Mold in the fire station

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What is mold?

Molds are fungi that are found naturally in the environment and can be detected year round indoors and outdoors. Mold grows best in warm, humid conditions and spreads through the air by producing spores.

What causes mold growth indoors?

Outdoors mold grows in damp, shady areas on decaying vegetation. Indoors they grow where humidity levels are high, like basements or bathrooms. Mold growth indoors is usually indicative of water damage, prolonged humidity, or dampness. This is extremely common following floods. If you can see mold indoors, then action must be taken to identify and correct the conditions that permit it to grow.

What are the health effects of exposure to mold?

Some people are more sensitive to mold than others; two people may react differently to the same mold exposure. People with mold allergies have reactions similar to seasonal allergies, including nasal stuffiness, eye irritation, and sneezing, when they are exposed. People with asthma may have wheezing and shortness of breath. People with compromised immune systems, such as from cancer or chronic lung diseases, may develop fungal infections in their lungs. Sometimes, exposure to very high levels of mold can cause hypersensitivity pneumonitis which has symptoms similar to pneumonia. There are no occupational exposure limits for mold.

What to do post flooding?

It can be assumed that if there was flooding from a hurricane, the exposed areas will have mold on them. It is important to remember that covering mold will not prevent it from growing. Therefore, you must remove visible mold and dry the area completely. It is extremely important to dry the building and everything in it as soon as possible, ideally between 24-48 hours after flooding. Once all the water is removed, it is advised that any objects that have been wet and could not be dried and cleaned within the 24-48-hour time period should be thrown out. Although, generally anything below the water line will probably be thrown out. Everything that cannot be removed from the fire station must also be dried completely, and this can be done by opening doors and windows and by using fans and dehumidifiers to remove moisture.

To reiterate, once the flood water has receded from your fire station it is important to follow these five steps:

1. Inspect your fire station and determine what has odor, discoloration or damage
2. Remove all standing water, wallboard materials and furniture that have been exposed to flood waters
3. Clean the exposed area and visible mold from surfaces
4. Dry out everything that has been cleaned or exposed
5. Keep everything dry- as mold grows when there is moisture

How to remediate mold growing in your fire station?

Successful remediation is a multi-pronged approach that involves correcting the underlying moisture problem, cleaning or discarding affected materials (in general, non- or semi-porous materials may be cleaned and porous materials should be discarded), and allowing the area to fully dry. Large scale mold evaluation and remediation (mold growth in multiple rooms and/or in the HVAC system) should be performed by an experienced professional. Running dehumidifiers or cleaning affected areas may reduce mold spores in the air, but they are only temporary fixes. The source of the moisture problem must be fixed in order to stop the reoccurrence of mold.

If you are going to remediate yourselves, it is important to wear gloves, masks (N-95) and goggles to protect your eyes, nose, mouth and skin from the mold and chemicals being used to clean it. You can use a bleach mixture (1/4 cup bleach with 1 gallon of water) to remove mold from hard surfaces such as floors, counters, stoves, sinks and tools. Make sure the mixture is just water and bleach, do not mix bleach and ammonium as they can create toxic fumes. Do not use bleach directly without mixing with water as this may lead to additional nose, eye, throat, and respiratory irritation. Once these items are cleaned they must be dried completely.

Should fire fighters be relocated from the station during mold remediation?

Guidelines from the CDC, OSHA, EPA, and the American Industrial Hygiene Association (see links below) recommend that the decision to relocate workers should be based on the following factors: the size of the contaminated area, the source of the contamination, the type of health effects reported by building occupants, and the potential for building occupant exposure to airborne mold during remediation. This decision should also take into account both visible mold growth and the potential for hidden mold growth. Remediation employees must take measures to prevent mold spores from being dispersed throughout the building, such as isolating the area and keeping it under negative air pressure.

If mold and water damage are found in multiple rooms of a fire station and in the HVAC system, the IAFF usually recommends temporary relocation of workers to reduce the likelihood of exposures.

How can I prevent mold from growing in the fire station?

Once the mold is completely removed, The CDC recommends the following steps to prevent mold from coming back:

- Keep humidity levels as low as you can—no higher than 60%--all day long. An air conditioner or dehumidifier will help you keep the level low.

- Use an air conditioner or a dehumidifier during humid months.
- Be sure the building has adequate ventilation, including exhaust fans.
- Add mold inhibitors to paints before application.
- Clean bathrooms with mold killing products.
- Do not carpet bathrooms and basements.
- Remove or replace previously soaked carpets and upholstery.

Where can I get more information?

The links below provide further information mold exposure, health effects, and remediation guidelines:

- Centers for Disease Control and Prevention - Mold:
  https://www.cdc.gov/mold/faqs.htm
  https://www.cdc.gov/mold/default.htm
  https://www.cdc.gov/mold/cleanup.htm

- New York City Department of Health - Guidelines on Assessment and Remediation of Fungi in Indoor Environments:
  https://www1.nyc.gov/assets/doh/downloads/pdf/epi/epi-mold-guidelines.pdf

- OSHA - A Brief Guide to Mold in the Workplace:
  https://www.osha.gov/dts/shib/shib101003.html

- EPA - Mold Remediation in Schools and Commercial Buildings:
  http://www.epa.gov/sites/production/files/2014-08/documents/moldremediation.pdf
  https://www.epa.gov/mold/floods-and-mold-growth

- NIOSH Alert: Prevention Occupational Respiratory Disease from Exposures Caused by Dampness in Office buildings, Schools, and Other Nonindustrial Buildings:
  http://www.cdc.gov/niosh/docs/2013-102/

- American Industrial Hygiene Association - Facts about Mold:
  https://www.aiha.org/publications-and-resources/TopicsofInterest/Hazards/Pages/Facts-About-Mold.aspx

- Institute of Inspection Cleaning and Restoration Certification
  http://www.iicrc.org/five-steps-prevent-mold-growth-after-flood-a-99.html