

CM i-Focus: MOLD

Mold FAQ

Here are 20 frequently asked questions on mold and mold remediation, with answers provided by Jeff Bishop, technical director of the Institute of Inspection, Cleaning & Restoration Certification, and Bob Allen, president/marketing director of Enviro-Mold and president of the International Association of Mold Remediation Specialists.

1. How dangerous is mold?

Bob Allen: That depends, literally, on who you are. Health effects range from mildly allergenic to virulently pathogenic.

The dangers posed by mold exposure vary according to several factors:

1. Sensitivity of the individual exposed
2. Concentration of the contaminant
3. Route and time length of the exposure
4. Type of mold

2. But haven't some medical associations published data proving that mold is not dangerous?

BA: The Texas Medical Association (TMA), as well as an independent review board of a 1993 Centers for Disease Control study, have issued statements to the effect that there is no conclusive evidence that mold causes *toxic* health effects in humans in non-industrial environments.

The media has misconstrued this to mean that there are no *health* effects. *Mold has well-documented and long-known irritant, allergenic, and pathogenic effects.* This means molds are known to cause irritation, such as coughing, breathing discomfort, eye irritation, etc.

Many molds are known to cause such allergic effects as sneezing, coughing, stuffy or runny nose, watery and itchy eyes and skin rashes.

Many molds also cause serious, even fatal, infection and disease — especially in people with compromised immune systems. Mold's toxic effects are still under review by many scientists and physicians.

3. What are the differences between "mildew" and "mold"?

Jeff Bishop: Mildew is a parasitic fungus that grows on plants. Significant mildew is seldom found in indoor environments.

Yeasts are single-cell fungi, while mold is a multi-cellular fungus. It's mold — NOT mildew — on the shower walls, drywall and studs.

I know "mildewcides" are used to clean bathrooms and other areas — but I'm telling you, get "mildew" out of your vocabulary.

4. How can I tell if I have "black mold" or "toxic mold"?

BA: When the media use the terms "black mold" or "toxic mold", they're usually referring to *Stachbotrys*. Both media terms are misleading, because many molds are black and many molds produce toxins.

Further, *stachbotrys* is not always black, but is sometime green, gray or brown, depending upon its food source. In order to determine the species of a particular mold, it's necessary for a qualified technician to either grow it in a lab culture or look at it under a microscope.

For more information on "black" mold, click [here](#).

5. Do you have to remove mold even if it's not a "toxic" one?

BA: The Centers for Disease Control recommends that any visible mold inside a home or building be removed, regardless of the type of mold. Many molds not dangerous to the general population can cause uncomfortable and even serious symptoms in sensitive individuals.

6. Can't you just bleach it? Why hire an expensive professional?

BA: Mold affects air quality in many ways. Mold gives off:

- Microscopic spores, or a seed-like structures used in reproduction
- Volatile Organic Compounds (VOC's), or gases and vapors that are a product of the mold life cycle
- Mycotoxins, which are toxic substances released by molds

All three can be breathed, ingested, and/or absorbed, causing potential health effects. When mold is disturbed (sprayed with bleach, scraped, cut, etc.), it immediately goes into reproductive mode, giving off millions of spores. This microbial amplification can cause a limited mold growth to spread throughout a larger area.

It's impossible for a disinfectant to kill all of the spores, and even non-viable (dead) mold can give off VOC's and mycotoxins.

Therefore, the goal of a professional remediation is to *get rid of the mold*, not to kill it. A professional will seal off and ventilate the affected area so that spores are effectively contained and disposed of.

7. What should I do on a water damage emergency service response when I discover mold?

JB: Contain the area, stop work and discuss remediation options with the responsible parties.

8. Should an industrial hygienist *always* be required on every job before remediating?

JB: Foremost, not every industrial hygienist (IH) or even Certified IH (CIH) is qualified to do pre- or post-remediation mold sampling. The proper person to call is a qualified "environmental consultant" or "environmental assessment specialist." Sampling may or may not be required, based on such indicators as:

- Building history
- Current moisture readings
- Length of time materials are exposed to excessive moisture
- Odor

- Occupant symptoms
- Visible mold
- Anticipated litigation

When in doubt, err on the side of caution. There are many conditions in which pre-remediation sampling would or would not be recommended. Handle each on a case-by-case basis.

9. What steps do I need to take to meet employees' requirements for the use of respirators — such as medical clearance for their use, facial hair, fit testing?

JB: A written respirator program, including medical exams (lung capacity) and fit testing, is an OSHA requirement. All companies are required to have this program and train employees in proper use of all PPE, not just respirators.

10. How and when should I use biocides?

JB: The American Conference of Governmental Industrial Hygienists' "Bioaerosols: Assessment and Control" specifies:

"15.2 — Growth that has occurred in a surface layer of condensation on painted walls or non-porous surfaces (including wood) can usually be removed by (a) vacuuming using equipment with high-efficiency filters or direct air exhaust to the outdoors, (b) washing with a dilute solution of biocide and detergent, or (c) cleaning, thorough drying, and repainting ... Porous materials that have sustained extensive microbial growth must often be removed.

15.4 — Biocide Use. Remediators must carefully consider the necessity and advisability of applying biocides when cleaning microbially contaminated surfaces [see 16.2.3].

The goal of remediation programs should be removal of all microbial growth. This generally can be accomplished by physical removal of materials supporting active growth

and thorough cleaning of non-porous materials.

Therefore, application of a biocide would serve no purpose that could not be accomplished with a detergent or cleaning agent.

16.2.2 — Biocides. Biocide use should not be considered if careful and controlled removal of contaminated material is sufficient to address a problem.

16.2.3 — Effective remediation of water-damaged or microbially contaminated buildings involves (a) the use of appropriate techniques to promote rapid drying, and (b) complete removal of contaminated materials rather than the application of biocides without these steps.

16.2.4 — Biocide application is not recommended in the restoration of water-damaged indoor environments except where they have suffered extensive sewage backup.

Widespread pollution from raw sewage presents a significant health risk from a variety of infectious agents, and biocides may help to control and contain these agents during the restoration process (Berry et al., 1994; IICRC S500, 1995).

That process includes the following steps: sewage extraction, application of biocide, removal of organic residuals, cleaning of all surfaces, and secondary application of biocide if deemed necessary.

Sewage-contaminated porous materials must be discarded. Likewise, porous materials that, for any reason, remain wet for more than 24 hours should be discarded.

The emphasis today is on *thorough cleaning* to create a healthier environment. Applying biocides must not be considered a substitute for detailed and meticulous cleaning of surfaces to achieve bioremediation.

With this in mind, professional authors and instructors are recommending cleaning meticulously, rather than applying biocides indiscriminately on clean-water-source losses.

11. Will ozone "kill" mold, including spores. If so, at what level of concentration?

JB: Closed chamber testing conducted by Research Triangle Institute indicates that ozone has little or no effect on mold on drywall or wood.

Ozone gas, in the concentrations that can be produced by normal ozone generating equipment in typical water-damaged structures, is ineffective in killing or even controlling microbial growth on structural and contents materials.

Indeed, closed chamber testing in which *Penicillium* was exposed to 9 ppm of ozone at varying levels of humidity on a variety of building materials — such as wood, drywall and ceiling tiles — yielded no reduction in colony-forming units after 23 hours.

12. When do drywall or structural materials have to come out?

JB: An all-encompassing question. I think the common sense response is, when materials show physical damage or significant mold growth and are too delicate to restore with industry-accepted remediation procedures (vacuuming, detergent cleaning, sanding), they should be removed and replaced with new material of LKQ.

13. Will mold grow "faster" and produce more spores as the structure, contents and ambient air are being dried?

JB: When mold senses that ambient conditions are going to be less than favorable, some species will produce a quantity of spores in order to perpetuate the species during unfavorable growth conditions.

14. If I set in dehumidifiers on a water damage emergency service job where mold is present, how much airflow is too much?

JB: Walking by a surface contaminated with mold, depending on species, can render large quantities of spores airborne. Any airflow is too much in some circumstances.

15. If mold is growing on drywall, is it ever acceptable to clean it off?

JB: That's a complicated question. If there's any visible growth on painted surfaces, a

technician must consider what's growing on the opposite side.

If there's minor growth due to condensation or high ERH, the surface can be HEPA vacuumed and cleaned with an appropriate detergent.

After thorough drying, sealing and repainting will cover residual stain. However, if you re-introduce optimum growth conditions, especially moisture or high humidity, you can expect mold to re-grow on that surface.

16. Should anti-microbial paints be used as sealers on walls or structural materials, such as cleaned and sanded studs?

JB: Anti-microbial paints don't hurt, but under optimum growth conditions or when there's a significant film over the paint, mold still can re-develop and cause problems. The key is "clean and dry."

17. How do I carefully dispose of moldy contents in on-site dumpsters and prevent people — especially kids — from rummaging through them searching for items? How do I either "protect" the dumpster (cover) or "ruin" the contents?

JB: Moldy materials should be demolished and disposed in much the same manner as other organic materials. Overexposure to mold could occur from grass clippings in plastic bags.

A dumpster is hardly a sanitary environment to begin with, but I suppose someone might crawl inside and have an allergic reaction to your moldy debris, even if they survive bacterial exposure. Exercise common sense precautions here.

18. How do I properly clean contents that aren't physically damaged by mold, but were in a contaminated environment?

JB: You can remove most contents that are contaminated by settled spores — not actual growth — from the structure to a safe place, even outside.

A properly protected person can process them with air washing, HEPA vacuuming or detergent cleaning. It all depends on the contents' construction components and

durability.

19. How do you thoroughly clean equipment used on mold remediation jobs or on a water damage emergency service loss where there is mold to prevent cross-contamination on new jobs?

JB: Decontamination procedures for equipment must be accomplished on site and then before returning them to inventory at your facility.

This could involve “air washing,” HEPA vacuuming or complete immersion in a detergent solution.

20. Don't most homeowners' insurance policies exclude mold coverage?

BA: Mold caused by normal wear and tear, slow leaks, maintenance issues, and other non-covered losses are usually not covered under insurance. Mold that is the result of any *covered* water loss, however, is covered as a by-product of that loss — just as smoke is not, in and of itself, covered in a homeowner's policy, but smoke damage is covered as a by-product of covered fire damage.

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