leak. Often the lack of ventilation and high humidity levels create conditions that allow growth.

Crawl spaces, basements, bathrooms, kitchens, mechanical rooms, and storage areas are all areas where molds may be found. Controlling moisture and humidity levels, moisture management, is key to managing mold growth. Prompt mitigation of floods and water leaks is crucial to prevent mold colonization in the indoor environment. In commercial buildings engineering staff should be fully prepared to mitigate flooding. Items such as carpet fans, portable dehumidifiers, carpet extractors, mops and squeegees should be readily available. A handheld moisture meter is also a helpful tool to have. These can be used to monitor the progress of drying damaged materials. Moisture meters can be used on materials such as carpet, wallboard, wood, brick, and concrete. It is also suggested that agreements with one or more outside mitigation contractors be put in place should the scope of the mitigation exceed internal capabilities.

Here are some helpful mold prevention tips¹.

- Repair plumbing leaks and leaks in the building structure as soon as possible.
- Look for condensation and wet spots. Fix source(s) of moisture incursion problem(s) as soon as possible.
- Keep HVAC drip pans clean, flowing properly, and unobstructed.
- Maintain indoor relative humidity below 70% (25 - 60%, if possible).
- Vent moisture-generating appliances, such as dryers, to the outside where possible.
- Vent kitchens (cooking areas) and bathrooms according to local code requirements.
- Clean and dry wet or damp spots as soon as possible, but no more than 48 hours after discovery.
- Provide adequate drainage around buildings and properly grade the surrounding area. Follow all local building codes.

In artificial environments like buildings or homes, molds can easily become a nuisance and, in some instances, a hazard to human occupants. The same temperature and humidity levels that we like to keep our homes and offices at can foster the growth and, if left unchecked, the colonization of molds. As these colonies grow and reproduce, they produce spores. Spores in large enough quantities can be a potential health hazard to humans causing allergic and respiratory issues or no health issues at all. Some common mold allergy symptoms are sneezing, irritation of the upper airway, nose, mouth or throat, headaches, and tiredness. For people with known allergies molds can trigger asthma attacks². Some molds produce mycotoxins and others produce volatile organic compounds. These compounds can cause a variety of adverse health effects ranging from acute poisoning to long term effects such as immune deficiency and cancer³. The health effects for many of these mycotoxins is unknown. Not all molds produce mycotoxins, but this is where the phrase “toxic mold” comes from. Microbial volatile organic compounds (MVOCs) are

produced from molds as they grow and metabolize. MVOCs, are gases that are emitted into the air from the metabolism of bacteria and fungi. Some are harmful by themselves, including some that cause cancer. In addition, they can react with other gases and form other air pollutants after they are in the air. Often these compounds are responsible for the musty or earthlike odors in a space that is impacted by molds. More than 200 MVOCs have been identified and the most common health effect is eye and upper airway irritation⁴. Currently there are **no** federal standards or recommendations for exposure to mold or mold spores.

Mold that is allowed to grow and colonize indoors will eventually cause the destruction of building materials and may cause adverse health effect for the occupants. If you see or smell mold report the problem so it can be investigated. You will want to contact your supervisor. Do not disturb it and stop any on-going water leak if you can do so safely. You may also want to contact a certified professional to investigate the situation.

Signs of mold damage may include:

- Health symptoms such as sneezing, a runny nose or asthma
- Peeling wallpaper
- Dampness
- Dark or colored spots on walls
- Discolored carpet
- Grout between tiles begins to darken

Remember that there are **no** well-defined federal standards for exposure to airborne concentrations of mold spores and health effects can range from severe to none. Further molds are a sign of ongoing water damage or poor moisture management both of which will damage your building. Report any suspected mold issues immediately.

Sources

- ¹ November 8, 2013, A brief Guide to Mold in the Workplace, U.S. Occupational Safety and Health Administration, Accessed February 25, 2022, <https://www.osha.gov/publications/shib101003>
- ² September 1, 2015, Mold Symptoms, Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health, Accessed February 25, 2022, <https://www.cdc.gov/niosh/topics/indoorenv/moldsymptoms.html>
- ³ May 9, 2018, Mycotoxins, World Health Organization, Accessed February 28, 2022, <https://www.who.int/news-room/fact-sheets/detail/mycotoxins>
- ⁴ Korpi A, Järnberg J, Pasanen AL. Microbial volatile organic compounds. Crit Rev Toxicol. 2009;39(2):139-93. doi: 10.1080/10408440802291497. PMID: 19204852.