# STANDARDS OF PRACTICE




5-25-24

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NAERMC
National Association of Environmentally Responsible Mold Contractors


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# ESSENTIALS OF A MOLD REPORT AND PROTOCOL

## *Almost Everyone Gets This Completely Wrong*



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# One of The Big Concerns for Assessments
# How Much Mold In A Wall?



- One of the biggest concerns of Mold Assessors is how to determine the **extent** of hidden mold **inside** a wall, ceiling, or behind cabinets or baseboards (assemblies) in order to write a Mold Remediation Protocol.
- Forget about what you've heard; learned; you know; or think you know.
- You will never have any idea as to the extent of mold inside these assemblies before they are opened during remediation.
- The Mold Assessor's job in preparing a Mold Remediation Protocol is only to **point out** the likely locations of mold problems and that's it!

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# Determining Extent of Hidden Mold

- The Assessor's Mold Remediation Protocol should recommend that a licensed and insured Mold Remediator be chosen to perform the remediation.
- It is the licensed remediator's job, for the purpose of formulating their remediation quote, to anticipate as best they can how much material has to be removed or if surface cleaning is all that is needed.
- The homeowner will get quotes from licensed Mold Remediators to fix the **identified** or **suspected** mold problems.



**We never know extent of problem until walls opened up.**

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# Another Big Concern for Assessors Writing The Mold Remediation Protocol

- Another big concern for Assessors when writing a Mold Remediation Protocol… is how much detail?
- When a Home Inspector finds an electrical problem, does he explain how the State Licensed electrician will fix? No.
- Same with roofer, same with AC contractor.
- Well in Florida, the Mold Remediator is State Licensed.
- Beyond pointing out where to remediate and that the remediation should be performed by a State Licensed Remediator, why should a mold protocol tell the Mold Remediator how to do their job?
- It should not.



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# A Protocol Is Not About Guessing



Some Mold Assessor protocols try to tell a remediator to cut 2’ here and cut 3’ there.



But one can only know the true extent of the hidden mold once the drywall, cabinets, toe kicks or baseboards are removed… **during remediation.**

**The Assessor’s protocol should recommend that once remediation starts and walls are open:**

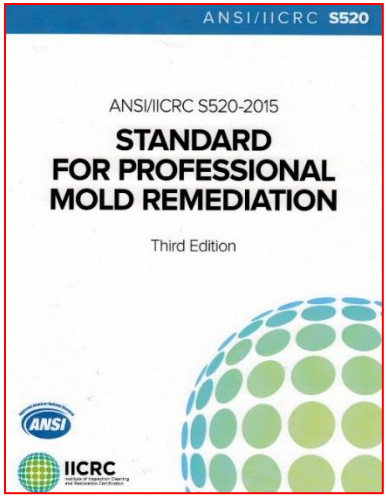
**Remediate/remove to the extent needed to “restore to as new”.**

**Let the remediator determine how much to remove when he opens the walls.**

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# Mold Remediation is Mold Removal. Not Just Killing




- Both EPA/OSHA (Federal mold guidelines) and IICRC S520 (Industry proposed mold guidelines) agree that …
- Mold remediation is **mold removal** and **not simply killing** mold with chemicals/biocides that leave both dead mold and [dangerous] chemical residues.
- Note that IICRC S500 WRT training makes heavy use of illegally applied biocides to cover up the odors and appearance of always failed drying.
- Why always failed drying? Because there is ALWAYS microbial growth before the dry-out contractor arrives. Drying except in rare occasions in hot, humid, moldy Florida is Fraud. Does not Restore.

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# Mold Removal Is ….

- Mold removal is accomplished by:
  - Surface cleaning; (Cleaning is removal.)
  - Air cleaning;  (Cleaning is removal.)
  - Demolition (removal) of contaminated substrates such as water damaged and moldy drywall, carpet or cabinets;
  - Oxidation (removal by disintegration) using strong oxidizers such as strong bleach, Tilex®, strong hydrogen peroxide or $CLO_2$ gas none of which leave a toxic residue.

**Mold remediation is mold removal — to the extent needed to restore to as new.**

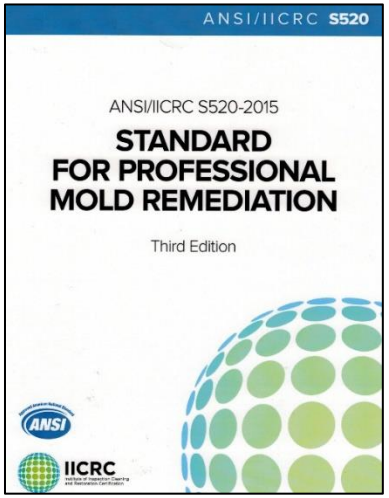
**Safely and without cross contaminating the building.**

**And without the use of EPA Restricted Use Biocides (such as MediClean® and BotaniClean®) that kill mold but leave mold toxins, allergens, and irritants and leave a toxic biocide residue contaminating the home.**

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# Mold Remediation Guidelines: NOT The Same

- But while both Federal (EPA/OSHA) and Industry (IICRC) proposed guidelines agree that mold remediation is mold removal and not killing mold…
- Their guidelines for mold remediation are drastically different.
- Which approach a remediator chooses … why not leave that to the remediator.
- **Why should a Mold Assessor's protocol stipulate which method in their opinion the remediator should use? No reason to.**




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# The Mold Assessor Protocol Does Not Care About…

What the Protocol should not care about. In addition to not caring about which remediation procedure the remediator uses.

- What type of Personal Protective Equipment (PPE) the remediator uses. Don't care.
- How thick the plastic film is for the containment. Don't care.
- Exactly how they rip out and bag the drywall. Don't care.
- The type of vacuum used. Don't care.
- Etc.
- **Leave these all up to the licensed Remediator.**



Document wall cavity before closing up.

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# The Assessor Does Care About

What the Mold Assessor does care about:

- Has the remediation removed all the problem material in the identified areas without regard to any limitations in the Remediation Contract?
- Has the work been done properly in such a way as to avoid cross contamination (airborne spores or mold/mold spores in settled dust)?
- (I.E. Does the remediator know what they are doing?)
- These questions are only answered when the Mold Assessor is called back in to perform **Post Remediation Verification (PRV).**



**Use containments to avoid cross contamination.**

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# The Assessor Does Care About

One of the primary goals of a Mold Assessor is to make sure they are called back in to perform Post Remediation Verification (PRV.)

Yes. We are always concerned about making $$.



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# FLA MOLD LAW & PROTOCOLS

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# FLA Mold Law: Ch 468.8411

Definitions.—As used in this part, the term:

(3) "Mold assessment" means a process performed by a mold assessor that includes the physical sampling and detailed evaluation of data obtained from a building history and inspection to formulate an initial hypothesis about the origin, identity, location, and extent of amplification of mold growth of greater than 10 square feet.



Nothing about "protocol" in FLA definition of Mold Assessment.



Some protocols are simply pictures of problem areas with arrows that say "Remediate Here".



Some are 50 pages of mostly boilerplate pulled out of IICRC S520.

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# FLA Mold Law & Protocols

- In Florida, there is absolutely no requirement for a mold remediator to follow a mold assessor's protocol unless the remediator's own signed Written Remediation Contract (Remediation Quote) says that they will.
- Why should remediators follow Mold Assessor protocols?
  - As most protocols are non-specific boilerplate?
  - As most protocols try to define exactly how much to cut, but in fact you can never know the extent of the problem until the walls or ceilings are opened during remediation



**Why should remediators follow Mold Assessor protocols? Generally no reason to. What the remediator MUST do is take care of all the mold problems pointed out in the Assessor report.**
**How that is done should be up to the Remediator.**

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# Written Contracts Take Precedence

- Written Contracts Take Precedence: The Remediator's Written Remediation Contract (Quote) when **signed by the Homeowner,** will be the only contractual agreement for the remediation work.
- There is no obligation for the remediator to follow a mold assessor's recommended protocol unless stipulated in the signed Remediation Contract/Quote.
- The Remediation Contract/Quote should always specifically include ALL the areas pointed out in the Assessors' report that need attention.



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# Remediators Need to Agree In Writing (In Their Contract) … That They Will Pass PRV




- Unless spelled out in the **signed** Remediation Contract/Quote, the Remediator:
  - Not only does not have to follow the Assessor's protocol.
  - Unless spelled out in the Remediation Quote/Contract, the Remediator does not have to agree **that they must pass in order get paid** a 3rd party Post Remediation Verification to prove the home has not been left mold contaminated and is safe to re-occupy.

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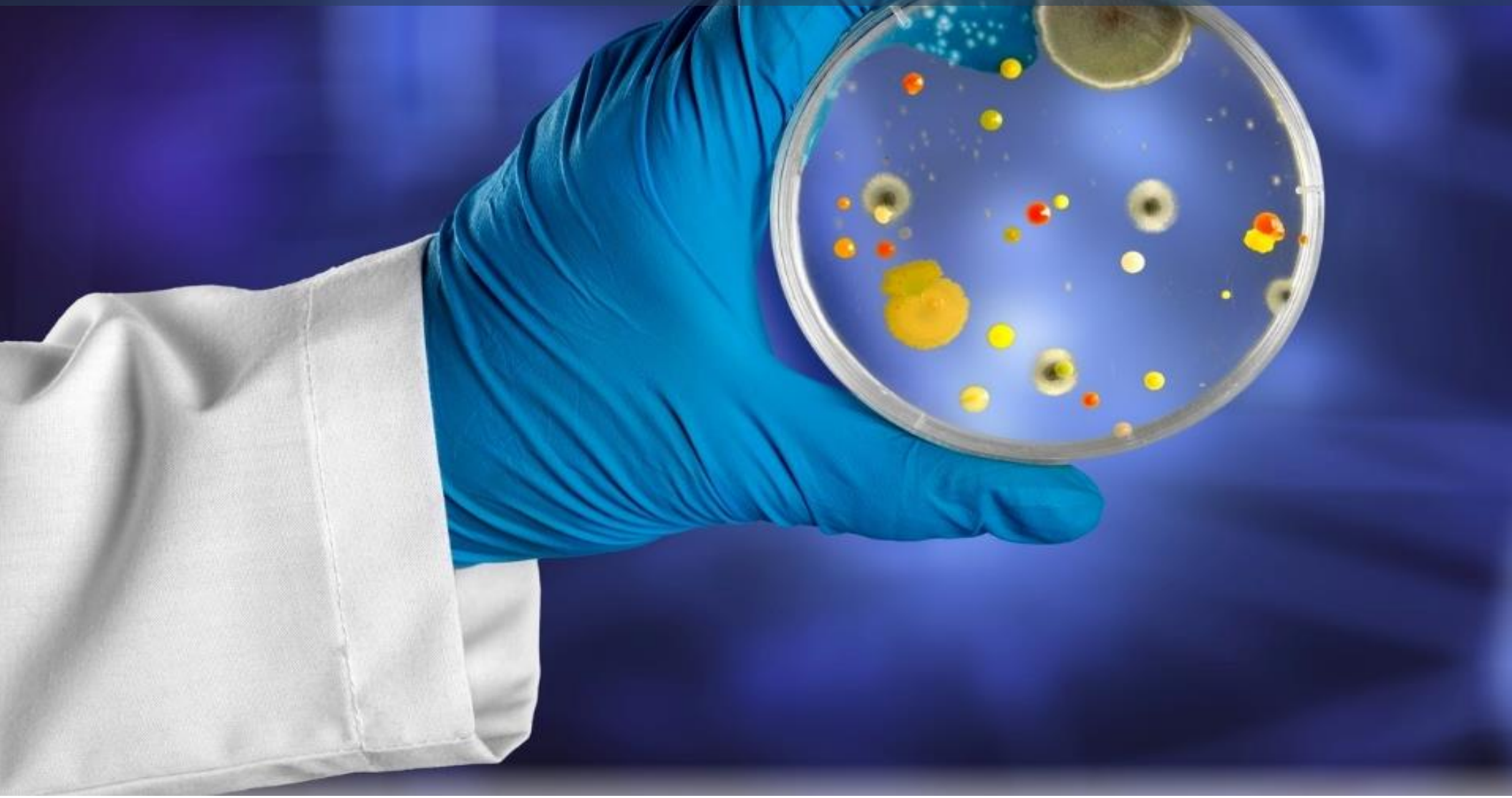
# FLA Mold Law & PRV Sampling

- **Post Remediation Verification Testing/Sampling:** In Florida, the Remediator can always perform his own PRV testing/sampling since there is always less than 10 sq ft of mold after remediation and FLA Mold Law is not applicable.
- So the Assessor needs to make the case (sell!) why there should be an **independent** PRV (why he should be called back in after remediation to test).




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# PROTOCOL MUST DEFINE POST REMEDIATION VERIFICATION (PRV) CRITERIA



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# Define PRV Testing Criteria

## Mold and Indoor Air Regulations and Standards

Standards or Threshold Limit Values (TLVs) for airborne concentrations of mold, or mold spores, have not been set. There are no EPA/OSHA regulations or standards for airborne mold contaminants.

- Since there are no State or Federal Standards or Threshold Limit Values for Mold, therefore the Assessor's Protocol must define the criteria to be used to Pass/Fail the remediation work.



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# Assessors Must Define PRV Criteria

Remediators must know what they are signing up for.

But of course, unless the Written Remediation Contract incorporates the protocol and clearance criteria, the Remediator can do whatever he wants.



It is of the **utmost importance** that the Assessor defines the criteria to determine Pass/Fail for PRV.

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# Assessor Warranty = Important Sales Tool

- Mold Remediators do not generally provide a Mold Free Warranty.
- When the Assessor gives the client the option for a Warranty that the Remediator will not provide, that drives Post Remediation Verification work.
- Doubles the $$.




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# Assessor Warranty

**We suggest in order to provide Assessor Warranty which is for only the specific work performed:**

- PRV air testing should be performed outside of the containment to make sure there has not been any cross contamination. A PRV should answer the following:
  - Are airborne mold levels Elevated or Not Elevated in the Living Area after remediation work done? Testing only inside a containment does not answer that
  - Are surfaces clean of settled dust/mold spores? Both inside and out of containment? **If no dust, then no mold spores in dust.**



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# Clean and Then Encapsulate Cavities with White  Primer

- After surface cleaning/mold remediation, seal any exposed wood or wall cavity drywall or rusted metal with white mold-inhibiting encapsulant (We prefer Kilz 3.)
- Looks good. Looks are important. But also, how do you guarantee that these surfaces are mold free if not encapsulated.
- Do you need to surface test after encapsulation?  No. How useful is swab testing in such a situation? Not useful.



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# Assessor Priorities. Provide Quote for PRV.

- The Mold Assessor should **always include** with their Quote and with their inspection report/protocol a Quote or Pro-Forma Invoice for the PRV inspection and **Mold Free Warranty**.
- Then for sure having the Assessor come back and perform the PRV will be always be at least discussed!
- And interested parties can see that PRV is a critical procedure that should not be performed by the Remediator on their own work.



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# Remediator Priorities. No Independent PRV

- Remediators that will also be performing build back will generally have a different priority.
- They will not want to stop and come back later to close-up the walls/ ceilings after a 3rd party PRV as this is inefficient and costly for the remediator.
- The homeowner may think the same way… that  delaying rebuild to wait for testing inside the containment before closing-up is costly and unnecessary.
- Especially on smaller jobs, there is not always going to be an opportunity for the Mold Assessor to perform the PRV. The PRV testing will be done by the Remediator.



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# Keep Mold Assessor Reports Simple

- Assessors: Generally, should keep Protocols, Reports, Quotes **simple** so that everyone including the remediator, Realtor®, Homeowner, and/or buyer/seller can understand the report/quote, its focus, test results, and key recommendations.
- No need to explain to Remediators how to do their job by copying pages of boilerplate out of IICRC S520-2015.
- Or put all the excess baggage in an Appendix.
- **An Assessor should offer a Mold Free Warranty for the specific Remediation work performed so long as the Assessor performed a PRV while walls or ceilings were open.**




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# By Keeping the Inspection Report Simple…




By keeping the inspection report simple, it will be easy for interested parties to **find** the Assessor's recommendation on the necessity for the Assessor to come back and perform a Post Remediation Verification inspection and provide a **Mold Free Warranty for remediation work performed**.

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# Review/Recap: Assessor Priorities

- The Mold Assessor should **always include (top priority)** with their inspection report/protocol a Quote or Pro-Forma Invoice for the PRV.
- Or only have a single quote that includes both initial assessment as well as PRV.
- Then for sure having the Assessor come back and perform the PRV will be always be at least discussed!
- And interested parties can see that 3rd Party PRV is a critical procedure that should not be performed by the Remediator* on their own work. **And that is the only way to obtain a Mold Free Warranty because Remediators do not normally give them.**




* On small jobs it may not be easy to convince the homeowner to pay to have a 3rd party PRV performed.

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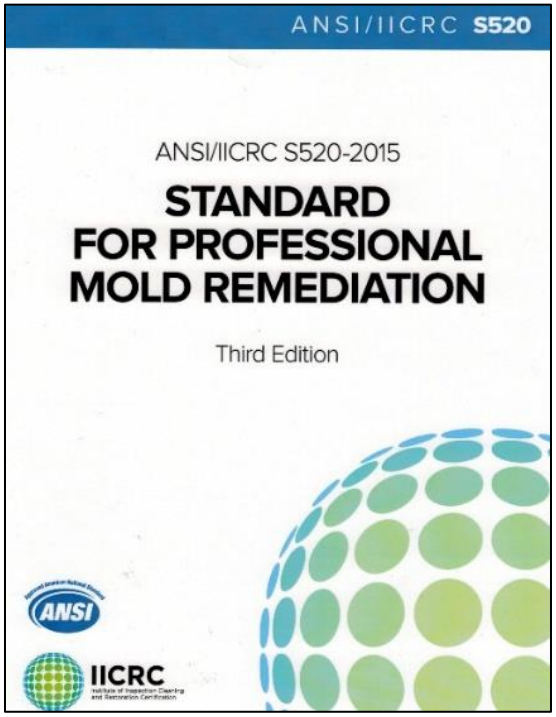
# STANDARDS & DEFINITIONS FOR MOLD ASSESSMENT & REMEDIATION



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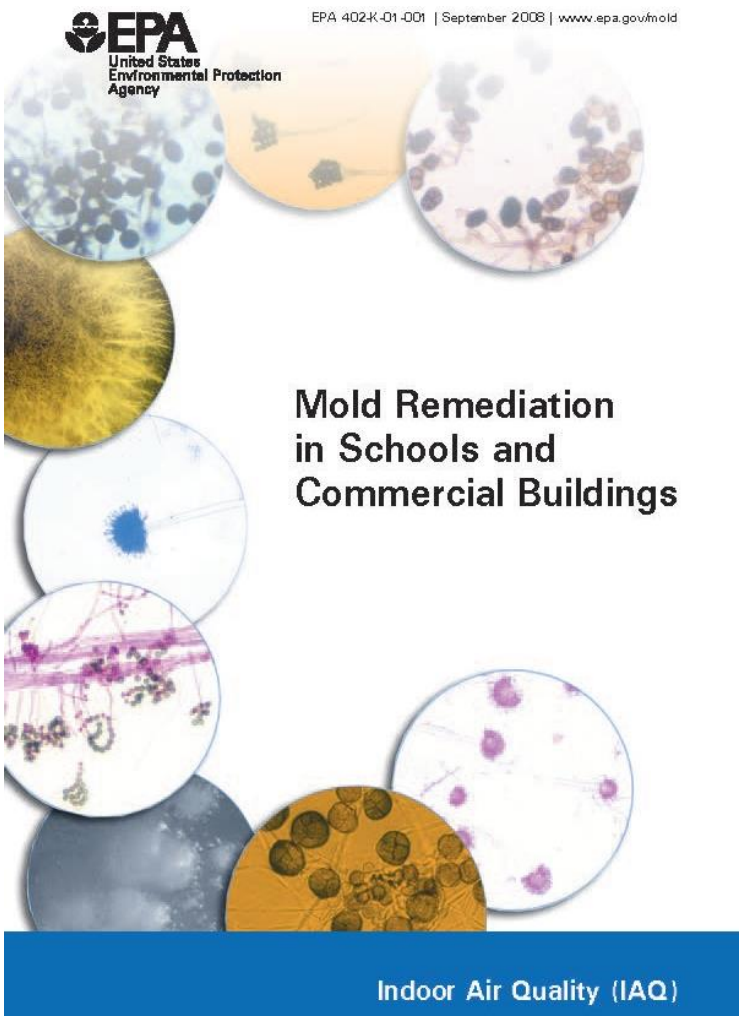
# Standards & Definitions

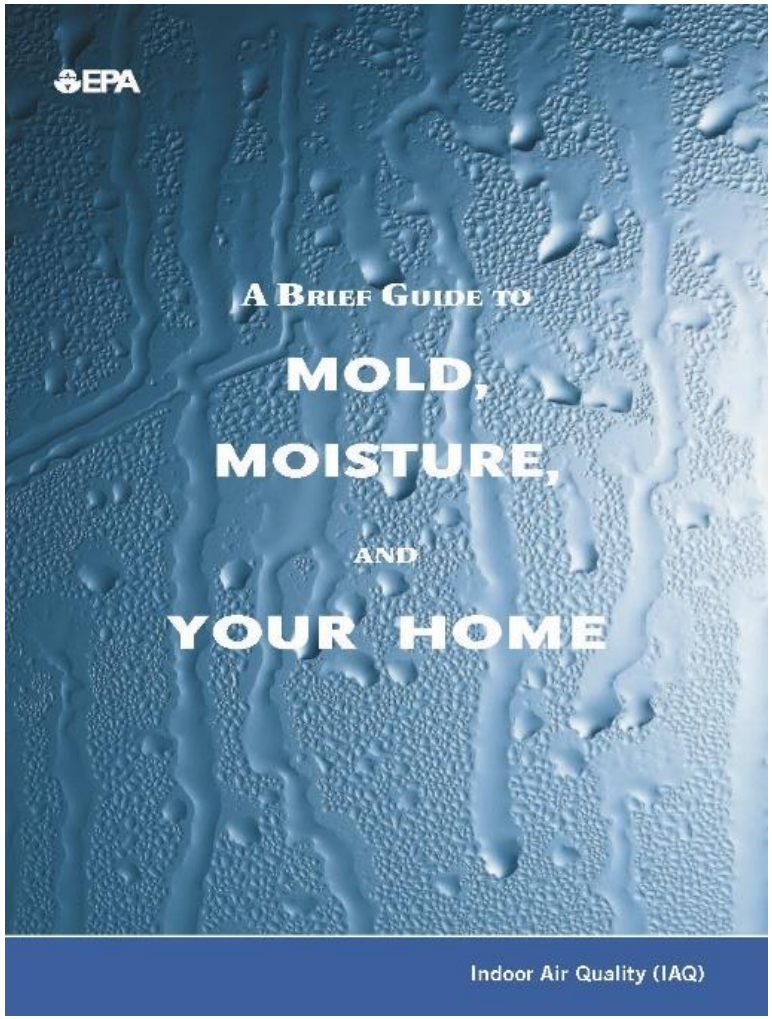
- In this section we will review definitions/ procedures for Mold Assessment & Mold Remediation by:
  - State of Florida Mold Licensing
  - EPA/OSHA Guidelines
  - IICRC S520-2015




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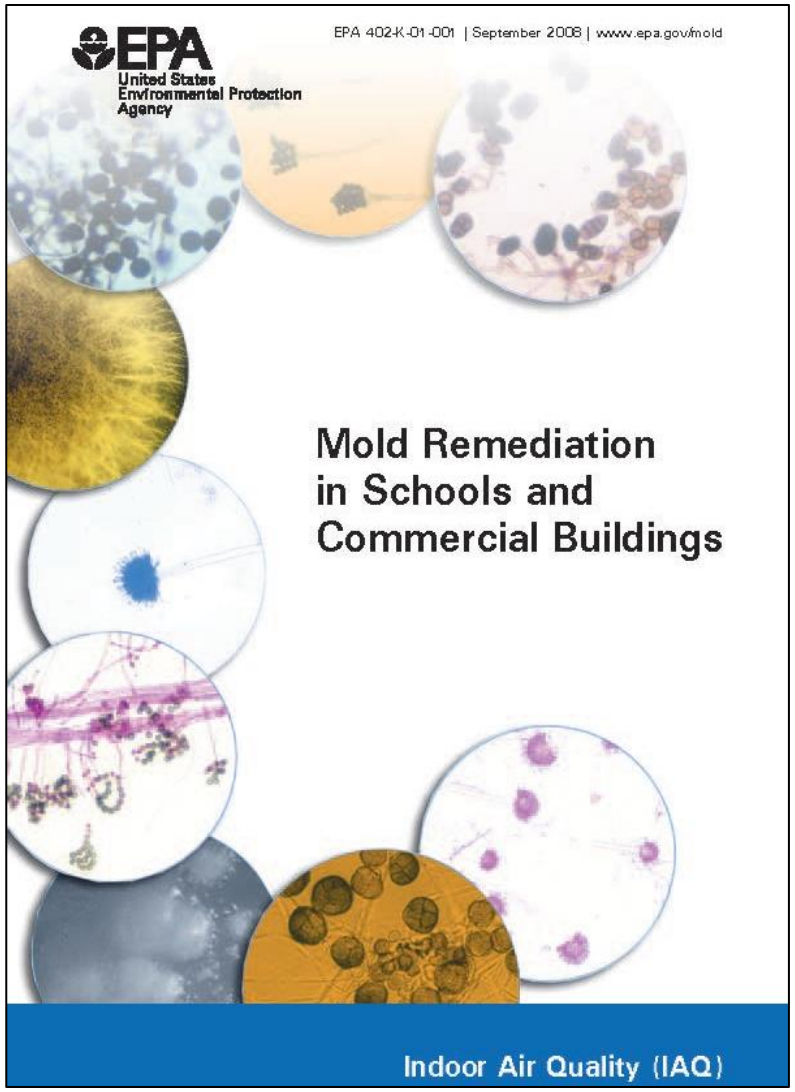
# EPA/OSHA
# Mold Remediation




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# EPA/OSHA 2001/2008




- EPA/OSHA guidelines are widely used today.
- But guidelines are written for facility managers and not mold professionals.
- As such they **do not emphasize testing.** Find the moisture. Find the mold.
- But the EPA guidelines are practical and easy to understand.
- Easily tweaked (upgraded) for mold professionals by adding Testing.

**Per EPA: Mold is not a hazard. Mold is everywhere both inside and outside of homes and offices. Mold is part of the natural environment.**

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# EPA/OSHA Assessment

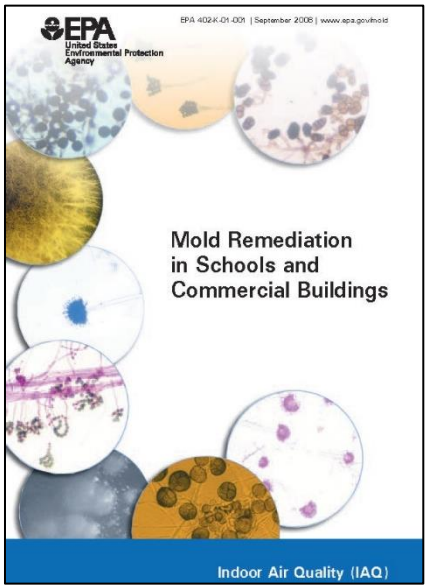
- EPA/OSHA mold assessment is to determine.
  - Source of moisture.
  - Location of mold for the purpose of identifying where to remediate.
  - The size of mold problem for the purpose of selecting the type of containment to use.
- Consider the possibility of hidden mold.
- Adapt remediation plans as required when walls are opened.
- Always check inside air ducts and air handling unit.




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# EPA/OSHA Mold Remediation. Job Size.

- EPA/OSHA. Set up containment **based on size of mold.**
- **Small** jobs. < 10 q ft of mold. Per EPA: **No containment** needed. (But professionals always erect containments.)
- **Medium** size jobs. 10 – 100 sq ft. EPA **Limited** containment required.
- **Large** jobs. > 100 sq ft. EPA **Large Scale containment** required. This is a secure asbestos containment with a walk-in decontamination chamber.




**It is our recommendation that all Large jobs be broken down into multiple Medium size jobs where multiple Limited containments are used. Keep the containments small and as close to the source as possible to make exhausting contaminants outside as efficient as possible.**

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# EPA/OSHA AC System

- EPA/OSHA: Emphasis on checking the AC and ducting for mold even if the water event does not involve the AC.
- Why? Could be hidden mold that affects the indoor environment that is not related to the specific area being mold remediated.



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# EPA/OSHA Safety. Review.




3M 8511 N-95

- For the EPA/OSHA, the key to safety is to keep the work environment as clean as possible and not overly rely on PPE (Personal Protective Equipment).
- Since mold is part of the natural environment, it is permissible to exhaust the mold contaminated demolition dusts to the outdoors using a high-speed axial fan (do not filter air being exhausted) in order to keep the work environment (inside containment) as clean as possible.
- Use no dust producing techniques such as sweeping or sanding.
- **EPA PPE minimum. N-95, gloves, goggles.**
- **OSHA Respiratory Plan: 29 CFR 1910 compliance NOT required with N-95. Required for all other higher efficiency respirators.**

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# EPA/OSHA Mold Prevention Chemical Free

- Control the moisture and you keep the mold from coming back.
- Do not rely on chemicals (sanitizers/biocides/ anti-microbials) to kill mold or keep mold from returning.
- Dead mold is still an irritant/allergenic.
- Mold should be **removed and not just killed.**




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# EPA/OSHA Mold Prevention: Drying

- See Table 1 Page 11. *Mold Remediation in School and Commercial Buildings.* "Guidelines for Response to Clean Water Damage within 24 – 48 Hours to Prevent Mold Growth."
- Mold grows fast. For the EPA … in most cases drying before there is mold will not be effective.
- **When in doubt … rip it out.**

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# Table 1: Water Damage- Cleanup and Mold Prevention

| Guidelines for Response to Clean Water within 24-48 Hours to Prevent Mold Growth | |
|---|---|
| **Water-Damaged Material** | **Actions** |
| Books and papers | • For non-valuable items, discard books and papers.<br>• Photocopy valuable/important items, discard originals.<br>• Freeze (in frost-free freezer or meat locker) or freeze dry. |
| Carpet and backing-dry within 24-48 hours | • Remove water with water extraction vacuum.<br>• Reduce ambient humidity levels with **dehumidifier**.<br>• Accelerate drying process with **fans**. |
| Ceiling tiles | • Discard and replace. |
| Cellulose insulation | • Discard and replace. |
| Concrete or cinder block surfaces | • Remove water with water extraction vacuum.<br>• Accelerate drying process with **dehumidifiers, fans, and/or heaters.** |
| Fiberglass insulation | • Discard and replace. |

*Table 1 Page 11. Mold Remediation in School and Commercial Buildings.*

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# EPA/OSHA Mold Prevention Drying

- However simple the EPA Mold Prevention (drying) guidelines are, in practice they are generally good advice.
- In most cases emergency drying will not be effective in preventing mold. So EPA advice which is essentially “When in doubt … rip it out” is pretty good advice.
- Why? Almost always … either there was pre-existing mold, or the elevated temperatures associated drying equipment resulted in mold after drying.
  - **Mold grows fast**. Drywall wet? Don’t bother to dry. Rip it out.
  - Mold and bacteria grow fast. Carpet wet? Don’t bother to dry. Rip it out.



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# EPA/OSHA Mold Prevention
# Application of Sanitizer/Biocide

**EPA/Federal law regulates biocide (sanitizer/anti-microbial) use. Must be:**

- Applied by methods approved on label (fog, spray?)
- EPA approved for household use. Not just EPA approved!
- Not “Hospital Grade” which means not suitable for residential use.
- For areas specified on the label (kitchen and food surfaces?)
- For surfaces recommended (hard surfaces, carpet, ducting, drywall, fabrics?)
- At the concentrations listed on the label.

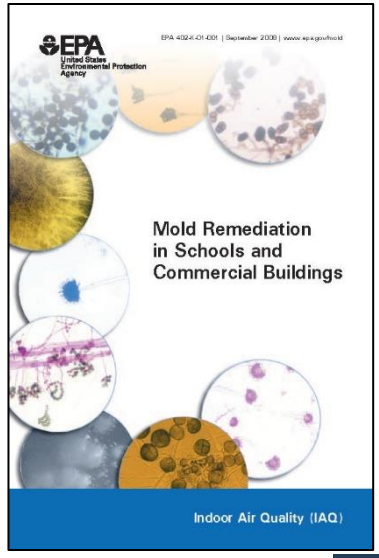



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# EPA/OSHA Upgrades for Mold Pros

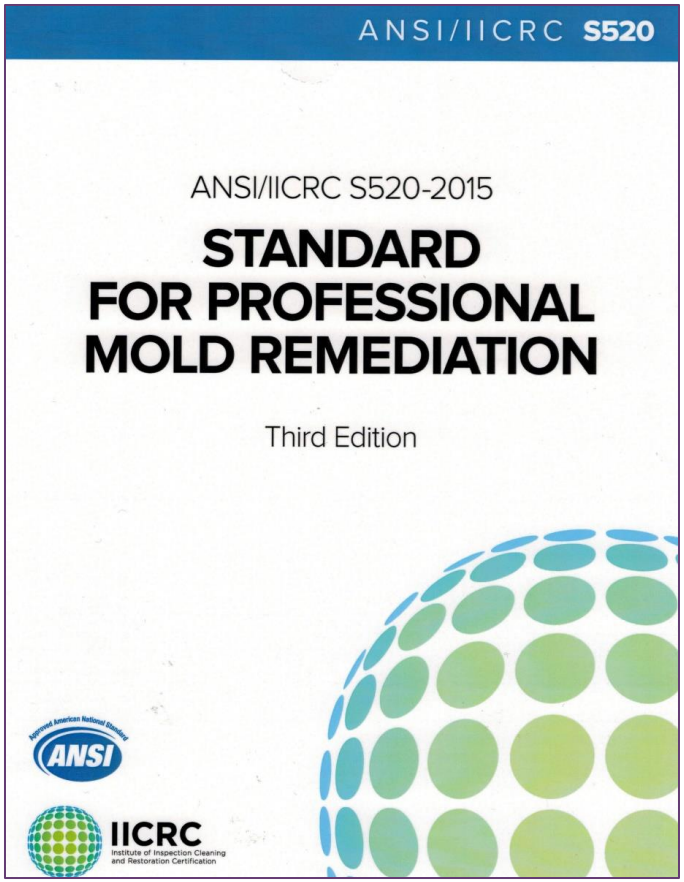
- Because EPA/OSHA mold remediation procedures were developed for facility managers and not licensed mold professionals, needs to be upgraded for pros:
  - Mold professionals always set up containments even when less than 10 sq ft of mold.
  - Mold pros are going to perform Post Remediation Verification air testing for all jobs.
  - We do not build EPA defined large scale containments with decontamination chambers but always use multiple, smaller, simpler containments.
- Please download and review the EPA mold guide.

https://www.epa.gov/sites/production/files/2014-08/documents/moldremediation.pdf




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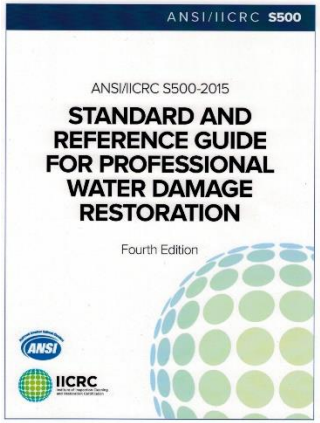
# ANSI/IICRC S520-2015 MOLD REMEDIATION

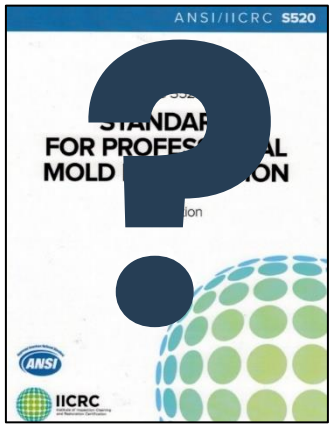



**In the following Material, Slides with a Yellow Background Are Optional. More In Depth on Why We Don't Recommend IICRC S520-2015.**

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# IICRC S520-2015




- Make no mistake, S5**0**0-2015, the IICRC Standard for Professional Water Damage Restoration (while not perfect) is clearly the accepted industry standard for Water Damage Restoration.
- The same cannot be said about S5**2**0, the IICRC proposed mold remediation “standard”.
- **IICRC S520 is certainly not the standard in Florida where S520’s basis for remediation is contrary to Florida Mold law which is based on assessing the size of mold area.**

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# IICRC S520-2015 Page 6

> Thus, ANSI/IICRC S520 represents a philosophical shift away from using "size" of visible mold growth to determine the remediation response. Instead, it establishes mold contamination definitions, (Conditions 1, 2, and 3) and guidance, which, when properly applied, can assist remediators and others in determining remediation response or confirm remediation success.

- IICRC S520 rejects the EPA/ OSHA [and Florida] common sense and widely used recommendations on assessing and remediating mold based on the size of the growth.
- And has substituted their procedures for assessing and remediating mold based on what they call Conditions.

**Next up, we focus on IICRC S520-2015 proprietary procedures for Mold Remediation. And why they don't make sense; are not used; and not taught in IICRC approved mold remediation training courses.**

**Sounds crazy but read on.**

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# IICRC S520-2015 Worker Safety. Mold is a Biohazard.

### 8.3 Personal Protective Equipment (PPE)

According to 29 CFR 1910.132 employers shall provide their employees with the necessary PPE to reduce the risk of exposure to chemical, physical, or biological hazards.

#### 8.3.1 Routes of Exposure:

- inhalation (respiratory);
- contact with mucous membranes (eyes, nose, mouth);
- ingestion; and
- dermal (contact with skin).

- IICRC considers mold spores a biohazard.
- In addition to inhalation danger, per IICRC, mold contact with skin and or eyes is dangerous … requires moon suits for protection. (Versus N-95, gloves and goggles for EPA/OSHA mold safety compliance.)
- Per IICRC: As a hazard, mold cannot be exhausted outside during remediation.
- S520 treats mold as if it were hazardous Asbestos.

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# IICRC S520-2015 Worker Safety

## 8.11 Safe Work Practices in Contaminated Buildings

dispose of contaminated protective clothing with other refuse before exiting the containment;

do not move used protective clothing from one area to another unless properly contained;

- Change your clothes or Tyveks when you move from one containment to the other?
- Does anyone do this is the real world? No.
- If the containment is kept clean by exhausting outdoors is this necessary? No.
- S520 treats mold as if it were Asbestos.

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# IICRC S520-2015 Worker Safety

**8.11 Safe Work Practices in Contaminated Buildings**

use protective disposable coveralls with attached or separate shoe covers;

don protective clothing before entering containment or other designated areas;

- If inside the containment the air is relatively clean because contaminants are constantly exhausted outdoors by a powerful axial fan (EPA/OSHA approach), do you need Tyveks that cause heat prostration? NO!
- Do you need to wear IICRC required Tyvek shoe covers to keep dirt and mold off of your shoes? NO!
- What about the risk of slipping with Tyvek shoe covers? That's a big risk!



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# IICRC S520-2015 Worker Safety

## 8.11 Safe Work Practices in Contaminated Buildings

wear latex or nitrile chemical-resistant or vinyl gloves while inside containment areas, designated work areas, or while handling bagged contaminated materials;

wear a second pair of gloves (rubber, textile, or leather work gloves) to protect against personal injury;

- Wear two pairs of gloves while using knives and power tools? Does anyone in the real world do this? No.
- These over-the-top IICRC procedures were copied out of procedures for removing Asbestos.

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# IICRC S520-2015. Requires OSHA Respiratory Plan Compliance

**8.3.2.1.1 Respirators**

Respirators range from NIOSH-approved N-95 filtering face-piece respirators, to full-face air-purifying respirators (APR) or powered air-purifying respirators (PAPR) equipped with HEPA (N100, R100, or P100) filter cartridges and air-supplied respirators, such as self-contained breathing apparatus (SCBA). HEPA filter cartridges should be used to protect against fungal spores and fragments, bacterial spores, dust, and particles. Organic vapor cartridges protect against microbial volatile organic compounds (MVOCs), and some chemicals used in other microbiological remediation projects. Cartridge selection should be based upon the chemicals that are present.

- When IICRC says "should" that means required to comply with the Standard.
- For IICRC, N95 respirators not sufficient. Not allowed by IICRC.
- S520 requires the use of HEPA filtered respirators for mold work because IICRC remediation procedures are based on mold being a biohazard.
- Therefore, requires compliance with onerous/expensive OSHA 29 CFR 1910.132 respiratory plan regulations or work is illegal.

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# IICRC: Do Not Exhaust Contaminants Outdoors

**12.1.1.3 Local Containment**

Local or "mini" containments may be used when moderate levels of fungal growth are visible or suspected. A structural enclosure can be built to contain a work area and separate it from the unaffected section of the room or structure. In a local containment HEPA-filtered air filtration devices (AFDs), when used as negative air machines (NAMs), are installed to create negative pressure differentials in relation to surrounding areas. In local containments, a HEPA vacuum cleaner can be substituted if it is able to create the necessary pressure differential. However, this works only if the vacuum canister is adequately sized and located outside the containment area.

- For IICRC, mold is a hazardous material. Contaminants cannot be exhausted outdoors but **must be collected onto air scrubber filters instead, as is the case with asbestos that cannot be exhausted outdoors during asbestos remediation.**
- These over-the-top IICRC procedures were copied out of procedures for removing Asbestos.
- **EPA/OSHA on the other hand: Mold is not a hazard. Containment procedures exhaust contaminants outdoors. Exhaust air not filtered.**

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# Exhaust Contaminants Outdoors or Not? Major Difference Between EPA & IICRC

- IICRC procedures do not exhaust contaminants outdoors and by their own admission result in hazardous working conditions inside containments that require extensive worker protection.
- This triggers burdensome OSHA compliance.



**Exhausting outdoors. Not collecting contaminants onto air scrubber filters. Keeps the containment clean.**

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# Exhaust Contaminants Outdoors or Not? Major Difference Between EPA & IICRC

- IICRC procedures because they do not exhaust contaminants released by demolition outdoors, will in our experience **always** result in cross contaminating the living space as workers are always going in and out of the hazardous contained work-space.
- This is the case whether there is an IICRC decontamination chamber or not. See next slide.




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# IICRC S520-2015 Worker Safety

### 12.1.1.5 Decontamination Chamber

A decontamination chamber, sometimes referred to as a "decon unit" or "decon," is engineered to provide a transition space between the containment ("contaminated area") and surrounding clean areas, and are used for:

- entry to and exit from a work area; and
- decontaminating exterior surfaces of plastic bags or sheeting used to contain contaminated materials, remediation tools, and the exterior clothing of personnel when exiting the work area.

- Mold is all around us.
- Building a Decontamination Chamber to decontaminate the exteriors of garbage bags before discarding them after mold remediation?
- That's for Asbestos and NOT mold.

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# IICRC S520-2015 Page 6

Thus, ANSI/IICRC S520 represents a philosophical shift away from using "size" of visible mold growth to determine the remediation response. Instead, it establishes mold contamination definitions, (Conditions 1, 2, and 3) and guidance, which, when properly applied, can assist remediators and others in determining remediation response or confirm remediation success.

- After IICRC S520 rejects the EPA/OSHA [and Florida] use of mold growth size for determining remediation response (size and type of containment)…

**They then go on to use size to determine the type of containment. See next page.**

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# IICRC S520-2015

**12.1.1.2 Source Containment**

Source containment may be used:

- to address relatively small or limited areas of mold growth, or it can be used in combination with other engineering controls to reduce the amount of spore release and dust generation;
- alone when mold growth is limited to small visible controllable areas where hidden mold growth is not anticipated; and
- within areas of more extensive mold growth in conjunction with other forms of containment.

When there are small or limited areas of mold growth, and hidden mold growth is suspected, a more extensive containment should be used.

**After IICRC S520 rejects the EPA/OSHA [and Florida] use of mold growth size for determining remediation response (size and type of containment)…**

**They then go on to use size (here small or limited areas) but do not define what these terms mean.**

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# IICRC S520-2015

**12.1.1.3 Local Containment**

Local or "mini" containments may be used when moderate levels of fungal growth are visible or suspected. A structural enclosure can be built to contain a work area and separate it from the unaffected section of the room or structure. In a local containment HEPA-filtered air filtration devices (AFDs), when used as negative air machines (NAMs), are installed to create negative pressure differentials in relation to surrounding areas. In local containments, a HEPA vacuum cleaner can be substituted if it is able to create the necessary pressure differential. However, this works only if the vacuum canister is adequately sized and located outside the containment area.

**12.1.1.4 Full-Scale Containment**

Full-scale containments normally are used when significant or extensive mold growth is present or suspected, and where source and local containments cannot effectively control or eliminate cross-contamination. Critical barriers are established to separate unaffected from affected areas.

**After IICRC S520 rejects the EPA/OSHA [and Florida] use of mold growth size for determining remediation response (size and type of containment)...**

**They then go on to use size (moderate, significant, extensive) but do not define what terms mean.**

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# Remediation 6-mil Poly

**containment:** engineering controls used to minimize cross-contamination from affected to unaffected areas by airborne contaminants, foot traffic, or material handling. Containment systems normally consist of 6-mil polyethylene sheeting, often in combination with air pressure differentials, to prevent cross-contamination.

- Cut & Pasted from Asbestos guidelines. Do we need to use 6-mil poly because this was specified for semi-permanent asbestos containments?
- What is wrong with 0.31 painter's plastic firlm for temporary containment walls built with Zip poles? Not a thing.
- When you use 6 mil plastic film vs 0.31 mil plastic film for containments and for covering content your costs go way up. Not only due to the cost differential of the materials but you need 5-10x more garbage bags to discard non-compressible 6 mil vs painter's film. That is a lot of waste to take to the dump.




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# IICRC Remediation. Clean New Materials 12.2.6

- not install new construction materials until post-remediation evaluation; or post-remediation verification as necessary, indicates that installation is appropriate. However, if new construction materials must be installed for structural integrity prior to completion of the remediation, those materials should also be cleaned along with the rest of the affected area.

Says: "Should" means IICRC required:

- Clean new construction materials before installing them!
- Come on. No one does this.

IICRC
Institute of Inspection Cleaning and Restoration Certification

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# IICRC Remediation. Focus on Dry Procedures

- remove mold growth on wood framing members by HEPA-vacuuming followed by damp wiping, wire brushing, sanding, or other appropriate method, while using HEPA-vacuuming or performing removal within the capture zone of an AFD, along with other appropriate controls;

IICRC: Dry, dust-producing, procedures are recommended.

- Sanding. Blasting. Brushing.
- Contrast with EPA/OSHA where they say to avoid dry, dust producing, techniques.



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# IICRC S520-2015 Remediation

### 12.1.5 HEPA Vacuums

Remediation workers should use HEPA vacuums when performing remediation. HEPA vacuum units are designed for, and equipped with filtration media that removes 99.97% of particles at 0.3 microns. Only well-constructed professional HEPA vacuums should be used in mold remediation projects. Regular shop-type or standard consumer vacuums should not be used for remediation because they are not designed to prevent mold spores and fragments from passing through the equipment and re-entering the air.

Per IICRC required:

- Are we really worried about using a Shop Vac rather than a HEPA Vac inside a containment from which contaminants are being exhausted outdoors?
- Straight out of OSHA Asbestos Guidelines.
- Can a HEPA Vac clean up chunks of drywall and drywall screws? No. Best to use Shop Vac which can be equipped with a drywall dust bag before the HEPA filter.




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# Shop-Vac vs. HEPA VAC






**Shop-Vac: High efficiency collection bags for fine particle pickup such as drywall and cement dust.**

**Shop-Vac: This replacement cartridge filter features an exclusive Gore-Tex nonstick surface that captures 99.97 percent of particles at 0.3 microns.**

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# IICRC S520-2015 Remediation

Remediators should also:

- HEPA-vacuum and damp wipe entry and exit chamber ceilings, walls, flaps and floor of remediation areas;
- select cleaning methods and procedures based on the specifics of the project;
- repeat the cleaning process and procedures as necessary to achieve Condition 1;

Per IICRC, required:

- HEPA Vac the inside of containment sheeting before discarding? Cut & Pasted from Asbestos Standard for the Construction Industry.
- Test for fungal IICRC Condition 1 (Normal Fungal Ecology) before discarding sheeting. Come on. No one does this. But everyone states they follow IICRC!
- Straight out of asbestos guidelines because with asbestos you cannot take asbestos contaminated materials to the land fill.

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# IICRC S520-2015 Remediation

**12.2.10 Containment Exit Protocol**

After bagging or wrapping, demolition debris is moved to an exit chamber.

Remediators should:

- HEPA-vacuum or damp wipe the outside of bags or wrapped materials, and thereafter place them into a second bag or wrapping, sealing before they are moved from the exit chamber;

Per IICRC required:

- HEPA Vac the outside of trash bags before putting the bags inside a second bag?
- Cut & Pasted from Asbestos Standard for the Construction Industry.




**Mold is NOT Asbestos which causes cancer.**

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# IICRC S520-2015 Remediation

**12.2.13 Breakdown of Containment**

Remediators should:

- HEPA vacuum and damp wipe containment materials before containment is dismantled;

Per IICRC, requires:

- HEPA Vac & Damp Wipe containment before taking it down and discarding.
- Cut & Pasted from Asbestos Standard for the Construction Industry.



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# IICRC S520-2015 Triggers OSHA Compliance

## 8.1 Applicable Regulations

Applicable sections of the Federal safety and health regulations that can impact the employees of a remediation business include but are not limited to the following OSHA Standards found in Title 29 of the Code of Federal Regulations (CFR) parts 1910 and 1926:

- 29 CFR 1910 – General Industry Standards
- 29 CFR 1926 – Construction Industry Standards

The OSHA Standards for the Construction Industry (29 CFR 1926) require that no employee "shall work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health or safety" (29 CFR 1926.10). Each state is required to use Federal OSHA as a minimum statutory requirement. Individual state and local governments may have additional safety and health requirements that are more restrictive than the Federal Occupational Safety and Health Act. Employers shall comply with these safety and health regulatory requirements. Safety and health plans shall be established as required by applicable laws, rules and regulations promulgated by federal, state, provincial, and local governmental authorities.

IICRC "Shall" means required by law:

- Because IICRC treats mold as a hazardous substance, work must comply with OSHA standards for dealing with biohazards. 29 CFR 1910.134.

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# IICRC S520-2015 Triggers OSHA Compliance

### 8.1.2 OSHA General and Specific Duty Clause

The OSHA "General Duty Clause" states that "Each employer shall:

- furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.
- comply with occupational safety and health standards promulgated under this Act." (See 29 USC 654, §5)

In the absence of a specific OSHA standard for mold remediation, it is important to recognize general principles of exposure prevention as they are covered in the "General and Specific Duty Clause," as well as to understand the current information available about health effects from occupational exposure in mold contaminated structures, systems, and contents.

IICRC "Shall" means required by law:

- Because IICRC treats mold as a hazardous substance, work must comply with OSHA standards for dealing with biohazards.
- Talks about causing death or serious physical harm. Makes no sense.
- Mold is all around us. You are always breathing mold spores… and often high levels of mold in the outside and apparently you do not die.

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# IICRC S520-2015 Triggers OSHA Compliance

**8.3.2.1 Respirator Use and Written Respiratory Protection Plan**

Employees shall wear respirators whenever engineering and work practice controls are not adequate to prevent atmospheric contamination at the job site. Untrained visitors to work sites should be warned of hazards and encouraged to not enter the worksite. If visitors insist or must enter a worksite, they should be encouraged to wear respiratory protection and other appropriate PPE if they are able.

Respiratory protection regulations are found at 29 CFR 1910.134. Respiratory protection program outlines written program requirements, and shall include, but not be limited to:

- selection and use of NIOSH-approved respirators;
- medical evaluation;
- respirator fit testing;
- user instruction and training in the use and limitations of the respirator prior to wearing it;
- designated program administrator; and
- cleaning and maintenance program.

IICRC "Shall" means required by law:

- Because IICRC treats mold as a hazardous substance work must comply with OSHA standards for dealing with biohazards. 29 CFR 1910.134

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# IICRC Mold Remediation = Hazardous Conditions

**IICRC containment procedures because they result in hazardous conditions inside of containments:**

- This triggers burdensome OSHA 29 CFR 1910.132 respiratory program compliance.
- $10,000 fine for non-compliance.
- The IICRC's required complex containments with decontamination chambers are costly to implement and require highly skilled workers to build such sophisticated containments.
- They might work in hospitals or for asbestos with a full time IEP/Hygienist supervising, but complex containments **never work** for mold remediation. The more complex, the worse the outcome. KISS!



Hazardous work conditions require Worker's Comp coverage for working under hazardous conditions. Since there is no Worker's Comp for mold, one must purchase Worker's Comp for Asbestos. Very expensive. No one has it. No one complies.

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# IICRC S520-2015: Treats Mold As If Asbestos Makes No Sense

- Because S520 treats mold as if asbestos, contaminants aerosolized during demolition are not exhausted outdoors and results in "Hazardous" levels of contaminated air inside IICRC containments almost **always results in cross contamination.**
- **Perhaps that is why S520 does not require Post Remediation Verification. See below.**
- **And perhaps that is why S520 does not recognize any form of air sampling to test for cross contamination from failed remediation.**

**12.2.12 Post-Remediation Verification**

Following post-remediation evaluation by the remediator, it may be requested or required to verify the return of a structure, systems or contents to Condition 1. In such situations, post-remediation verification should be performed by an independent IEP. It is recommended that:

- the criteria and process used in the post-remediation verification be documented;
- the remediator and IEP clarify the minimum performance requirements of post-remediation verification prior to commencement of work; and
- if the IEP conducting any activity such as assessment or post-remediation verification is not independent from the remediator, they should disclose in writing to the client that they are deviating from the Standard.

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# Section Summary

- IICRC treats mold remediation as if mold was a hazardous, cancer-causing agent. (EPA/OSHA says mold is all around us. Not a hazard.)
- IICRC recommends asbestos procedures for mold remediation.
- No one ever follows IICRC S520 required mold remediation procedures, yet remediation contractors always say that their remediation procedures comply with IICRC.
- When you get deposed (often happens on insurance claims) you will certainly be asked:
  - Why do you state you follow IICRC S520-2015 procedures but do not.
  - And if you follow S520 … where is your OSHA compliance?
  - And if you follow S520 … where is your proof of Worker's Comp for hazardous conditions?

**You will be asked: You claim to follow complex IICRC procedures to justify over charging for the work but based on the pictures and documentation provided you do not follow IICRC. Please explain why this is not fraud.**

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# IICRC S520 Is NOT an Industry Standard

**IICRC S520 is NOT an Industry Standard for Mold Remediation.**

**It is a proposed Industry Standard.**

**To be an Industry Standard people in the Industry need to use it/ follow it and not simply say they do.**

**But no one actually follows S520 remediation procedures because they were developed for asbestos and make no sense for mold.**




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# IICRC S520 Is NOT an Industry Standard

**IICRC S520 is NOT an Industry Standard for Mold Remediation.**

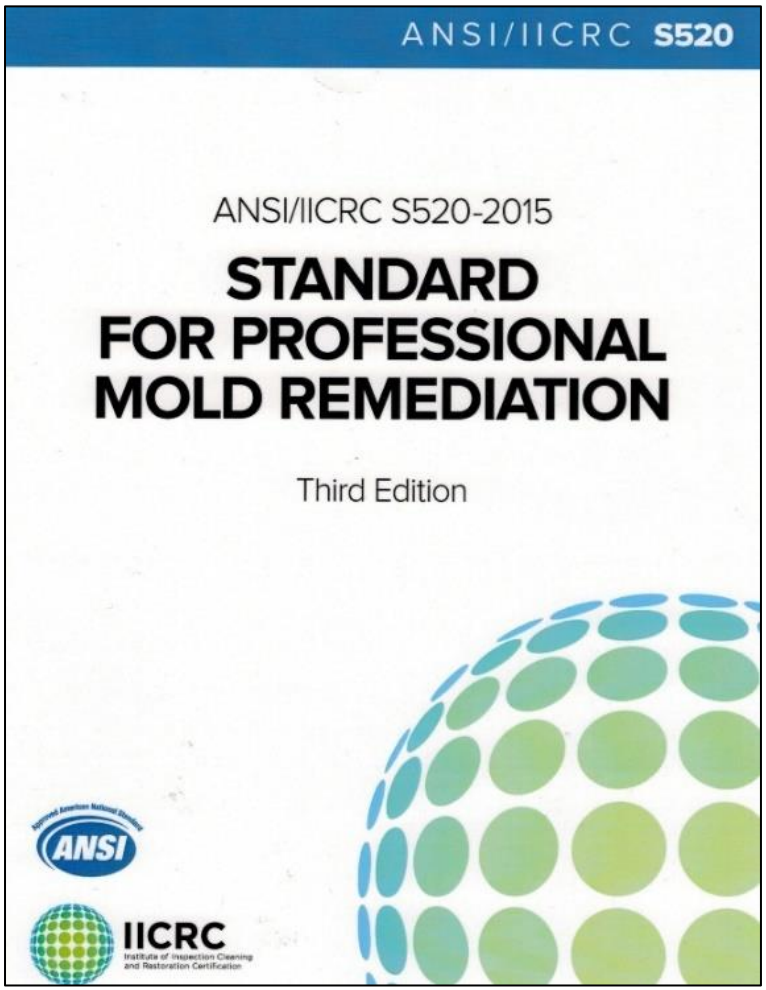
**To be an Industry Standard, trainers need to teach it but do not.**

**But no IICRC S520 training class actually teaches S520 remediation procedures because the S520 procedures were developed for asbestos and make no sense for mold.**




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# ANSI/IICRC S520-2015 MOLD CONTAMINATION CONDITIONS 1,2,3




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# IICRC S520-2015 Mold Assessment Defined

- And you thought that IICRC S520 mold remediation procedures made no sense.
- We now look at S520 mold assessment procedures.  And they will blow your mind.
- IICRC defines assessing for mold contamination problems only as testing for mold spores in settled dust.
- Not by Visual approach; not by using moisture meters or FLIRs, and **not by taking Air Samples**.
- I kid you not!




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# Jim Holland Legacy

***A PRACTICAL AND PHILOSOPHICAL SHIFT AWAY FROM A VISUAL APPROACH TO DETERMINE THE APPROPRIATE RESPONSE TO MOLD REMEDIATION***

James Holland[1] REA, John Banta CAIH[1], and Eugene C. Cole[2] DrPH
[1] RestCon Environmental, Sacramento, California
[2] Department of Health Science, Brigham Young University, Provo, Utah

- In 2007, Holland (then editor of S520) wrote "SHIFT AWAY FROM A VISUAL APPROACH TO DETERMINE APPPROPRIATE RESPONSE TO MOLD REMEDIATION".
- Instead of a visual approach (find the moisture/find the mold) Holland/S520 proposes Fungal Contamination Conditions 1,2,3 based on testing house dust for settled spores.
- [Holland was an Asbestos guy which is why both S520 Remediation and Assessment were essentially Asbestos standards made to be Mold standards by changing the word "Asbestos" to "Mold."]



Jim Holland

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# Jim Holland Legacy Testing House Dust

- How can testing for spores in house dust (settled spores) that could have been there for 10 years give you any indication as to extent, location of mold in a wall or ceiling or AC/ducting for the purpose of developing a remediation plan?
- It can't.
- Yet this is the legacy of S520's original editor/author Jim Holland.







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# Jim Holland Legacy Testing House Dust

- S520 procedures for analyzing mold spores in dust are essentially copied from Asbestos analysis procedures. But make no sense for mold.
- With Asbestos, samples are analyzed using Transmission Electron Microscopy (TEM) which is capable of “seeing” asbestos fibers under layers of dust.



- But with mold spores … dust (or spore trap) samples are analyzed by Direct Microscopic Examination (DME).
- Dust covers the mold spores in a dust sample. You can’t see through the dust using DME. Quantifying spores in settled dust which is the basis of IICRC S520 assessment … is not possible. Makes no sense. Does not work.

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# IICRC Definition: Assessment for Conditions

**assessment:** a process performed by an indoor environmental professional (IEP) that includes the evaluation of data obtained from a building history and inspection to formulate an initial hypothesis about the origin, description,

location and extent of Condition 2 or 3. If necessary, a sampling plan is developed, and samples are collected and sent to a qualified mycology or microbiology laboratory (e.g., EMLAP, A2LA, NELAP, or equivalent program) or individual (e.g., National Registry of Microbiologists, Public Works Canada Accredited Mycologist, or equivalent program) for analysis. The subsequent data is interpreted by the IEP. Then, the IEP or other qualified individual may develop a remediation plan.

Assessment is defined in terms of testing for IICRC Mold Contamination Conditions 1,2,3.




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# Important S520 Definitions. Mold Contamination Conditions

**Condition 1** (normal fungal ecology): an indoor environment that may have settled spores, fungal fragments or traces of actual growth whose identity, location, and quantity are reflective of a normal fungal ecology for a similar indoor environment.

**Condition 2** (settled spores or fungal fragments): an indoor environment which is primarily contaminated with settled spores or fungal fragments that were dispersed directly or indirectly from a Condition 3 area and which may have traces of actual growth.

**Condition 3** (actual growth): an indoor environment contaminated with the presence of actual mold growth, associated spores, and fungal fragments. Actual growth includes growth that is active or dormant, visible or hidden.

- Conditions 1 & 2: Defined in terms of settled spores and not mold in the air and not by visual determination and not by moisture meters or FLIRS.
- For IICRC, they do not test for mold in the air (spore traps) for either initial assessment or post remediation verification.
- Assessment is defined as analyzing settled dust to determine if the dust is primarily contaminated with spores that came from actual growth or were background (Normal Fungal Ecology.)

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# Condition 2. Settled Spores From Actual Growth.

- There is no accepted reliable lab method to distinguish Condition 2 “settled spores” that came from “actual growth” from spores that are background/ just blew in (Condition 1) when a door or window was open.
- These definitions make absolutely no sense, but they are the basis of both IICRC initial assessment as well as IICRC post remediation verification.



**Surface sampling for spores in dust in this home? What will that tell you?**

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# Important S520 Definitions. Post Remediation Verification

**post-remediation verification:** an inspection and assessment performed by an independent third-party IEP after a remediation project, which can include visual inspection, odor detection, analytical testing, or environmental sampling methodologies to verify that the structure, system, or contents have been returned to Condition 1.

- IICRC PRV: Defined in terms of returning structure to Condition 1 (Normal Fungal Ecology of the Settled Dust).
- Not by air sampling. Not by visual assessment. Makes NO sense.
- It is mold spores in the air that result in exposure (health concerns).
- But IICRC PRV procedures **do not** measure airborne mold.
- It is mold spores in the air in the indoor environment outside the containment that determines if there has been cross contamination of the indoor air as a result of failed remediation.
- **IICRC PRV procedures then do not in any way consider cross contamination / occupant health to be a concern when preforming mold remediation.**

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# What is Normal Fungal Ecology?

- What is normal? What could affect the settled spores and result in a False Positive for Actual (recent) mold growth?
  - How clean the house is of dust on content & floors
  - Old and/or dirty carpets
  - Earlier water events.
  - Windows open earlier.
  - Quality of air filter.
  - Mold in the AC, AC closet, plenum or ducting.



**Return a property to Normal Fungal Ecology with AC closet looking like this?**

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# IICRC S520-2015 p. 6 States: No Mold Assessment Procedures

> The ANSI/IICRC S520 is not intended to establish procedures or criteria for assessing mold contamination in an indoor environment.

- After defining Mold Conditions 1,2,3, and using Mold Contamination Conditions of surface dust as the basis for Initial Assessment; Remediation Response; as well as Post Remediation Verification …
- IICRC S520-2015 states that (S520 page 6) **ANSI/IICRC S520 does not establish procedures or criteria for assessing mold contamination in an indoor environment.**

**Does this blow your mind?**




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# Regarding Assessing Conditions Being Limited to Testing for Settled Spores

- Scott Armour current Vice-Chair of the S520 Consensus Body. Below is his personal opinion:

  "Determination of an IICRC-defined Condition (whether 1, 2, or 3) **should not be limited to testing for only settled spores."**

  Scott contradicts S520 [but not officially]. We agree. (GR. )



Institute of Inspection, Cleaning and Restoration Certification Standard

**IICRC S520 MOLD REMEDIATION CONSENSUS BODY MEMBERS**

**S520 Consensus Body Chair**
**Jim Pearson**
Mold Inspection Services, Inc.

**S520 Consensus Body Vice-Chair**
**Scott Armour**
Armour Applied Science, LLC.

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# IICRC Mold Assessment Section Summary

- IICRC Conditions 1,2,3 are based on measuring settled spores and require distinguishing “normal settled spores” from settled spores that come from “actual mold growth.”
- Makes no sense. Cannot be done.
- And absolutely no one relies on testing surface dust for mold to determine remediation response. Swabs and lift tapes analyzed by DME (Direct Microscopic Examination) cannot be used to determine remediation response. Cannot tell you where, how or what to remediate.
- Yet Assessors ALWAYS say that they perform Assessment to determine IICRC Conditions and that the goal of Remediation is to restore to Condition 1. Normal fungal ecology.
- And when they get deposed (often happens on insurance claims) they are asked to explain but cannot. They look like idiots.

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# IICRC S520 Is NOT an Industry Standard

**IICRC S520 is NOT an Industry Standard for Mold Assessment.**

**It is a proposed Industry Standard.**

**To be an Industry Standard people in the Industry need to use it/ follow it and not simply say they do.**

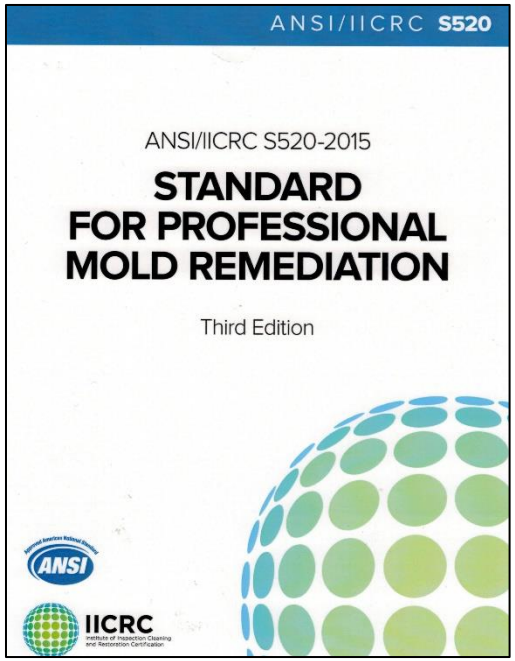
**But no one actually follows S520 assessment procedures because they were developed for asbestos and make no sense for mold.**

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# IICRC S520 Is NOT an Industry Standard

## In fact, even IICRC says they make no sense. S520-2015 p 6.

> The ANSI/IICRC S520 is not intended to establish procedures or criteria for assessing mold contamination in an indoor environment.




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# IICRC S520 Is NOT an Industry Standard

**IICRC S520 is NOT an Industry Standard for Mold Remediation.**

**To be an Industry Standard, trainers need to teach it but do not.**

**But no IICRC S520 training classes actually teache S520 Assessment procedures because they were developed for asbestos and make no sense for mold.**

**And because IICRC says that S520 "does not establish procedures or criteria for assessing mold contamination".**

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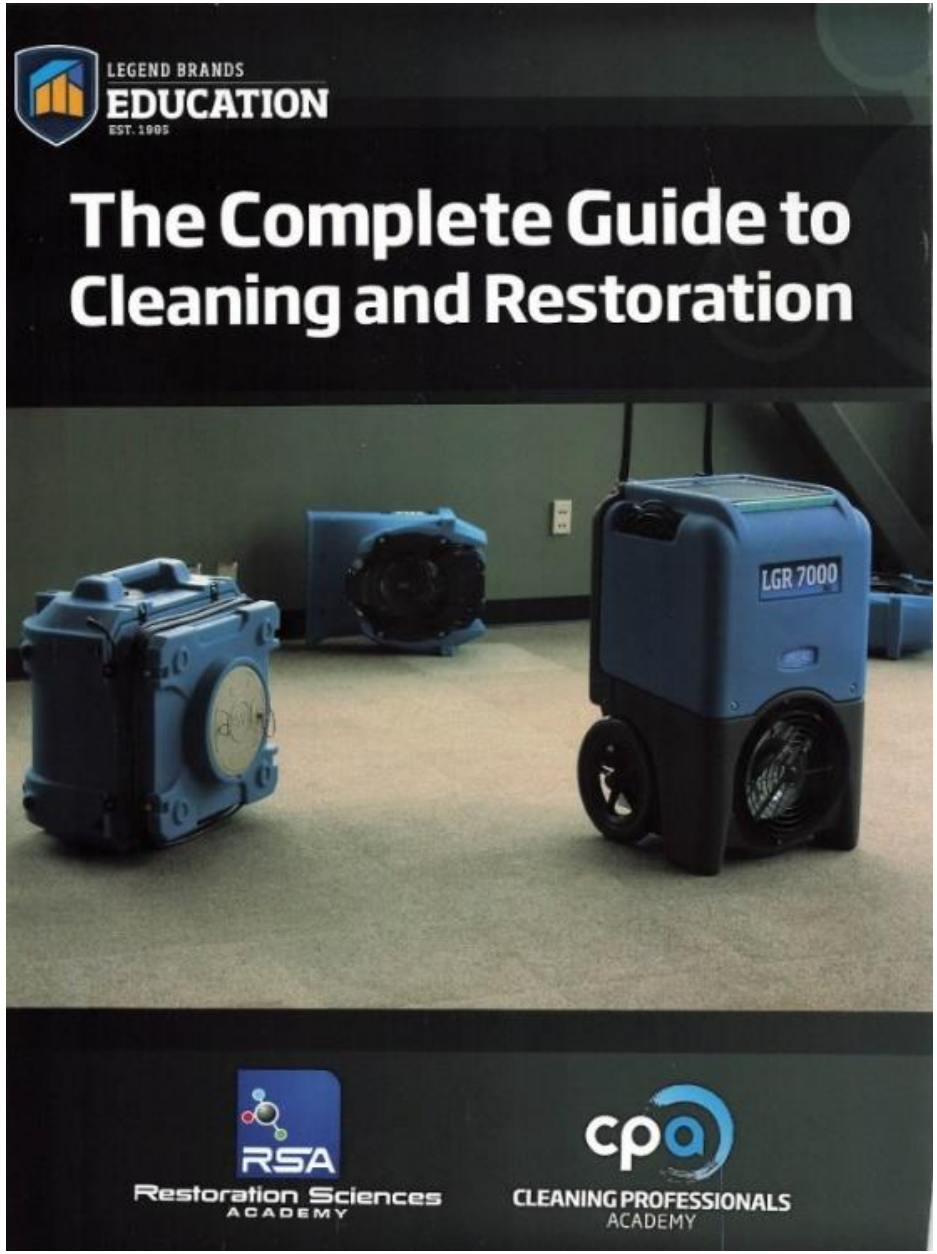
# Smoke & Mirrors
# ANSI-Approved IICRC S520 Is NOT Actually Taught




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# Legends/RSA IICRC AMRT Training

- Legend/RSA is the #1 source for IICRC-Approved Mold Remediator Training (AMRT).
- IICRC-Approved AMRT training providers teach using the Legend/RSA training material.
- NOT by or with the actual ANSI-Approved IICRC S520 Standard.
- There are highly significant differences between the Legend/RSA training guide and IICRC S520 when it comes to both Remediation as well as Inspections.




RSA Restoration Sciences ACADEMY

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# Legends/RSA IICRC AMRT Training

Institute of Inspection, Cleaning and Restoration Certification Standard **ANSI/IICRC S520**

**IICRC S520 Chairman**
Jim Pearson
Mold Inspection Services, Inc.

**IICRC S520 Vice-Chairman**
Scott Armour
Armour Applied Science, LLC

- Per Scott Armour (personal communication)
- “the mistaken assumption that IICRC AMRT "is" teaching the S520… it NEVER has taught the standard.”

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# ANSI-Approved S520 Is NOT Actually Taught

- Again: IICRC-Approved training providers teach the Mold Remediation (AMRT) course using the Legend/RSA training material. NOT by or with the actual S520 standard.
- **IICRC approves only the training providers and not their training materials.**
- IICRC has no jurisdiction as to what is in the training courses except that they must cover what is on the 100 questions IICRC AMRT exam.

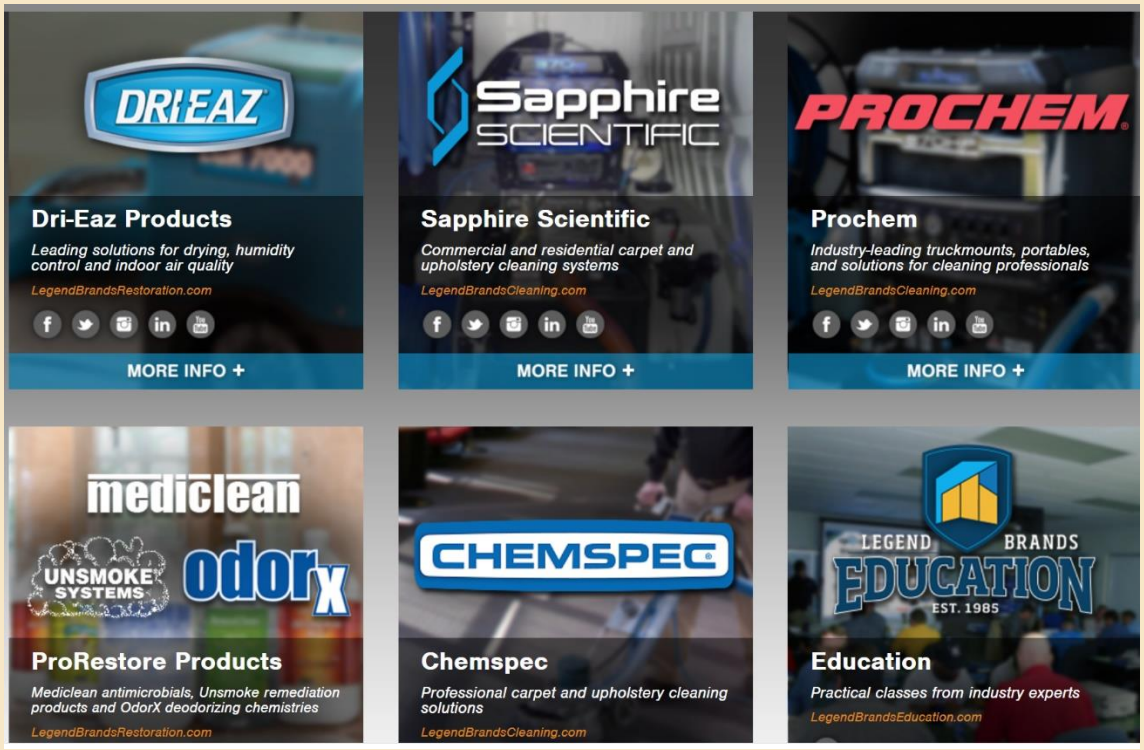






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# Legend Brands Education




- Legend is the world's largest water damage restoration equipment and chemical / biocide supplier.

**Rather than fighting with IICRC, trying to get IICRC to fix S520 as it makes no sense, Legend has developed their own Mold Remediation training manual.**

**No one teaches to IICRC S520. They teach to proprietary training material created by training provides.**

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# IICRC AMRT Training Courses: S520 Is NOT Actually Taught

**Sampling Methods**

Most remediation jobs have two sets of samples taken, one in the beginning to determine what is contaminated and level of contamination such as Condition 1, 2, or 3. The second set is taken at the end of the remediation project and is usually referred to as clearance testing. Depending upon the size of the job, a third set of samples may be taken, in the middle of the job, to be sure proper progress is being made. Various sampling methods can be used to determine if a building is contaminated. The most common types of samples are:

- Air sampling
- Tape lifts
- Swab wipes

Each of these sampling methods is used to answer different questions.



- Here Legend Brands Education explains Sampling Methods to determine IICRC Conditions 1,2,3.
- **Contradicts IICRC S500-2015**

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# CAUTION: Biocides Should Not Ever Be Used in Mold Remediation. Not Approved for Use On Drywall. Plant Based Biocides. Not Exempt. Hard Surfaces Only.

**BotaniClean** is a germicidal detergent with broad spectrum kill of gram positive and gram negative microorganisms formulated to clean, disinfect and deodorize in a simple one-step process when used according to disinfection directions. This botanical surface cleaner contains natural essential oil and non-corrosive ingredients.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use the product in a manner inconsistent with its labeling. Visible soil must be removed before applying cleaning solution.

**CLEANING AND DISINFECTING DIRECTIONS:** Apply to hard, nonporous surfaces by cloth, sponge, brush, coarse spray or by immersing equipment using normal cleaning methods. All hard surfaces must be wet thoroughly, and remain wet for at least 10 minutes and allowed to air dry. Thoroughly rinse all wetted and cleaned food contact surfaces with potable water. As the solution becomes dirty discard and replace with fresh solution. This is a complete product. **DO NOT MIX WITH OTHER CHEMICALS.**




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# IICRC S500-2024




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# Always Mold Before or After Drying

**IICRC S500-2024 1.2.2.1 Initial Inspection**
Restorers should inspect and document the source and time of the water intrusion, visible material deterioration, pre-existing damage and visible microbial growth. Professional moisture detection equipment should be used to inspect and document the extent of water migration and moisture intrusion into building materials and contents.

**Post-Drying Inspections:** Once drying goals have been achieved in some assemblies, further inspection should be done to ensure prolonged exposure has not created unacceptable damage. (IICRC S500-2024 16.2.4)

**IICRC S500-2024 10.4.2 Regulated, Hazardous Materials and Mold**
For situations involving visible or suspected mold … should remediate mold prior to drying.

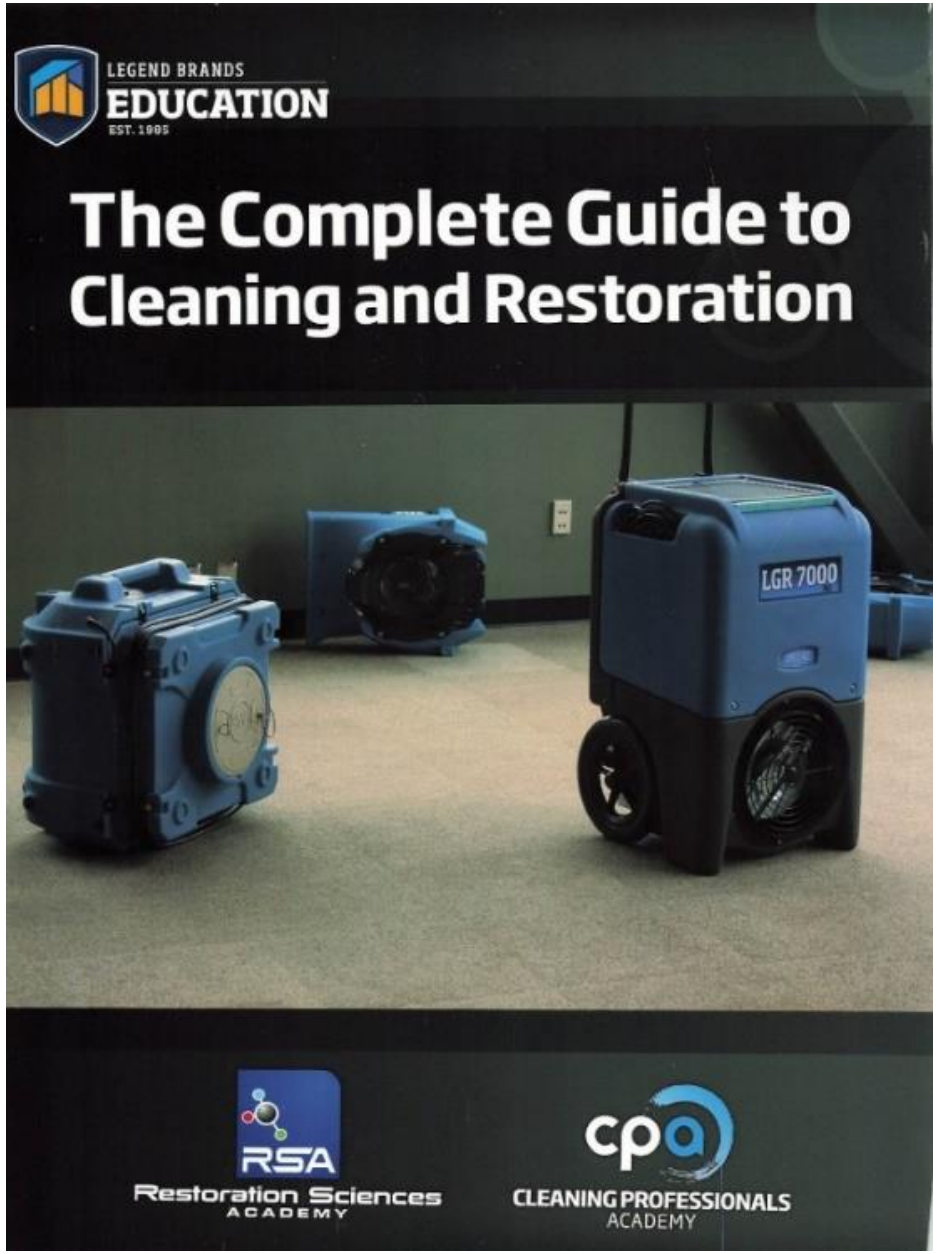
Mold grows fast. Always mold before drying.

Dry-Out Contractors never follow IICRC S500 to inspect inside walls before drying or after drying or to remediate mold before drying. Always mold after drying.

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# Legends/RSA IICRC S500 Training

- Legend/RSA is the #1 source for IICRC-Approved S500 Water Damage Restoration Technician Training (WRT training).
- IICRC-Approved WRT training providers teach using the Legend/RSA training material.
- NOT by or with the actual ANSI-Approved IICRC S500 Standard.
- There are highly significant differences between the Legend/RSA training guide and IICRC S500.




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# ANSI-Approved S500 Is NOT Actually Taught

- Again: IICRC-Approved WRT training providers teach the using the Legend/RSA training material. NOT by or with the actual S500 standard.
- **IICRC approves only the training providers and not their training materials.**
- IICRC has no jurisdiction as to what is in the training courses except that they must cover what is on the 100 questions IICRC WRT exam.

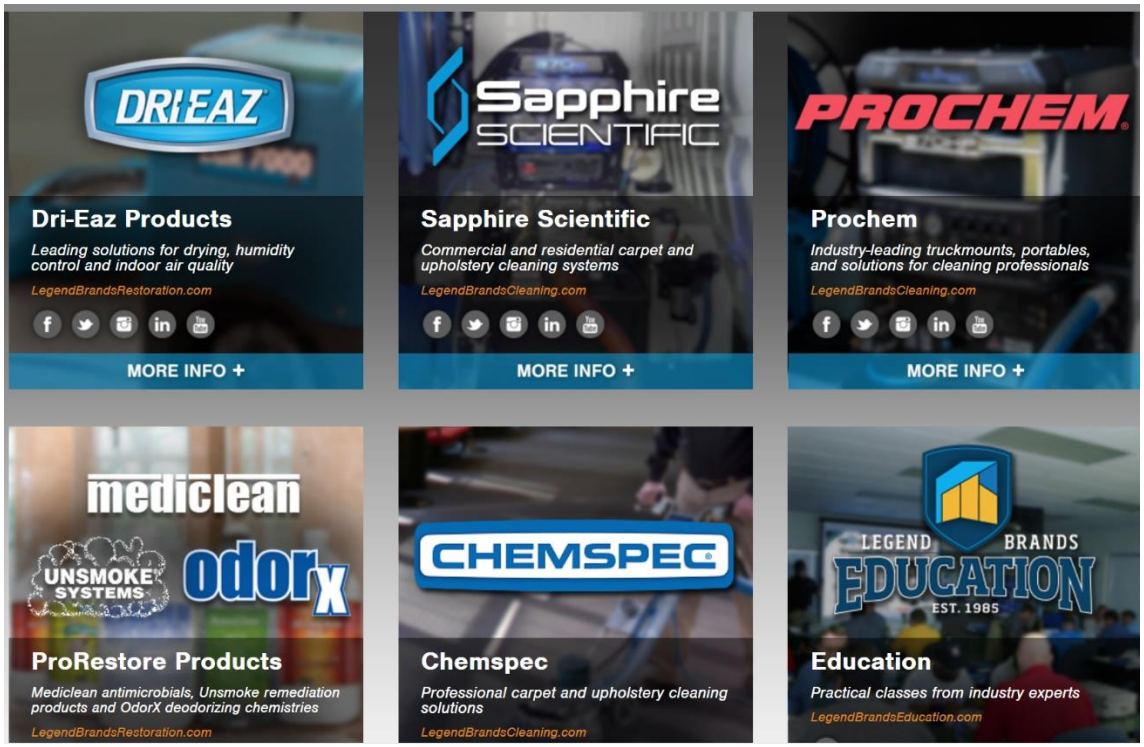






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# Legend Brands Education




- Legend is the world's largest water damage restoration equipment and chemical / biocide supplier.

**No one teaches to IICRC S500. Because with S500 if there is mold DO NOT DRY. But mold grows fast and the heat of drying actually causes/accelerates mold growth.**

**S500 WRT training teaches with proprietary training material created by training provides.**

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**Their WRT training teaches to ignore pre-existing mold and dry anyway. Never inspect per S500-defined inspections.**

**Why because Legends sells the drying equipment and biocides (Microban, Mediclean, BotaniClean) and if you remediate you don't need their equipment or chemicals.**

**Yes. This is horrible.**

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Their WRT training teaches to ignore pre-existing mold and dry anyway.

Yes. This is horrible.  But the Legend Brands' approach to Water Damage Restoration is supported by Insurance Carriers.

Much cheaper to dry a mold infested kitchen and then cover up the odors and visual appearance of failed drying (with Legend Brands' biocides) than to pay for a new kitchen.

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# REVIEW




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# Review Questions

Mold removal is accomplished by: Choose one or more of the following:

1. **Surface cleaning; (Cleaning is removal.)**
2. **Air cleaning; (Cleaning is removal.)**
3. **Demolition of contaminated substrates such as water damaged and moldy drywall, carpet or cabinets;**
4. **Oxidation/disintegration using strong oxidizers such as bleach, Tilex® or strong hydrogen peroxide none of which leave a toxic residue.**

Mold assessment is accomplished by: Choose one or more of the following:

1. **Find the moisture … find the mold.**
2. Fungal ecology.

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# Review Questions

**IICRC Condition 1** (normal ecology) – may have _____, fungal fragments or traces of actual growth whose identity, location and quantity is reflective of a normal fungal ecology for an indoor environment. Fill in the blank:

**settled spores**



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# Review Questions

**IICRC Condition 2** (_____) – an indoor environment which is primarily contaminated with settled spores that were dispersed directly or indirectly from a Condition 3 area, and which may have traces of actual growth. Fill in the blank:

**settled spores**



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# Review Questions

IICRC exhausts contaminants outdoors?

T or **F** They capture contaminants onto filters. And then bag/discard.

When contaminants are NOT exhausted outdoors from inside containments during remediation, this results in hazardous work conditions per IICRC.

**T** or F



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# Review Questions

Hazardous work conditions require the use of HEPA filtered respirators vs N-95 respirators? IICRC requires the use of HEPA filtered respirators … not N-95s.

**T** or F

The use of HEPA filtered respirators vs N-95 respirators triggers mandatory compliance with onerous **OSHA 29 CFR 1910.132** regulations.

**T** or F (P.S. $10000 fine.)



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