

## Mold Remediation Overview

*Hurricane flood waters have receded, leaving a mess and a growing health hazard — Mold*

Overview

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## **Mold — Hazardous to Workers' Health**

Flood waters caused by hurricanes, rising rivers from torrential rains, and other natural disasters can leave a wake of destruction. After the immediate clean-up, workers are left with a major health hazard — mold. Many types of mold are innocuous, but other types can be extremely toxic. Prolonged exposure to mold, even benign or dead mold, can result in a heightened sensitivity, leading to allergic reactions.

## **NIOSH and OSHA Recommendations**

There are no federal government standards or regulations for mold exposure. However, government agencies have provided guidelines on personal protective equipment (PPE) for workers. The level of protection recommended increases with the size and scope of the infected site. At a minimum, an N95 respirator, gloves, and goggles are recommended. Full protection includes a full-facepiece respirator with P100 filters, body suit, boots, gloves, and head protection.

Molds are fungi that can be found anywhere, growing on virtually any substance. All that is needed for growth is moisture, oxygen, and an organic source. Molds reproduce by creating tiny spores, which continually float through the air. Most molds are harmless, but some can cause respiratory and other disorders when workers come in contact with fungi. Inhalation is the route of exposure of most concern to flood cleanup workers.

Molds and their spores are particulates. But with some molds, remediation methods and other factors in the environment may require more than an N95 respirator for protection. Any remediation work that disturbs mold and mold spores, and causes them to become airborne, increases the degree of respiratory exposure.

## **Mold Remediation Q&A**

### **What is mold?**

Molds are fungi that can be found anywhere, growing on virtually any substance. All that is needed is moisture, oxygen, and an organic source. Molds reproduce by creating tiny spores, which continually float through the air. Molds and mold spores are classified as particulates when considering respiratory protection.

### **Are molds harmful?**

Most molds are harmless — think of cheese and mushrooms, but some molds can cause respiratory and other disorders. Persons with allergies are particularly susceptible. Prolonged exposure to mold can cause some people to become sensitized. People with weakened immune systems or chronic lung disease may develop mold infections in their lungs.

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**What kind of exposures to mold should I be concerned about?**

Mold inhalation is the route of exposure of most concern. Molds reproduce by creating tiny spores which continually float through the air. Mold can also become airborne when it is disturbed during cleanup. Direct contact with mold can cause dermatitis on people who are allergic to mold.

**I don't see any mold. How do I know if it is present?**

Visual signs are usually the best way to tell if mold is present. But, mold grows in hidden places, such as behind walls.

You can also have the air monitored to detect the presence of mold, but it is expensive and should be done by someone trained in microbial investigations.

**Even if you have killed the mold with a biocide (chlorine or other solution), is it still dangerous?**

Yes. Even dead mold can cause allergic reactions.

**What is the Permissible Exposure Limit for mold?**

There are no established Permissible Exposure Limit (PEL) or Threshold Limit Value (TLV) for mold.

**What type of respirator is required for protection from mold?**

Since there are no established Permissible Exposure Levels, there is no specific type of respirator that is required. However, certain federal agencies, particularly the Environmental Protection Agency (EPA), do provide recommendations.

**Are there U.S. standards that regulate worker exposure to mold?**

There are no federal standards or regulations that address respiratory protection from mold and mold spores. EPA recommends a respirator with N95 or P100 filters.

**What respirator does Honeywell Safety Products recommend?**

Depending on the size of the remediation job, the biocides used and other contaminants that may be present, Honeywell recommends an N95 respirator as the most basic protection. More protection will be provided with a half-mask or full facepiece with OV/AG/P100 or Multi-Contaminant like the Defender full-facepiece respirator with P100 filters. For larger remediation jobs, a powered air-purifying respirator (PAPR) with OV/AG/HEPA may be desired. For unknown hazards, potential IDLH, or confined space, a PD-SAR or SCBA may be needed.

**Why does Honeywell Safety Products recommend an Organic Vapor / Acid Gas cartridge filter combination since mold is a particulate?**

Workers need to be protected from the solutions used to remediate the mold, usually an acid gas. Some molds give off gases and vapors referred to as microbial volatile organic compounds (MVOC).

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**Should I always use an Organic Vapor / Acid Gas cartridge filter combination?**

No. If you know that there are no other contaminants present, that the mold is not emitting gases or vapors, and the work being done is tearing down infected substances rather than using a biocide to kill mold, then a particulate filter would be sufficient. But if you are unsure, we recommend the added protection of an OV/AG filter combination.

**Why does Honeywell Safety Products recommend a P100 instead of an N95 filter for some exposures?**

While there are no PELs established for mold, workers would benefit from a P100 when exposed to higher concentrations of mold. Other contaminants must also be considered, most especially the presence of lead and asbestos in older buildings.

**What gloves should I use?**

Gloves that will keep mold from direct contact with the skin are desired. Also consider all the other chemicals that may be present, including the solutions used to kill mold. Nitrile gloves would offer sufficient protection for most applications. Refer to the North® Selection Guide for more information.

**Why do I need eye protection?**

Mold and mold spores can be an eye irritant. Goggles should be worn with half mask and disposable respirators. For prolonged exposure or for remediation of large areas (more than 100 sq ft), a full facepiece is recommended.

## **About Honeywell Safety Products**

Honeywell Safety Products helps build an enduring culture of safety through comprehensive education; innovative technologies; and comfortable, high-performance products that inspire workers to make safer choices on their own. Our company is the ideal partner for organizations committed to a cultural transformation that minimizes injuries and maintains a safer, more productive workplace.

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