

Safety

Personal Protective Equipment (PPE)

If the remediation job disturbs mold and the mold becomes airborne, then the risk of respiratory exposure increases. Actions that are likely to stir up mold include removal of moldy duct insulation and fiberboard, removal of building insulation, breakup of moldy porous materials such as wallboard; invasive procedures used to examine or remediate mold growth in a duct work and wall cavities; actively stripping or peeling wallpaper to remove it; and using fans to dry items.

Spraying of biocides will also introduce potentially toxic substances into the air, and possibly into the lungs of service technicians and occupants. Biocides should never be sprayed into operating systems, since this would make these toxic chemicals airborne and significantly more dangerous.

The primary function of **Personal Protective Equipment (PPE)** is to avoid inhaling mold and mold spores and to avoid mold contact with the skin or eyes. All individuals using PPE equipment, such as half-face or full-face respirators, must be trained, must have medical clearance, and must be fit-tested by a trained professional. In addition, the use of respirators must follow a complete respiratory protection program as specified by the Occupational Safety and Health Administration

Skin and Eye Protection

Always use gloves and eye protection when cleaning up mold or applying mold treatment and duct sealant products!

Gloves are required to protect the skin from contact with mold allergens (and in some cases mold toxins) and from potentially irritating disinfection and sealing compounds. Long gloves that extend to the middle of the forearm are recommended. The glove material should be selected based on the type of materials being handled.

To protect the eyes, use properly fitted goggles or a full-face respirator with HEPA filter. Goggles must be designed to prevent the entry of dust and small particles. Safety glasses or goggles with open vent holes are not acceptable.

Respiratory Protection

Respirators protect cleanup workers from inhaling airborne mold, mold spores and dust.

Minimum Respiratory Protection

When cleaning up a small area affected by mold, use an N-95 respirator. This device covers the nose and mouth, will filter out 95% of the particulates in the air, and is available in most hardware stores.

Limited Respiratory Protection

Limited PPE includes use of a half-face or full-face air-purifying respirator (APR) equipped with a HEPA filter cartridge. These respirators contain both inhalation and exhalation valves that filter the air and ensure that it is free of mold particles. Note that

half-face APRs do not provide eye protection. **In addition, the HEPA filters do not remove vapors or gases (no filter removes vapors or gases).** Always use respirators approved by the National Institute for Occupational Safety and Health.

Full Respiratory Protection

In situations where high levels of airborne dust or mold spores are likely or when long-term exposures are expected (cleanup of large areas), a full-face, Powered Air Purifying Respirator (PAPR) is recommended. Full-face PAPRs use a blower to force air through a HEPA filter. The HEPA-filtered air is supplied to a mask that covers the entire face or a hood that covers the entire head. The positive pressure within the hood prevents unfiltered air from entering through penetrations or gaps. Individuals have to be trained to use the respirators before they begin remediation. The use of these respirators must be in compliance with OSHA regulations.

Disposable Protective Clothing

Disposable clothing is recommended during a medium or large remediation project to prevent the transfer and spread of mold to clothing and to eliminate skin contact with mold.

Containment

The purpose of containment during remediation activities is to limit release of mold into the air and surroundings in order to minimize the exposure of remediators and building occupants to mold. Mold and moldy debris should not be allowed to spread to areas in the building beyond the contaminated site.

The two types of containment, recommended in Table 2, are limited and full. The larger the area of moldy material, the greater the possibility of human exposure and the greater the need for containment. In general, the size of the area helps determine the level of containment. However, a heavy growth of mold in a relatively small area could release more spores than a lighter growth of mold in a relatively large area. Choice of containment should be based on professional judgment by the remediation company performing this work. The primary object of containment should be to prevent occupant and remediation exposure to mold.

Note: For example, a remediation worker may decide that a small area that is extensively contaminated and has the potential to distribute mold to occupied areas during cleanup should have full containment, whereas a large wall surface that is lightly contaminated and easily cleaned would require only limited containment.

All supply and air vents, doors, chases, and risers within the containment area must be sealed with polyethylene sheeting to minimize the migration of contaminants to other parts of the building.

The containment area must be maintained under negative pressure relative to surrounding areas. This will ensure that contaminated air does not flow into adjacent areas. This can be done with a HEPA-filtered fan unit exhausted outside of the building.

Containment Tips

- Always maintain the containment area under negative pressure.
- Use exhaust fans (to the outdoors) and ensure that adequate makeup air is provided.
- If the containment is working, the polyethylene sheeting should billow inwards on all surfaces. If it flutters or billows outward, containment has been lost. Find and correct the problem before continuing remediation activities.

