



Office of the City Manager

INFORMATION CALENDAR

September 10, 2013

To: Honorable Mayor and Members of the City Council

From:  Christine Daniel, City Manager

Submitted by: Eric Angstadt, Director, Planning and Development
Jane Micallef, Director, Health, Housing & Community Services

Subject: Mold and Mildew Enforcement Update

INTRODUCTION

On December 18, 2012, the City Council requested that staff research and bring back a recommendation to amend the Berkeley Municipal Code (BMC) to define and address mold growth in residences. The Council report suggested consideration of the approach taken by San Francisco Department of Public Health, which defined excessive mold as a public nuisance in their Housing Code.

This informational update summarizes how mold issues are currently addressed and the time frame for potential establishment of an expanded program. In brief, further research will be completed and the required staffing for an expanded program will be analyzed as part of the next budget.

CURRENT SITUATION AND ITS EFFECTS

Staff receives approximately 200 calls per year from tenants with concerns about mold. Approximately half of the calls relate to a structural issue, such as leaks in windows, roofs, plumbing, etc.; in these cases, housing inspectors follow up with a site visit. If the inspector confirms that a structural deficiency has caused the mold or mildew problem, staff may direct the property owner to correct the structural defect under Berkeley Housing Code. Mold or mildew issues are then typically addressed during corrective construction.

If building code violations do not contribute to the mold build up, the City takes no action on the mold issue, other than by provision of the attached informational materials regarding mold developed by the California Department of Public Health (CDPH). Similarly, if callers indicate that the problem is not related to a structural defect, staff provides the CDPH materials.

San Francisco defined “mold and mildew” in their Housing Code and further defined it as a “nuisance”, in order to designate it separately as a substandard condition under the Health and Safety Code. The Council referral suggests similar amendments in Berkeley.

Before Code amendments can be prepared, staff must determine the resources that would be needed to handle mold complaints through the substandard building procedures. These procedures include issuance and recordation of a Notice and Order; potential appeals and appeal hearings; formal notification to property owners, tenants, and lenders; citations; liens for the cost of abatement; and potential receivership or demolition if owners do not respond to the determination that the property is “substandard”.

The primary impact will be increased work load for staff, who currently handle approximately half of the mold complaints on a less formal basis. The Health and Safety Code defines a substandard condition as one which “endangers the life, limb, health, property, safety, or welfare of the public or the occupants”, therefore, investigation would be needed to establish the extent of the hazard based upon the sensitivity of the particular occupants of the property to mold/mildew. Further study would be needed to identify the roles of the Health Officer and the Building Official in determining health hazard.

Staff cannot immediately provide a recommendation, including an analysis of additional resources that will be needed to manage an expanded program. The following projects must first be completed:

- Integration of the Rental Housing Safety Program into the Planning Department (July – December)
- Public outreach and adoption of a mandatory soft story retrofit ordinance (July – December)
- Adoption of new building codes (October – December)
- Changing from the current H T E computer program/software for building permit and code enforcement to Accela (October – May)

BACKGROUND

The presence of mold and mildew has been acknowledged as a potential health hazard by the scientific community; however, there are no standard codified governmental regulations or protocols that can be utilized to conduct enforcement based on residential rental complaints solely citing the presence of mold or mildew.

In particular, the Toxic Mold Protection Act of 2001 (Senate Bill (SB) 732 Ortiz, Chapter 584, Statutes of 2001; California Health and Safety Code Sections 26100 et seq.) was enacted to address concerns regarding health effects from exposure to indoor molds and to provide Californians with guidelines or standards for the safe and effective removal of molds from buildings. Guidelines for how to address indoor mold growth were developed; however, due to fiscal constraints and the inability to establish enforceable standards, regulatory standards or levels were not developed.

The CDPH informational materials used by the City were created as a result of a State task force inability to establish regulatory standards. In-lieu of testing, the CDPH recommends (a) identification and correction of the moisture source that may be

contributing to the microbial growth, (b) rapidly drying or removal of any damp materials and (c) cleaning or removal of mold and moldy materials as rapidly and safely as possible.

POSSIBLE FUTURE ACTION

Completion of research, including resource implications, to amend the Berkeley Municipal Code to establish a more comprehensive enforcement program for mold growth in residences.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION

Staff time can be devoted to this in approximately six to nine months.

CONTACT PERSON

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Attachment:

1. California Department of Public Health informational materials



RONALD CHAPMAN, MD, MPH
Director

State of California—Health and Human Services Agency
California Department of Public Health



EDMUND G. BROWN JR.
Governor

Statement on Building Dampness, Mold, and Health

September 2011

CDPH has concluded that the presence of *water damage, dampness, visible mold, or mold odor* in schools, workplaces, residences, and other indoor environments is unhealthy. We recommend against measuring indoor microorganisms or using the presence of specific microorganisms to determine the level of health hazard or the need for urgent remediation. Rather, we strongly recommend addressing water damage, dampness, visible mold, and mold odor by (a) identification and correction of the *source of water* that may allow microbial growth or contribute to other problems, (b) the rapid drying or removal of *damp materials*, and (c) the cleaning or removal of *mold and moldy materials*, as rapidly and safely as possible, to protect the health and well-being of building occupants, especially children.

Indoor dampness and mold (fungal growth) are common problems in California and worldwide. To date, no clear state or federal policy has been issued on how to assess the health risks that dampness and mold pose to building occupants. In 2001, the Toxic Mold Protection Act (Senate Bill 732, Ortiz*) mandated that the California Department of Health Services (currently the California Department of Public Health, CDPH) determine the feasibility of setting Permissible Exposure Limits (PELs) for mold in indoor environments. In its 2005 report to the Legislature, CDPH concluded that “sound, science-based PELs for indoor molds cannot be established at this time” and outlined the reasoning by which the department reached that conclusion.

While PELs remain elusive, mounting scientific evidence on dampness and mold, much of it published since 2005, supports an alternate, evidence-based approach to the assessment of health risks from indoor dampness and mold. Human health studies have led to a consensus among scientists and medical experts that the presence in buildings of (a) visible water damage, (b) damp materials, (c) visible mold, or (d) mold odor indicates an increased risk of respiratory disease for occupants. Known health risks include: the development of asthma, allergies, and respiratory infections; the triggering of asthma attacks; and increased wheeze, cough, difficulty breathing, and other symptoms. Available information suggests that children are more sensitive to dampness and mold than adults. In addition, evidence is accumulating, although not yet conclusive, that the more extensive, widespread, or severe the water damage, dampness, visible mold, or mold odor, the greater the health risks.

There also is consensus that the traditional methods used to identify increased mold exposure do not reliably predict increased health risks. Therefore, the current practices for the collection, analysis, and interpretation of environmental samples for mold cannot be used to quantify health risks posed by dampness and mold in buildings or to guide health-based actions.

Finally, current consensus does not justify the differentiation of some molds (such as *Stachybotrys* species) as “toxic molds” that are especially hazardous to healthy individuals. The presence of molds such as *Stachybotrys* that grow only on very wet materials might be interpreted as demonstrating damp conditions that could place occupants at increased risk. However, the only types of evidence that have been related consistently to adverse health effects are the presence of current or past water damage, damp materials, visible mold, and mold odor, *not* the number or type of mold spores nor the presence of other markers of mold in indoor air or dust.

Our goal in issuing this notice is to increase awareness of the hazards from indoor dampness and mold and to reduce exposures to these hazards. The following are recent publications that support our positions on the assessment of health risks and the remediation of dampness and mold:

- (1) Mendell MJ, Mirer AG, Cheung K, Tong M, Douwes J. Respiratory and allergic health effects of dampness, mold, and dampness-related agents: a review of the epidemiologic evidence. *Environmental Health Perspectives*, 2011, doi:10.1289/ehp.1002410; available at <http://ehp03.niehs.nih.gov/article/fetchArticle.action?articleURI=info%3Adoi%2F10.1289%2Fehp.1002410>.
- (2) World Health Organization. *WHO Guidelines for Indoor Air Quality: Dampness and Mould*. Copenhagen: WHO Europe, 2009 (see Chapter 4, Health effects associated with dampness and mould); available at www.euro.who.int/data/assets/pdf_file/0017/43325/E92645.pdf.
- (3) Institute of Medicine. *Damp Indoor Spaces and Health*. Washington, D.C.: National Academies Press, 2004; available at www.nap.edu/openbook.php?isbn=0309091934.
- (4) Krieger J, Jacobs DE, Ashley PJ, et al. Housing interventions and control of asthma-related indoor biologic agents: A review of the evidence. *Journal of Public Health Management and Practice*, 2010, 16(5):S11–S20; available at www.bu-eh.org/uploads/Main/Sandel_HousingInterventions.pdf.
- (5) U.S. Environmental Protection Agency. *Mold Remediation in Schools and Commercial Buildings*. Washington, D.C.: USEPA; available at www.epa.gov/mold/mold_remediation.html.

Background note: *Building dampness degrades indoor environmental quality in many ways. Mold growth is perhaps the most common and noticeable result of excessive or chronic indoor dampness. Molds are fungi (as are mushrooms and yeasts). To grow and reproduce, molds need only moisture and nutrients. As nutrients are almost always available from organic material (e.g., leaves, wood, paper, and dirt), the presence or lack of moisture generally is what allows or limits mold growth. In addition to mold, indoor dampness can support bacterial growth and contribute to infestations of house dust mites, cockroaches, and rodents, which also pose health risks for building occupants. Moisture also may alter the chemistry of damp materials. Hence, while excessive or chronic dampness is not by itself a cause of ill health, it may indicate or increase other exposures that do have adverse health effects.*

*Information on SB 732, the 2005 CDPH report to the legislature, and the 2008 update to the report are available at www.cdph.ca.gov/programs/IAQ/Pages/IndoorMold.aspx.

California Department of Public Health (CDPH) Indoor Air Quality (IAQ) Info Sheet

Mold in My Home—What Do I Do?

Updated July 2012

This info sheet provides basic information on water damage in the home. It describes molds, why they may grow indoors, health concerns related to mold exposure, the detection and prevention of indoor mold, and cleanup procedures for mold-contaminated materials with reference to additional resources and documents.

ABOUT MOLD

What are molds?

Molds are simple, microscopic organisms, present virtually everywhere, indoors and outdoors. Molds, along with mushrooms and yeasts, are fungi and are needed to break down dead plant and animal material and recycle nutrients in the environment. For molds to grow and reproduce, they need only a food source—any organic matter, such as leaves, wood, or paper—and moisture. Because molds grow by digesting organic material, they gradually destroy whatever they grow on. Sometimes, new molds even grow on old mold colonies. Mold growth on surfaces can often be seen in the form of discoloration, frequently white, gray, brown, or black but also green and other colors.

How am I exposed to indoor molds?

Molds release countless, tiny spores, which travel through the air. Everyone inhales some mold every day without apparent harm. It is common to find mold spores in the air inside homes. In fact, most of the airborne spores found indoors come from outdoor sources. Mold spores primarily cause health problems when they are present in large numbers and exposure is high. This may occur when there is active mold growth within a home, office, school, or other building in which people live or work for long periods. People also can be exposed to mold by touching contaminated materials and by eating contaminated foods.

Can mold become a problem in my home?

Yes. Molds will grow and multiply whenever conditions are right, that is, when sufficient moisture is available and organic matter is present. Be on the lookout for the following common sources of moisture inside and outside your home that may lead to mold problems:

- Leaky roof
- Sprinkler spray hitting the house
- Plumbing leaks or overflow from sinks or sewers
- Damp basement or crawl space
- Humidifiers or steam from showers or cooking
- Wet clothes hung indoors or a clothes dryer that exhausts indoors

Warped floors and stains on walls and ceilings can be indications of moisture problems. Condensation on windows or walls also is an important sign of excessive dampness and can be caused by some of the sources listed above. However, condensation also can be caused by an indoor combustion problem. Therefore, inspect fuel-burning appliances annually, and contact your local utility or a professional heating contractor if you have questions. General information on gas appliance safety is available at:

<http://www.pge.com/myhome/edusafety/gaselectricsafety/gasappliancesafety/>.

Should I be concerned about mold in my home?

Yes, if indoor mold contamination is extensive, it can lead to very high and persistent exposures to airborne spores. Persons exposed to high spore levels can become sensitized and develop allergies to the mold or they may develop other health problems (see below).

Mold growth also can damage your furnishings, such as carpets, chairs and sofas, and cabinets. Clothes and shoes in damp closets can become soiled and start to fall apart.

Unchecked, mold growth can seriously damage the structural elements in your home, for example, floors, walls, and ceilings.

HEALTH EFFECTS

What symptoms can mold cause?

Molds produce health effects through inflammation, allergy, or infection. Allergic reactions (often referred to as hay fever) are the most common responses following mold exposure. Known health risks from mold exposure include: the development of asthma, allergies, and respiratory infections; the triggering of asthma attacks; and increased wheeze, cough, difficulty breathing, and other symptoms. In addition, evidence is accumulating, although not yet conclusive, that the more extensive, widespread, or severe the water damage, dampness, visible mold, or mold odor, the greater the health risks.

- ❖ CDPH has released a statement on building dampness, mold, and health that summarizes the evidence-based health risks from indoor dampness and mold.

http://www.cal-iaq.org/phocadownload/statement_on_building_dampness_mold_and%20health2011.pdf

How much mold can make me sick?

It depends. For some people, a relatively small number of mold spores can trigger an asthma attack or lead to other health problems. For other persons, symptoms may occur only when exposure levels are much higher. Nonetheless, indoor mold growth is unsanitary and undesirable. Basically, if you can see or smell mold, identify and eliminate excess moisture, and cleanup and remove the mold (see below).

- ❖ **Anyone with a health problem they believe to be due to mold should consult a medical professional.**

Are some molds more hazardous than others?

Perhaps. Allergic persons vary in their sensitivities to mold, both as to the amount and the types to which they react. In addition to their allergic properties, certain types of molds (such as *Stachybotrys chartarum*) may produce compounds with toxic properties known as *mycotoxins*.

A mold may not always produce mycotoxins, depending on the material on which it is growing, the indoor temperature or humidity, the pH of the material, or other, as yet unknown, factors. When produced, mycotoxins may be present in both living and dead spores as well as materials that were contaminated with mold.

A wet layer encloses *S. chartarum* spores while they are growing, preventing them from readily becoming airborne. However, when the mold dries up, air currents or physical handling can release spores into the air.

At present there is no environmental test to determine whether *S. chartarum* found in buildings is producing toxins, nor can blood or urine tests establish that an individual has been exposed to *S. chartarum* spores or toxins.

Additional fact sheets on mold and health effects, including specifically *Stachybotrys*, are available from the CDPH Environmental Health Investigations Branch webpage, http://www.ehib.org/cma/topic.jsp?topic_key=15:

- [Health Effects of Toxin-producing Molds in California](#)
- [Fungi and Indoor Air Quality](#)
- [Stachybotrys chartarum \(atra\) — A mold that may be found in water-damaged homes](#)
- [Misinterpretation of Stachybotrys Serology](#)

The Centers for Disease Control and Prevention (CDC) also has information at www.cdc.gov/mold/stachy.htm (Facts about *Stachybotrys chartarum* and Other Molds).

Are some persons at greater risk if exposed to mold?

Exposure to building-related mold is not healthy for anyone. Therefore, it is best to identify and correct high moisture conditions quickly, before mold grows and health problems develop.

Some persons may have more severe symptoms or become ill more readily than others:

- Individuals with existing respiratory conditions, such as allergies, chemical sensitivities, or asthma
- Persons with weakened immune systems (such as HIV infected persons, cancer chemotherapy patients, and so forth)
- Infants, young children, and older persons

MOLD DETECTION

How can I tell if I have mold in my house?

You may suspect that you have mold if you see discolored patches or cottony or speckled growth on walls or furniture or if you smell an earthy or musty odor. You also may suspect mold contamination if mold-allergic individuals experience some of the symptoms listed above when in the house. Evidence of past or ongoing water damage also should trigger a more thorough inspection for damp conditions. You may find mold growth underneath water-damaged surfaces (for example, wallpaper) or behind walls, floors, or ceilings.

Should I test my home for mold?

There is consensus among scientists and medical experts that the traditional methods used to identify increased mold exposure do not reliably predict increased health risks. Therefore, CDPH recommends against measuring indoor microorganisms or using the presence of specific microorganisms to determine the level of health hazard or the need for urgent remediation.

Reliable air sampling for mold can be expensive and requires expertise and equipment that is not available to the general public. Private home and apartment owners generally will need to hire a contractor, because insurance companies and public agencies seldom provide this service. Mold inspection and cleanup usually is considered a housekeeping task that is the responsibility of a homeowner or landlord, as are roof and plumbing repairs, house cleaning, and yard maintenance.

The simplest way to deal with a suspicion of mold contamination is:

- ❖ **If you can see or smell mold, you likely have a problem and should take the steps outlined below to correct it.**

GENERAL CLEAN-UP PROCEDURES

The following information is intended as an overview for homeowners and apartment dwellers. For further details, consult the more thorough documents listed in the USEFUL PUBLICATIONS section below.

Judging how large a problem you have

Small mold problems—total area less than 10 square feet—can be handled by the homeowner or apartment maintenance personnel using personal protective equipment (see below). Large contamination problems—areas greater than 100 square feet may require an experienced, professional contractor. For in-between cases, the type of containment and personal protection will be a matter of judgment.

What can I save? What should I toss?

Discard items from which it will be difficult to remove mold completely. Solid materials generally can be kept after they are thoroughly cleaned.

- First, fix the moisture problem and remove excess water.
- A wet/dry vacuum cleaner may help remove water and clean the area.
- Discard porous materials, for example, mold-damaged ceiling tiles, drywall or wallboard, carpeting, drapes, upholstered furniture, and wood products. Spores are more easily released when moldy materials dry out, therefore, remove moldy items as soon as possible.
- Contain the area in which you work to reduce the spread of dust to other areas, for example, close the door or use plastic sheets to separate the room and run a suction fan that exhausts the air outdoors.
- Remove drywall to a level above the high-water mark. Visually inspect the interior, and remove any mold-contaminated material, such as insulation.
- Carpet is often difficult to clean thoroughly, especially when the backing or padding is moldy, in which case it should be discarded.
- If properly bagged or enclosed, mold-contaminated items can be discarded with household trash.
- Clean nonporous materials, for example, glass, plastic, metal, and ceramic tiles
- Wear gloves, an N-95 respirator, and eye protection.
- Use a non-ammonia soap or detergent, or a commercial cleaner, in hot water, and scrub the entire mold-affected area.
- Use a stiff brush or cleaning pad on cement-block walls and other uneven surfaces.
- Rinse cleaned items with water and dry thoroughly.

Disinfection of contaminated materials

Disinfecting agents can be toxic for humans as well as molds; therefore, they should be used only when necessary and should be handled with caution. Disinfectants should be applied only to thoroughly cleaned materials to ensure that the mold has been killed.

- Wear gloves and eye protection when using disinfectants and ventilate the area well.
- A 10% solution of household bleach can be used as a disinfectant. *Use 1½ cups of household bleach per gallon of water.*
- When disinfecting a large structure, make sure that the entire surface is wetted, for example, the floors, joists, and posts.
- Keep the disinfectant on the treated material for the prescribed time before rinsing or drying – *10 minutes typically is recommended for a bleach solution.*
- Properly collect and dispose of extra disinfectant and runoff.

Remember

- ❖ *Do not use disinfectants instead of, or before, cleaning nonporous materials with soap or detergent.*
- ❖ *Bleach straight from the bottle is actually LESS effective than diluted bleach.*
- ❖ *Never mix bleach with ammonia because this may produce toxic fumes.*
- ❖ *Bleach fumes can irritate the eyes, nose, and throat, and spilled bleach can irritate skin and damage clothing and shoes.*

FIRST AID FOR BLEACH USE

Eye Contact: Hold eye open and rinse with water for 15–20 minutes. Remove contact lenses, after first 5 minutes. Continue rinsing eye. Call a physician.

Skin Contact: Wash skin with water for 15–20 minutes. If irritation develops, call a physician.

Ingestion: Do not induce vomiting. Drink a glassful of water. If irritation develops, call a physician. Do not give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. If breathing is affected, call a physician.

MSDS: <http://www.thecloroxcompany.com/downloads/msds/bleach/cloroxregularbleach0809.pdf>

Can cleaning up mold be hazardous to my health?

Yes. During the cleaning process, you may be exposed to mold, strong detergents, and disinfectants. Spore counts may be 10 to 1000 times higher than background levels when mold-contaminated materials are disturbed.

Take steps to protect your and your family's health during cleanup.

- Use a respirator when handling or cleaning moldy materials to protect yourself from inhaling airborne spores.
- You can purchase respirators from hardware stores. Select an N-95 respirator that is effective for particle (particulate) removal.
- Wear protective clothing that is easily cleaned or discarded
- Use rubber gloves.
- Clean a test area first.
- ❖ ***Beware that respirators that remove particles will not protect you from fumes, such as from bleach. When using bleach or other disinfectants, minimize exposure by ventilating the area well.***

If cleaning a test area bothered you, consider hiring a licensed contractor or other experienced professional to carry out the work. The California Department of Consumer Affairs (CDCA) provides information on how to hire a contractor and describes the different classifications of licensed contractors:

What Kind of Contractor Do You Need?

<http://www.cslb.ca.gov/Consumers/HireAContractor/>

Licensing Classifications.

<http://www.cslb.ca.gov/GeneralInformation/Library/LicensingClassifications/>

- Ask family members or bystanders to leave areas that are being cleaned.
- Work for short time periods and rest where you can breath fresh air.
- Air out your home well during and after the work.
- ❖ ***Never use a gasoline engine indoors (e.g., a water pump, pressure washer, or generator) as you could expose yourself and your family to toxic carbon monoxide.***

Can air ducts become contaminated with mold?

Yes. Duct systems may be constructed of bare sheet metal, sheet metal with fibrous glass insulation on the outside, sheet metal with fibrous glass on the inside, or entirely of fibrous glass. Bare sheet metal systems and sheet metal with exterior insulation can be cleaned and disinfected.

Water-damaged fibrous glass liner often will need to be removed and discarded, and ductwork in difficult-to-reach locations may have to be abandoned. If you have questions, contact an air duct cleaning professional or licensed contractor.

Can ozone air cleaners help remove indoor mold or reduce odors?

No. Ozone is not effective in controlling indoor molds and other microbial contamination, even at concentrations far above levels safe for humans. Ozone is a strong oxidizing agent and a known lung irritant and may damage materials in the home, for example, rubber items may become brittle.

- ❖ **For these reasons, CDPH strongly recommends that you NOT use an ozone air cleaner in any occupied space.** Refer to the Air Resources Board, *Hazardous Ozone-Generating "Air Purifiers"*
<http://www.arb.ca.gov/research/indoor/ozone.htm>.

A particle removing air cleaner should only be used as a short-term means to reduce mold exposure. The underlying moisture problem must be identified, and moldy materials must be removed or cleaned.

How can I prevent indoor mold problems in my home?

Inspect your home regularly for the signs and sources of indoor moisture and mold listed on page one. Take steps to eliminate water sources as quickly as possible. Act immediately if a leak or flooding occurs.

- Stop the source of leak or flooding.
- Remove excess water with mops or wet vacuum.
- Move wet items to a dry, well-ventilated area or place them outdoors to speed drying.
- Move rugs and pull up wet carpet as soon as possible.
- Open closet and cabinet doors and move furniture away from walls to increase circulation.
- Open wall cavities, remove baseboards, or pry open wall paneling, if necessary, to allow the area to dry thoroughly.
- Run portable fans to increase air circulation.
- Run dehumidifiers to remove moisture from the air.
- Depending on the time of year, determine if a window air conditioner or portable heater would help dry the area.
- ❖ Do NOT use the home's central blower if it or any of the ducts were flooded because this could spread mold throughout the home.
- ❖ Do NOT use fans if mold has already started to grow as this also could spread mold.

LOCAL ASSISTANCE

Your city or county health department may be able to answer questions or provide assistance on handling mold problems. For links to local California health departments: <http://www.cdph.ca.gov/programs/immunize/Pages/CaliforniaLocalHealthDepartments.aspx>.

Other information on local government programs is available at <http://www.ca.gov/About/Government>.

USEFUL PUBLICATIONS

General Information

U.S. Environmental Protection Agency. *The Key to Mold Control is Moisture Control.* <http://www.epa.gov/mold/index.html>

U.S. Centers for Disease Control and Prevention. *Mold Information.* Information on mold and health; an inventory of state indoor air quality programs; advice on assessment, cleanup efforts, and prevention of mold growth; and links to resources. <http://www.cdc.gov/mold/default.htm>

CDPH Occupational Health Branch. *Mold in Indoor Workplaces.* An overview with specific resources for workers. <http://www.cdph.ca.gov/programs/IAQ/Documents/moldInMyWorkPlace.pdf>

California Research Bureau. *Indoor Mold: A General Guide to Health Effects, Prevention, and Remediation.* A report to the California legislature. <http://www.library.ca.gov/crb/06/01/06-001.pdf>

New York City Department of Health. An overview and info sheets on *Facts About Mold, Flood Fact Sheet, Healthy Homes: Facts About Mold, Healthy Homes: Mold Tear-Off, and Mold Guidelines.* <http://www.nyc.gov/html/doh/html/epi/mold.shtml>

Health Canada. *Fungal Contamination in Public Buildings: Health Effects and Investigation Methods (2004).* http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/air/fungal-fongique/fungal-fongique_e.pdf

Health Canada. *Residential Indoor Air Quality Guidelines: Moulds (2007).* Information on the *Physical and Chemical Properties, Causes of Mold Growth, Health Effects, and the Canadian Guideline.* <http://www.hc-sc.gc.ca/ewh-semt/pubs/air/mould-moisissure-eng.php>

Mould, Dampness, and Humidity. Information on the *Effects of Mould on Health, Mould: Get Rid of It, and Mould in Indoor Air.* <http://www.hc-sc.gc.ca/ewh-semt/air/in/poll/mould-moisissure/index-eng.php>

Clean-up Guidance

U.S. Environmental Protection Agency. *Mold Remediation in Schools and Commercial Buildings.* Also applicable to residences. http://www.epa.gov/mold/mold_remediation.html

U.S. Centers for Disease Control and Prevention. *Prevention and Remediation Strategies for the Control and Removal of Fungal Growth.* http://www.cdc.gov/mold/strats_fungal_growth.htm

American Red Cross/Federal Emergency Management Agency. *Repairing Your Flooded Home.* Guidance for recovery after flooding disasters addressing technical and logistical issues. http://www.redcross.org/www-files/Documents/pdf/Preparedness/file_cont333_lang0_150.pdf

New York City Department of Health. Guidelines on Assessment and Remediation of Fungi in Indoor Environments. <http://www.nyc.gov/html/doh/html/epi/moldrpt1.shtml>

Consultants, Laboratories, and Clinics

CDPH Listing of Consultants Offering IAQ Services in California. Self-reported database of contractors and advice on using the list. <http://www.cal-iaq.org/get-help/find-a-contractor> and <http://www.cal-iaq.org/about-iaq/hiring-guidance>

American Industrial Hygiene Association. Listing of laboratories accredited in environmental microbiology. http://apps.aiha.org/qms_aiha/public/pages/reports/publicscopeview.aspx?ProgramCode=38

Association of Occupational and Environmental Clinics. Directory of clinics in California and other states. <http://www.aoc.org/directory.htm>

IAQ PROGRAM INFORMATION

CDPH Indoor Air Quality Section
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Contact: staff.caliaq@gmail.com

<p>Edmund G. (Jerry) Brown, Governor State of California</p> <p>Diana S. Dooley, Secretary Health and Human Services Agency</p> <p>Ron Chapman, M.D., M.P.H., Director Department of Public Health</p> <p>© California Department of Public Health, 2012</p>
