Mold Remediation, Prevention and PPE – Quick Tips



Introduction

Mold is everywhere around us—outside in soil, wood and rotting plants, and inside on carpet, drywall, wallpaper and insulation. Outside molds carry out nature's work by breaking down decaying organic material such as dead plants, fallen trees or dead animals. Inside, mold growth can cause an array of health concerns. However not all mold is harmful; without mold we would not have certain food and medicines like cheese or penicillin. Mold is one category of non-green, plant-like organisms (along with mildew, mushrooms, rusts, smuts and yeast) that fall within the fungus family. All fungal matter shares the common characteristic of being capable of growth without sunlight. Because of this, mold can be found almost anywhere, and can grow on almost anything as long as moisture and oxygen are present. Many types of mold exist with approximately 1,000 known species found in the United States, and over 100,000 species worldwide.

Health Effects

Currently, there are no federal standards or American Conference of Governmental Industrial Hygienists (ACGIH) established threshold limit values (TLVs) for airborne concentrations of mold or mold spores. According to the Environmental Protection Agency's (EPA's) Mold Remediation in Schools and Commercial Buildings resource, allergic reactions to mold are common. Mold can produce allergens that can trigger allergic reactions, asthma attacks or produce potent toxins and/or irritants. Hypersensitivity pneumonitis (lung inflammation) has also been linked to mold exposure. People with the greatest risk of health effects from mold exposures are the elderly, the very young and expectant mothers, as well as individuals with mold allergies, asthma and other chronic respiratory ailments.

Prevention

Mold growth frequently occurs when excessive moisture or water accumulates indoors. There is no feasible way to eliminate all molds and mold spores indoors, so the most effective way to control indoor mold growth is to control moisture. In buildings where mold is a problem, the mold must be remediated and

the sources of moisture identified and eliminated.

It is important to dry water-damaged areas and items within 24 to 48 hours to prevent mold growth from starting. Water-damaged porous or absorbent materials, such as ceiling tiles, wallboard, cellulose and fiberglass insulation, should be discarded and replaced. Discard non-valuable books and papers. Be sure to photocopy important paperwork before discarding the originals. Use a water extraction vacuum to remove water from carpeting. Then use dehumidifiers and fans to accelerate the drying process. Carpet that becomes moldy usually must be replaced. Nonporous surfaces can be vacuumed or wiped with mild detergent and allowed to dry completely.

Moisture Control

Identify and repair leaky plumbing, roofs and other sources of water in a timely fashion to prevent moisture and mold growth. The EPA suggests you can minimize mold growth by reducing indoor humidity to below 60% and ideally between 30 and 50%. This can be done by venting bathrooms, kitchens, dryers and other moisture-generating sources to the outside; using air conditioners and dehumidifiers; increasing ventilation; and using exhaust fans whenever cooking, dishwashing and cleaning.

Also, reduce the potential for condensation on cold surfaces like windows, piping, exterior walls, roofing and floors by adding insulation. Do not install carpeting in areas where there is a continuous moisture problem, such as near drinking fountains, sinks or on concrete floors with leaks or frequent condensation.

Contamination Identification

A visual inspection is the most important initial step in identifying a possible contamination problem. The extent of any water damage and mold growth should be visually assessed. This assessment is important in determining mold remediation strategies.

Ventilation systems should also be visually checked, particularly for damp filters, but also for damp conditions elsewhere in the system and overall cleanliness. Ceiling tiles, gypsum wallboard, cardboard, paper and other porous surfaces should be given careful attention during a visual inspection.

The use of special equipment to view spaces in ductwork or behind walls, and/or by using a moisture meter to detect moisture in building materials, may be helpful in identifying hidden sources of mold growth and the extent of water damage.

Remediation

The EPA’s remediation guide for schools and commercial buildings offers detailed recommendations for a variety of mold removal scenarios and is a tremendous resource for anyone facing a mold problem.

Mold should be cleaned as soon as it appears. OSHA considers small remediation areas, less than 30 square feet (sq. ft.), of mold, which can be cleaned using a detergent/soapy solution or an appropriate household cleaner and allowed to dry completely. For larger areas (30-100 sq. ft.), there are commercial

products that can be used for cleaning, disinfecting and sanitizing. Mold-resistant coatings are also available for use on insulation materials and inside duct work. A HEPA vacuum can be used to clean items such as furniture, concrete, carpeting or books after the material has been thoroughly dried.

According to OSHA, for small areas of mold growth, an N95 respirator, non-vented goggles and long gloves compatible with the chemicals used for surface cleaning should be worn. For larger mold remediation jobs, or in situations where high levels of airborne dust or mold spores are likely or long-term exposures are expected, the EPA suggests a full-face, powered air purifying respirator (PAPR) along with disposable coveralls, gloves and shoe covers. The cleaned area should be thoroughly dried. Dispose of any sponges or rags that were used to clean the mold, along with the used personal protective equipment (PPE).

If the mold returns quickly or spreads, it may indicate an underlying problem, such as a leak or excessive humidity. Any underlying water problems must be fixed to successfully eliminate mold problems from reoccurring. If mold contamination is extensive, an experienced remediation professional may need to be consulted.

Sources

EPA – Mold Remediation in Schools and Commercial Buildings
EPA – Mold Resources
OSHA- A Brief Guide to Mold in the Workplace
OSHA Quick Card™ Mold
OSHA Fact Sheet Mold Hazards during Disaster Cleanup

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