

# WE ARE YOUR DOL



NEW YORK  
STATE OF  
OPPORTUNITY.

Department  
of Labor

## MOLD AND MOISTURE

# MOLD

- Naturally occurring fungus found outdoors and indoors
- Outdoor seasonal fluctuation
- Reproduce by dispersing microscopic spores
- Visible growth (colony) develops when moisture and food source are also present



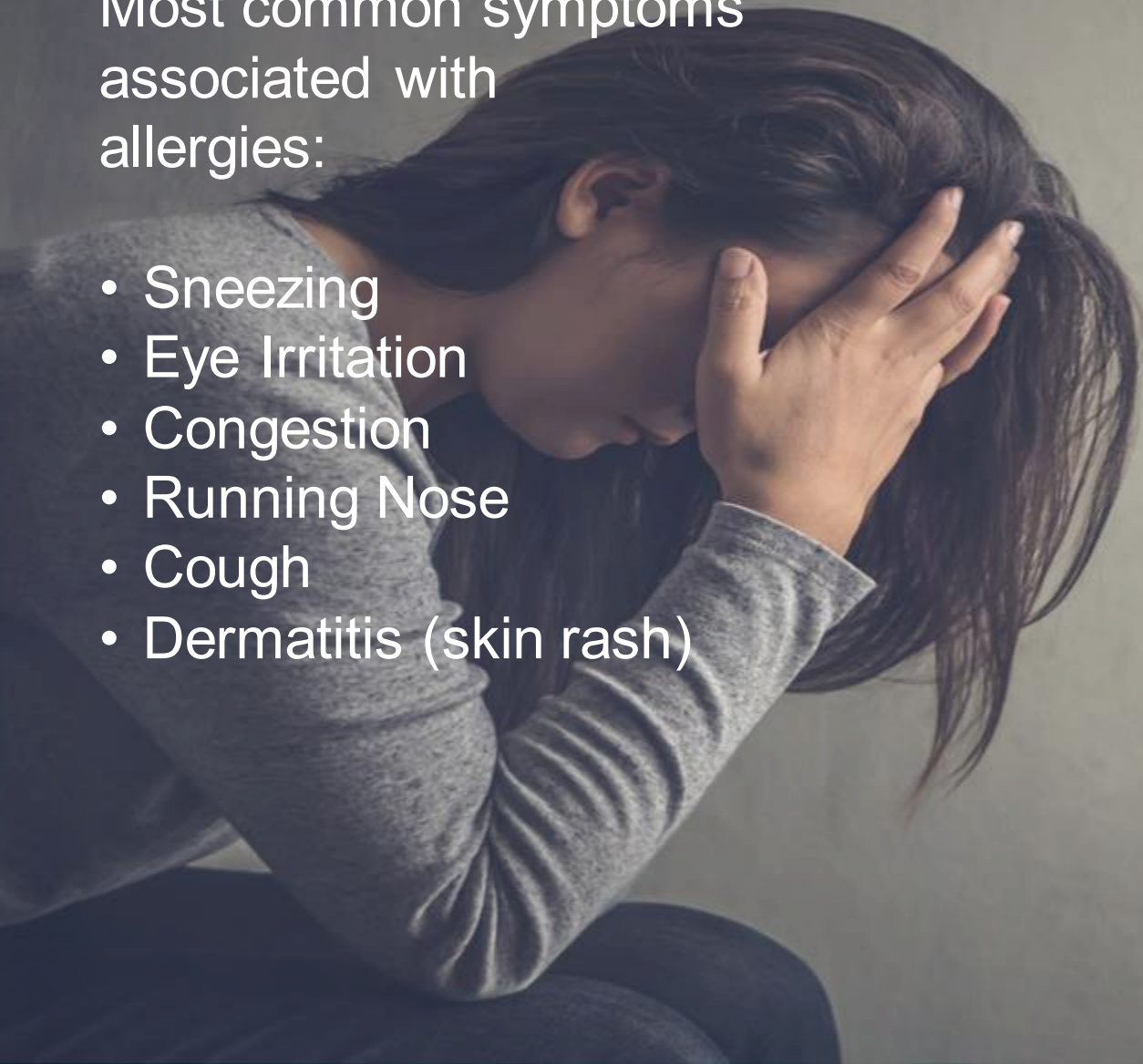
# HEALTH EFFECTS

Most common symptoms associated with allergies:

- Sneezing
- Eye Irritation
- Congestion
- Running Nose
- Cough
- Dermatitis (skin rash)

People with the following conditions may be more sensitive and experience more severe symptoms:

- Asthma, sinusitis, or other respiratory impairment
- Weakened immune systems
- Organ or bone marrow transplants
- Recent surgery and chemotherapy or long-term steroid treatment



WE ARE YOUR DOL

# OSHA FactSheet

## Mold

Molds are the most common forms of fungi found on earth. They can grow on almost any material, as long as moisture and oxygen are available. Most molds reproduce through the formation of spores, tiny microscopic cells that are resistant to drying and are released into the air. Airborne spores are found both indoors and outdoors. When spores land on a suitable moist surface, they begin to grow and release chemicals that digest and can eventually destroy the surface and underlying materials. Molds can also cause adverse health effects.

### Health Effects of Mold Exposure

Molds can cause mild to severe health problems in sensitive individuals when a sufficient number of airborne spores are inhaled. Some individuals are far more sensitive than others. The most common health effects associated with mold exposure are allergic reactions. Symptoms may include:

- Sneezing
- Runny nose
- Eye irritation
- Cough
- Congestion
- Aggravation of asthma
- Dermatitis (skin rash)

### People at Greatest Risk

Infants, children, and the elderly are more susceptible to health problems attributable to molds. In addition, people with the following underlying health conditions may be more sensitive to molds:

- Individuals with allergies or existing respiratory conditions including asthma, sinusitis, or other lung diseases.
- Individuals with a weakened immune system (e.g., HIV patients).
- Recent organ or bone marrow transplant patients.
- Patients recovering from recent surgery and receiving chemotherapy or long-term steroid treatment.

### How to Recognize Mold

Mold may be recognized by:

- Sight – They usually appear as distinctly colored woolly mats (e.g., mildew is black and is one of the most common molds in a household).
- Smell – They often produce a foul odor, such as a musty, earthy smell.

### Preventing Mold Growth

The key to mold prevention is moisture control. Mold will not grow if moisture is absent.

- Remove excess moisture with a wet-dry vacuum and dry out the building as quickly as possible (preferably within 24 to 48 hours).
- Use fans to assist in the drying process.
- Clean wet materials and surfaces with detergent and water.
- Discard all water damaged materials.
- Discard all materials visibly contaminated with mold.
- Remove and discard all porous materials that have been wet for more than 48 hours. Porous materials cannot be cleaned and may remain a source of mold growth. These materials include the following:
  - ◆ Carpeting and carpet padding;
  - ◆ Upholstery, wallpaper, drywall;
  - ◆ Floor and ceiling tiles, insulation materials;
  - ◆ Clothing;

WE ARE YOUR DOL





# MOLD NEEDS

- Water
- Food source (organic material)
- Oxygen
- Temperature range of 40 to 100F

“Mold can be found almost anywhere and can grow on virtually any organic substance if moisture and oxygen are present. The levels of airborne mold spores can vary from month to month and day to day; are highly reliant on temperature, humidity, other seasonal factors in the environment; and are not reliable indicators of an indoor dampness or mold problem. It is impossible to eliminate all mold and mold spores. However, since mold requires water to grow, it is important to identify and prevent moisture problems in buildings to prevent active mold growth.”



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK

Office of Facilities Planning, 89 Washington Avenue, Room 1060 Education Building Annex, Albany, NY 12234  
Tel. (518) 474-3906  
Website: <http://www.p12.nysed.gov/facplan/>

January 2019

**To:** District Superintendents  
Superintendents of Schools

**From:** Rosanne T. Groff, RA  
Coordinator

**Subject:** BUILDING DAMPNES AND MOLD

WE ARE YOUR DOL





# MOLD RECOGNITION

- Sight-usually round growth patterns of various colors (black most common)
- Smell-Often produce foul odor, such as a musty, earthy smell
- Sampling generally not necessary to identify problem
- PESH does not have standard to compare results to, so sampling not done

**WE ARE YOUR DOL**



# AIR SAMPLING

- Not normally done by PESH
- Can provide useful information when done properly
- Compare inside to outside (ambient)
  - Reported as counts/m<sup>3</sup> or CFU/m<sup>3</sup>
  - Outside normally several times higher
  - Indoor types similar to outside
  - Do not expect zero levels inside
- Compare complaint to non-complaint areas

WE ARE YOUR DOL



“When mold problems occur in school buildings, it is recommended that the school district or BOCES take measures to correct the underlying water problem contributing to the mold growth, and then properly clean or replace moldy surfaces and building materials. The effectiveness of corrective measures can be assessed by assuring that affected areas are clean and dry after remediation. Mold testing is not necessary to correct a water problem and results are difficult to interpret. The agencies do not interpret mold results.”



THE STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK

Office of Facilities Planning, 89 Washington Avenue, Room 1060 Education Building Annex, Albany, NY 12234  
Tel: (518) 474-3906  
Website: <http://www.p12.nysed.gov/facplan/>

January 2019

To: District Superintendents  
Superintendents of Schools

From: Rosanne T. Groff, RA  
Coordinator

Subject: **BUILDING DAMPNES AND MOLD**

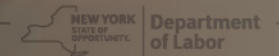
WE ARE YOUR DOL



Distinction between water staining and mold growth is made by visual inspection



**WE ARE YOUR DOL**



# EFFLORESCENCE

- Fluffy salt deposits left behind when water passing through masonry evaporates
- Not mold!



**WE ARE YOUR DOL**



# ROUTINE MOLD PREVENTION

- Moisture control is the KEY to prevention
- Preventive maintenance:
  - Roof & plumbing leaks
  - Drainage problems
  - Windows and doors
  - Cooling coil condensation drip pans
  - Insulate where cool surface contacts humid air (chilled water piping)
- Relative humidity 30-60% (ASHRAE recommended range)
  - Air conditioning
  - Portable dehumidifiers-maintenance



**WE ARE YOUR DOL**

# MOLD PREVENTION- FLOODING

- Remove excess moisture
- Remove water damaged porous materials within 48 hours
  - Carpet, drywall, ceiling tiles, upholstery, insulation, etc.
- Dry out building as quickly as possible
  - Heat and ventilation
  - Moisture meters
- Clean hard, solid surfaces by brushing or scrubbing
- Use disinfectant for final clean



**WE ARE YOUR DOL**

# COMMON ISSUES IN SCHOOLS

- Heating, Ventilation and Air Conditioning (HVAC) system not able to control prolonged high humidity conditions
  - Off-hours system shutdown
  - Oversized cooling system
  - Warmer air can hold more moisture than cooler air
- Decorations, posters and other paper products near surfaces subject to condensation
- Lavatories/sinks in classrooms vs restrooms
- Libraries

WE ARE YOUR DOL

# MOLD GROWTH ON HARD SURFACES?

- After summer with prolonged humid conditions
- Housekeeping often suspended when areas not occupied
- Different settings for HVAC system
- Damp conditions caused mold to grow on the settled dust on desks, chairs, shelves and counters

- 
- Wipe down the surfaces with mild detergent



# WHY FEWER PROBLEMS LONG AGO?

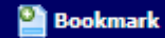
- Type of construction
  - Masonry
  - Whole wood-no OSB, particle board
  - Plaster-no drywall (moisture sponge)
- Spartan décor, less interior decoration
- Agrarian lifestyle
- Climate change







# "Mold Remediation in Schools and Commercial Buildings"



Contact Us Search:  All EPA  This Area

You are here: [EPA Home](#) » [Air](#) » [Indoor Air Quality](#) » [Mold](#) » [Mold Remediation in Schools and Commercial Buildings](#) [Table 1 - Water Damage](#)

## "Mold Remediation in Schools and Commercial Buildings"

[Introduction](#)

[Prevention](#)

[Investigating, Evaluating, and Remediating Moisture and Mold Problems](#)

[Table 1 - Water Damage - Cleanup and Mold Prevention](#)

[Table 2 - Mold Remediation Guidelines](#)

[Checklist for Mold Remediation](#)

[Resource List](#)

[References](#)

[Appendix A - Glossary](#)

[Appendix B - Introduction to Molds](#)

## Table 1: Water Damage - Cleanup and Mold Prevention

**Table 1** presents strategies to respond to water damage within 24-48 hours. These guidelines are designed to help avoid the need for remediation of mold growth by taking quick action before growth starts. If mold growth is found on the materials listed in **Table 1**, refer to **Table 2** for guidance on remediation. Depending on the size of the area involved and resources available, professional assistance may be needed to dry an area quickly and thoroughly.

An Adobe Acrobat PDF version of this table is available here ([PDF](#), 1 page, 209KB, [About PDF](#))

**Table 1: Water Damage - Cleanup and Mold Prevention**

Guidelines for Response to Clean Water Damage within 24-48 Hours to Prevent Mold Growth\*

Water-Damaged Material†	Actions
<b>Books and papers</b>	<ul style="list-style-type: none"> <li>• For non-valuable items, discard books and papers.</li> <li>• Photocopy valuable/important items, discard originals.</li> <li>• Freeze (in frost-free freezer or meat locker) or freeze-dry.</li> </ul>
<b>Carpet and backing - dry within 24-48 hours§</b>	<ul style="list-style-type: none"> <li>• Remove water with water extraction vacuum.</li> <li>• Reduce ambient humidity levels with dehumidifier.</li> <li>• Accelerate drying process with fans.</li> </ul>
<b>Ceiling tiles</b>	<ul style="list-style-type: none"> <li>• Discard and replace.</li> </ul>



# CLEAN-UP METHODS

1. Wet vacuum
2. Damp Wipe
3. HEPA Vacuum
4. Discard

**WE ARE YOUR DOL**



## Table 2: Guidelines for Remediating Building Materials with Mold Growth Caused by Clean Water\*

Material or Furnishing Affected	Cleanup Methods <sup>†</sup>	Personal Protective Equipment	Containment
<b>SMALL – Total Surface Area Affected Less Than 10 square feet (ft<sup>2</sup>)</b>			
Books and papers	3	Minimum  N-95 respirator, gloves, and goggles	None required
Carpet and backing	1, 3		
Concrete or cinder block	1, 3		
Hard surface, porous flooring (Linoleum, ceramic tile, vinyl)	1, 2, 3		
Non-porous, hard surfaces (Plastics, metals)	1, 2, 3		
Upholstered furniture & drapes	1, 3		
Wallboard (Drywall and gypsum board)	3		
Wood surfaces	1, 2, 3		

Concrete or cinder block surfaces	<ul style="list-style-type: none"> <li>* Remove water with water extraction vacuum.</li> <li>* Accelerate drying process with dehumidifiers, fans, and/or heaters.</li> </ul>
Fiberglass insulation	<ul style="list-style-type: none"> <li>* Discard and replace.</li> </ul>
Hard surface, porous flooring <sup>§</sup> (Linoleum, ceramic tile, vinyl)	<ul style="list-style-type: none"> <li>* Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.</li> <li>* Check to make sure underflooring is dry; dry underflooring if necessary.</li> </ul>
Non-porous, hard surfaces (Plastics, metals)	<ul style="list-style-type: none"> <li>* Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.</li> </ul>
Upholstered furniture	<ul style="list-style-type: none"> <li>* Remove water with water extraction vacuum.</li> <li>* Accelerate drying process with dehumidifiers, fans, and/or heaters.</li> <li>* May be difficult to completely dry within 48 hours. If the piece is valuable, you may wish to consult a restoration/water damage professional who specializes in furniture.</li> </ul>
Wallboard (Drywall and gypsum board)	<ul style="list-style-type: none"> <li>* May be dried in place if there is no obvious swelling and the seams are intact. If not, remove, discard, and replace.</li> <li>* Ventilate the wall cavity, if possible.</li> </ul>
Window drapes	<ul style="list-style-type: none"> <li>* Follow laundering or cleaning instructions recommended by the manufacturer.</li> </ul>
Wood surfaces	<ul style="list-style-type: none"> <li>* Remove moisture immediately and use dehumidifiers, gentle heat, and fans for drying. (Use caution when applying heat to hardwood floors.)</li> <li>* Treated or finished wood surfaces may be cleaned with mild detergent and clean water and allowed to dry.</li> <li>* Wet paneling should be pried away from wall for drying.</li> </ul>

**WE ARE YOUR DOL**





# MOLD REMEDIATION

- Isolate and ventilate work area
- Wear personal protective equipment (PPE):
  - N95 is minimum respirator recommended
  - Disposable coveralls
  - Gloves
  - Eye protection
- Carefully remove mold impacted materials and place in plastic bags for disposal
- Vacuum the area with a HEPA filter vacuum and then disinfect with a 10% bleach solution or approved biocide
- Ensure that washing facilities are available nearby for employees to clean-up when done

**WE ARE YOUR DOL**





## EODE

[Home](#) < [Health Topics A-Z](#) < [EODE](#)

### Guidelines on Assessment and Remediation of Fungi in Indoor Environments

- [Executive Summary](#)
- [Introduction](#)
- [Health Issues](#)
- [Environmental Assessment](#)
- [Remediation](#)
- [Hazard Communication](#)
- [Conclusion](#)
- [Notes and References](#)
- [Acknowledgments](#)

#### Executive Summary

On May 7, 1993, the New York City Department of Health (DOH), the New York City Human Resources Administration (HRA), and the Mt. Sinai Occupational Health Clinic convened an expert panel on *Stachybotrys atra* in Indoor Environments. The purpose of the panel was to develop policies for medical and environmental evaluation and intervention to address *Stachybotrys atra* (now known as *Stachybotrys chartarum* (SC)) contamination. The original guidelines were developed because

- [Printer friendly format](#)
- [E-mail a friend](#)

#### TOPIC CONTENTS

- ▶ [Worker Health and Safety](#)
- ▶ [Asbestos](#)
- ▶ [Bike Safety for Delivery Workers](#)
- ▶ [Carbon Monoxide \(CO\)](#)
- ▶ [Cell Phones](#)
- ▶ [Fiberglass](#)
- ▶ [Fire, Smoke and Air Quality](#)
  - ▶ [Floods](#)
- ▶ [Lead in Adults](#)
- ▶ [Mold](#)
- ▶ [Mercury](#)
- ▶ [PCBs](#)
- ▶ [Floor Refinishing and Moisture Cure Urethanes \(MCUs\)](#)
- ▶ [Office Ergonomics](#)
- ▶ [Noise in the Community](#)
- ▶ [Noise in the Workplace](#)

- [Search \[Advanced\]](#)
- [DOHMH Home](#)
- [My Health](#)
- [My Community's Health](#)
- [Health Topics A-Z](#)
- [Career Opportunities](#)
- [Contracting Opportunities](#)
- [Press Releases](#)
- [Health Bulletins and Other Publications](#)
- [Official Notices](#)
- [About DOHMH](#)
- [Event Calendar](#)

# FILTERING FACEPIECE (DUST MASK)

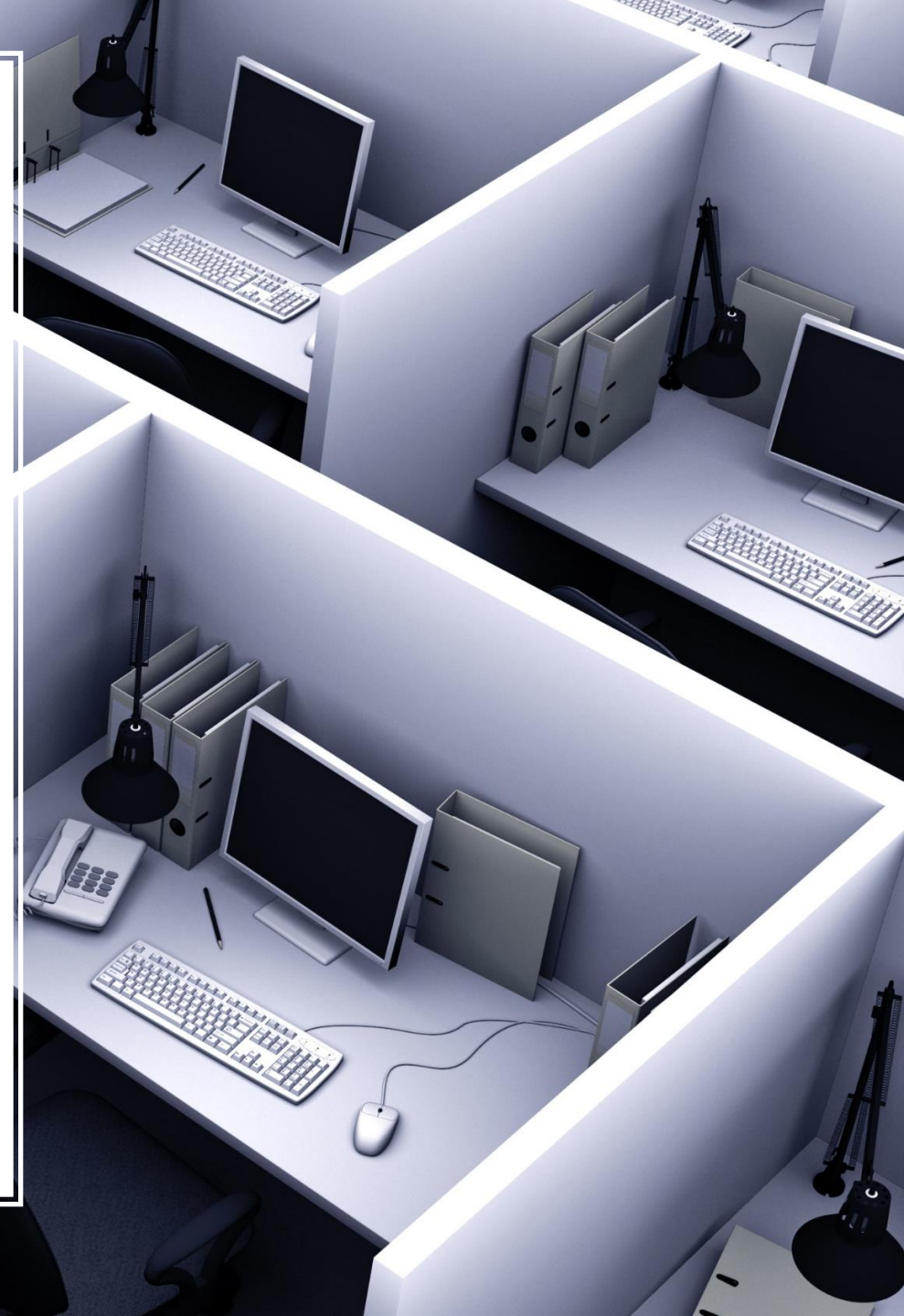
- Entire facepiece is filtering medium, or filter is integral part of facepiece (disposable)
- Voluntary use exemption
  - Not required to develop program
  - Must provide Appendix D



WE ARE YOUR DOL

# SANITATION STANDARDS- HOUSEKEEPING

- **1910.141(a)(3)(i)** - All places of employment shall be kept clean to the extent that the nature of the work allows
- **1910.141(a)(3)(ii)** - The floor of every workroom shall be maintained, so far as practicable, in a dry condition







# ARTICLE 32 OF NEW YORK STATE LABOR LAW

Licensing Of Mold Inspection,  
Assessment And  
Remediation Specialists and  
Minimum Work Standards

- As public employees you are exempt from the regulation under section 933

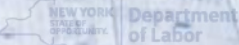
**WE ARE YOUR DOL**



QUESTIONS?



WE ARE YOUR DOL



# PESH OFFICE AND CONSULTANT DIRECTORY

District Office	Consultants
<b>Albany District Office</b> State Office Campus, Building 12, Room 158, Albany, NY 12240 Tel. 518-457-5508 FAX 518-485-1150 <a href="mailto:Joseph.Fuller@labor.ny.gov">Joseph.Fuller@labor.ny.gov</a> <i>Counties Served: Albany; Clinton; Columbia; Dutchess; Essex; Greene; Rensselaer; Saratoga; Schenectady; Schoharie; Ulster; Warren; Washington</i>	Health – Priya Desai <a href="mailto:Priya.Desai@labor.ny.gov">Priya.Desai@labor.ny.gov</a> Safety – Sue Blodgett <a href="mailto:Susan.Blodgett@labor.ny.gov">Susan.Blodgett@labor.ny.gov</a>
<b>Binghamton District Office</b> 44 Hawley Street, 9th Floor, Binghamton, NY 13901-4409 Tel. 607-721-8211 FAX 607-721-8207 <a href="mailto:Richard.Dugan@labor.ny.gov">Richard.Dugan@labor.ny.gov</a> <i>Counties Served: Allegany; Broome; Chemung; Chenango; Delaware; Otsego; Schuyler; Steuben; Sullivan; Tioga; Tompkins</i>	Health – Pete Moles <a href="mailto:Peter.Moles@labor.ny.gov">Peter.Moles@labor.ny.gov</a> Safety – Luke Parga <a href="mailto:Luke.Parga@labor.ny.gov">Luke.Parga@labor.ny.gov</a>
<b>Buffalo District Office</b> 290 Main Street, Mezzanine, Buffalo, NY 14202 Tel. 716-847-7133 FAX 716-847-7108 <a href="mailto:Bret.Schmidt@labor.ny.gov">Bret.Schmidt@labor.ny.gov</a> <i>Counties Served: Cattaraugus; Chautauqua; Erie; Niagara</i>	Health – Charles Riley <a href="mailto:Charles.Riley@labor.ny.gov">Charles.Riley@labor.ny.gov</a> Safety – Jennifer Puerner <a href="mailto:Jennifer.Puerner@labor.ny.gov">Jennifer.Puerner@labor.ny.gov</a>
<b>Garden City District Office</b> 400 Oak Street, Suite 101, Garden City, NY 11530 Tel. 516-228-3970 FAX 516-794-7714 <a href="mailto:Matthew.Setteducati@labor.ny.gov">Matthew.Setteducati@labor.ny.gov</a> <i>Counties Served: Nassau; Suffolk</i>	Health – Emily Henderson <a href="mailto:Emily.Henderson@labor.ny.gov">Emily.Henderson@labor.ny.gov</a> Safety – Contact Matt Setteducati <a href="mailto:Matthew.Setteducati@labor.ny.gov">Matthew.Setteducati@labor.ny.gov</a>
<b>New York City District Office</b> 199 Church Street New York, NY 10007 Tel. 212-775-3548 FAX 212-775-3542 <a href="mailto:Alex.Hippolyte@labor.ny.gov">Alex.Hippolyte@labor.ny.gov</a> <i>Counties Served: Bronx; Kings; New York; Queens; Richmond</i>	Health – Contact Alex Hippolyte <a href="mailto:Alex.Hippolyte@labor.ny.gov">Alex.Hippolyte@labor.ny.gov</a> Safety – Kwo Lam <a href="mailto:Kwo.Lam@labor.ny.gov">Kwo.Lam@labor.ny.gov</a>
<b>Rochester District Office</b> 109 South Union Street, Room 402, Rochester, NY 14607 Tel. 585-258-4570 FAX 585-258-4593 <a href="mailto:Bret.Schmidt@labor.ny.gov">Bret.Schmidt@labor.ny.gov</a> <i>Counties Served: Genesee; Livingston; Monroe; Ontario; Orleans; Wayne; Wyoming; Yates</i>	Health – Charles Riley <a href="mailto:Charles.Riley@labor.ny.gov">Charles.Riley@labor.ny.gov</a> Safety – Jennifer Puerner <a href="mailto:Jennifer.Puerner@labor.ny.gov">Jennifer.Puerner@labor.ny.gov</a>
<b>Syracuse District Office</b> 450 South Salina Street, Syracuse, NY 13202 Tel. 315-479-3212 FAX 315-479-3451 <a href="mailto:Richard.Dugan@labor.ny.gov">Richard.Dugan@labor.ny.gov</a> <i>Counties Served: Cayuga; Cortland; Jefferson; Onondaga; Oswego; Seneca</i>	Health – Pete Moles <a href="mailto:Peter.Moles@labor.ny.gov">Peter.Moles@labor.ny.gov</a> Safety – Luke Parga <a href="mailto:Luke.Parga@labor.ny.gov">Luke.Parga@labor.ny.gov</a>
<b>Utica District Office</b> 207 Genesee Street, Room 701, Utica, NY 13501 Tel. 315-793-2258 FAX 315-793-2303 <a href="mailto:Joseph.Fuller@labor.ny.gov">Joseph.Fuller@labor.ny.gov</a> <i>Counties Served: Franklin; Fulton; Hamilton; Herkimer; St. Lawrence; Lewis; Madison; Montgomery; Oneida</i>	Health - Priya Desai <a href="mailto:Priya.Desai@labor.ny.gov">Priya.Desai@labor.ny.gov</a> Safety - Sue Blodgett <a href="mailto:Susan.Blodgett@labor.ny.gov">Susan.Blodgett@labor.ny.gov</a>
<b>White Plains District Office</b> 120 Bloomingdale Road, Room 250, White Plains, NY 10605 Tel. 914-997-9514 FAX 914-997-9528 <a href="mailto:Matthew.Setteducati@labor.ny.gov">Matthew.Setteducati@labor.ny.gov</a> <i>Counties Served: Orange; Putnam; Rockland; Westchester</i>	Health – Emily Henderson <a href="mailto:Emily.Henderson@labor.ny.gov">Emily.Henderson@labor.ny.gov</a> Safety – Contact Matt Setteducati <a href="mailto:Matthew.Setteducati@labor.ny.gov">Matthew.Setteducati@labor.ny.gov</a>

**WE ARE YOUR DOL**



# WE ARE YOUR DOL



**NEW YORK**  
STATE OF  
OPPORTUNITY..

**Department  
of Labor**

## THANK YOU!

John Usher  
Program Manager 1  
**New York State Department of Labor | PESH**  
Harriman State Office Campus  
Building 12, Room 158  
Albany, NY 12240  
C: (518) 788-1364 | [john.usher@labor.ny.gov](mailto:john.usher@labor.ny.gov)