

The Problems with Fogging and Use of Biocides for Mold Removal

The *FreshStart by Prompt Care*® process can eliminate the need for costly and potentially harmful biocide-based wipe-down processes in areas adjacent to the immediate mold-treated area.

Here is what specific agencies say about remediation via biocides:

EPA - Mold Remediation/Cleanup and Biocides

The purpose of mold remediation is to remove the mold to prevent human exposure and damage to building materials and furnishings. It is necessary to clean up mold contamination, not just to kill the mold. Dead mold is still allergenic, and some dead molds are potentially toxic. The use of a biocide, such as chlorine bleach, is not recommended as a routine practice during mold remediation.

With traditional methods of mold remediation, it is not possible or desirable to completely sterilize an area; a background level of mold spores will remain in the air (roughly equivalent to or lower than the level in outside air).

Traditional disinfectants or biocides require that the area is always ventilated. Outdoor air may need to be brought in with fans. However, fans can potentially distribute mold spores throughout an unaffected area. In addition, understand that biocides are toxic to humans, as well as to mold.

American Industrial Hygiene Association (AIHA)

Are biocides required or useful in remediation projects?

Biocides are disinfectant chemicals used to kill germs in order to prevent infections resulting from contact with these materials. In most mold remediation, biocides are of limited use in remediation of indoor mold contamination for two main reasons:

- 1) The adverse effects caused by mold (other than infection) are due to metabolites present in their spores and secreted into the materials upon which molds have grown. The application of biocides may kill mold spores but it does not necessarily eliminate these metabolites. The only sure way to do this requires the physical elimination of mold and moldy materials by thorough cleaning or removal of the affected materials.
- 2) Most commonly used biocides do not kill molds effectively. Active fungal growth on a surface may produce a spore density of one million spores per square inch. As such, if the underlying moisture problem is not resolved, mold growth may re-occur.

NYC Department of Health

The use of gaseous, vapor-phase, or aerosolized biocides for remedial purposes is not recommended. The use of biocides in this manner can pose health concerns for people in occupied spaces of the building and for people returning to the treated space if used improperly. Furthermore, the effectiveness of these treatments is unproven and does not address the possible health concerns from the presence of the remaining non-viable mold.

American Conference of Governmental Industrial Hygienists (ACGIH) Bioaerosols: Assessment and Control, 15.4 Biocide Use

Remediators must carefully consider the necessity and advisability of applying biocides when cleaning microbially contaminated surfaces. 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.

U.S. Army

The US Army is weighing in on the war on mold, outlining for its facility managers, custodians and others how to prevent and remediate mold contamination.

In a 20-page guide issued earlier this year, the Army, among other things, recommended against the use of bleach and biocides, as well as against the use of chlorine dioxide for remediation. "The use of bleach or other biocides is questionable in most cases," the Army manual states. "Removal of all mold growth can generally be accomplished by physical removal of materials supporting active growth and thorough cleaning of non-porous materials. Therefore application of biocides serves no purpose."

As to the use of chlorine dioxide, the Army stated: "The compound is highly toxic and contamination of occupied space may pose a health threat. Furthermore the effectiveness of this treatment is unproven."

Army researchers developed their guidelines partly by using research and data from the US Environmental Protection Agency (EPA), Institute of Inspection, Cleaning and Restoration Certification (IICRC), American Conference of Governmental Industrial Hygienists, the New York City Department of Health and the American Industrial Hygiene Association.

IICRC S520 Statements on Encapsulants

Using encapsulants and sealants is discouraged. Remediators need to consider that the application of certain encapsulants or sealant products may change the permeability of materials, cause condensation problems in the building assembly (trap moisture), and result in future deterioration and potential liability issues. Use of encapsulants may impede, mask, or invalidate an inspection for dust and debris.

Encapsulants and sealants that have been applied without a complete clean-up of mold growth may result in the necessity of sanding off or removing the encapsulants or sealant in order to properly remediate the mold growth. These compounds may contain nitrogen that helps support future mold growth. Encapsulants may also alter the surface flammability characteristics of certain materials. Encapsulation is not a cleaning method and should be avoided as a standard practice.

The *FreshStart by Prompt Care*® interior decontamination process incorporates distributed generation of hydroxyl radicals that are efficient, effective and leave no residues that may be harmful to one's health.