ESI Environmental Solutions, Inc.

www.esi4u.com (410)-867-6262

Discovery Environmental Inspection Report

Project Contact Information

Alex Baylor Environmental Specialists Environmental Safety Office 13306 Old Marlboro Pike Upper Marlboro, MD 20772 301-952-6760 alex.baylor@pgcps.org	Suitland Elementary School 76,333Ft^2	Vinny Gigliotti Certified Indoor Environmentalist Environmental Solutions, Inc. 6114 Drum Point Rd Deale, MD 20751 410-867-6262 Vinny@esi4u.com

Property Location

4650 Homer Avenue, Suitland, MD 20746

Date of Inspection 2/28/2019

Prepared By: Vinny Gigliotti and Ryan Fitzgerald

Certified Indoor Environmentalist (CIE)

Dear Mr. Baylor,

The results of the inspection and testing performed at Suitland Elementary School are concluded, and the findings are enclosed. I want to thank you for allowing ESI the opportunity to service your indoor environmental needs. Included in this report are the observations, lab results, and recommendations from ESI's 2/28/2019 inspection and testing.

Background Information

The Prince Georges County Public School Environmental Team has taken a proactive approach in cleaning the above-mentioned school to ensure there are no health or environmental risks related to microbial and biological hazards. Historically elevated levels of humidity, condensation from pipes, periodic steam leaks and outdated HVAC systems, may have contributed to water damage ceiling tiles and colonization of mold spores in various area of the school.

Purpose

ESI was engaged to inspect the school in a random sufficient manner. Classrooms, administration offices, and common area building materials and contents, will be visually inspected for water damage and microbial growth.

In each location inspected the indoor air quality will be tested for elevated levels of carbon dioxide and carbon monoxide, in addition to measuring the relative humidity and temperature. Microbial / biological hazards within the breathable air space will also be tested.

Based upon the visible assessment, instrument readings, and lab results, ESI will determine if additional remediation in required.

Observations and instrument readings

The following table is designed for this project. Some of the fields may not be filled in due to not being applicable during the time of the inspection. You will notice either a 'YES' or 'NO' in the table. 'YES' indicates that mold and /or water damage was detected and 'NO' indicates it was not. If 'YES' is noted, remediation recommendation will be included for the area inspected.

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
115	**2374322**	None	10.7	70.7	736	000	6,528	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	1	10	5	4	1	5	1
No	No	No	No	No	No	No	Rust	No

Inspected

- There was light rust on the diffusors
- There were no signs of visible mold growth or elevated levels of moisture detected within this location.
- However, the indoor air quality had slight amplifications of **Aspergillus/Penicillium** at **1,500** spores per cubic meter of air.

Recommendations

- Engage HEPA filtered air scrubber in this location for approximately 4-6 hours. Damp wipe all horizontal surfaces with an antimicrobial, then fog the breathable air space.

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
118	2374523	No	14.5	75.0	503	000	8,910	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	2	0	5	8	1	1	2
No	No	No	N/A	No	No	No	No	No

Observation Notes

- There were no signs of mold growth or elevated levels of moisture detected within this location.
- The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spores count was 1,040 spores per cubic meter of air.

Recommendations

NONE

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
112	2374521	No	10.7	73.4	529	000	8,704	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	1	1	7	4	1	5	2
No	No	No	No	No	No	No	Rust	No

Observation Notes

- There was rust on the diffusors.
- Light accumulations of dust were on the return register.
- There were no signs of mold growth or elevated levels of moisture detected within this location.
- The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 400 spores per cubic meter of air.

Recommendations

NONE

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
127 – Conference	2374519	No	7.4	71.4	347	000	2,250	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	0	0	1	4	0	2	0
No	No	No	No	No	No	No	No	N/A

Observation Notes

- There were no signs of mold growth or elevated levels of moisture detected within this location
- The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spore count was 280 spores per cubic meter of air.

Recommendations

NONE

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
130	2374518	No	5.4	70.7	341	000	7,956	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	1	28	4	4	1	1	2
Yes	No	No	No	No	No	No	No	No

Observation Notes

- One ceiling tile was water stained but did not contain visible microbial growth.
- There were accumulations of dust on the return register.
- The indoor air quality should pose no health or environmental risk, as the spore count was 320 spores per cubic meter of air.

Recommendations

- Remove and replace the water damaged ceiling tile.

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
149	2374517	No	12.2	73.2	433	00	8,064	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	1	0	1	3	0	4	0
Yes	No	No	N/A	No	No	N/A	No	N/a

Observation Notes

- Four ceiling tiles were water stained but did not contain visible microbial growth.
- The indoor air quality should pose no health or environmental risk, as the spore count was 240 spores per cubic meter of air.

Recommendations

- Remove and replace the water damaged ceiling tiles.

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
134	2374516	No	5.3	75.9	446	000	7,875	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	1	26	4	6	1	0	2
No	No	No	No	No	No	Rust	No	No

Observation Notes

- There was rust on the convector.
- There were accumulations of dust on the return register.
- The indoor air quality should pose no health or environmental risk, as the spore count was 160 spores per cubic meter of air.

Recommendations

NONE

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
217 - Storage	**2374525**	**Yes**	6.9	70.3	412	000	3,450	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	0	0	1	6	0	1	1
Yes	No	No	No	**Yes**	No	N/A	No	No

Observation Notes

- There was visible microbial growth on the folded table being stored in the room. A surface swab was collected from the table for Direct Identification Analysis. The Analysis indicates the presence of "Light" Aspergillus.
- The indoor air quality had elevated levels of **Aspergillus/Penicillium** at **2,600** spores per cubic meter of air.
- One ceiling tile was water stained but did not contain visible microbial growth.

Recommendations

- HEPA vacuum, spray antimicrobial, then damp wipe microbial growth from the table.
- Engage a HEPA filtered air scrubber in this location for approximately 4-6 hours. Damp wipe all horizontal surfaces and contents with an antimicrobial, then fog the breathable air space.
- Remove and replace the water damaged ceiling tile.

Location	IAQ Sample #	Swab	R/H	Temp	CO2	Co	Cubic feet of air.	
210	2374502	No	3.9	77.0	387	000	15,300	
Inspected								
Ceiling Tiles	Walls	Teachers Desk	Children's Desk	Tables	Cabinets Shelving	Convector	HVAC Diffusors	Windows
2x4	CMU	4	9	1	6	1	0	2
No	No	No	No	No	No	No	N/A	No
Observation Notes								
• There were NO signs of mold growth or elevated levels of moisture detected within this location. • The remediation and cleaning efforts were completed successfully, and the indoor air quality should pose no health or environmental risk, as the spores count was 80 spores per cubic meter of air.								
Recommendations								
NONE								

Interpretation of Lab Results

In the enclosed Air Cassette Analysis report, you will notice Fungal Identification, which is the species detected in the breathable airspace inside, and outside. The Raw count is the actual number of spores counted on the slide, and the Count/m3 are the spores per cubic meter of air. The other particles are non-living particles such as dander, mycelial fragments, pollens, etc.

In order for humans to be exposed indoors, fungal spores, fragments, or metabolites must be released into the air and inhaled, physically contacted (dermal exposure), or ingested. Whether symptoms develop in people exposed to fungi depends on the nature of the fungal material (e.g., allergenic, toxic, or infectious), the amount of exposure, and the susceptibility of exposed persons.

Susceptibility varies with genetic predisposition (e.g., allergic reactions do not always occur in all individuals), age, state of health, and concurrent exposures.

Air Sampling Lab Results

SanAir Technologies Laboratory

Name: Environmental Solutions, Inc
Address: 534-A Deale Road
Deale, MD 20751
Phone: 410-867-6262

Project Number: 4650 Homer Ave
P.O. Number:
Project Name: Suitland Elementary
Collected Date: 2/25/2019
Received Date: 2/26/2019 9:40:00 AM

SanAir ID Number
19008848
FINAL REPORT
2/27/2019 5:12:13 PM

Analyst: Shepperson, Josh

Air Cassette Analysis

ND = None Detected. Blank spaces indicate no spores detected.

SanAir ID Number	19008848-001			19008848-002			19008848-003			19008848-004		
Analysis Using STL	107C			107C			107C			107C		
Sample Number	2374511			2374522			2374523			2374521		
Sample Identification	Outdoors			Room 115			Room 118			Room 112		
Sample Type	Air Cassette - Micro-5			Air Cassette - Micro-5			Air Cassette - Micro-5			Air Cassette - Micro-5		
Volume	25 Liters			25 Liters			25 Liters			25 Liters		
Analytical Sensitivity	40 Count/M³			40 Count/M³			40 Count/M³			40 Count/M³		
Background Density	2			2			2			2		
Other	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**
Dander				42	1680	n/a	48	1920	n/a	42	1680	n/a
Fibers	1	40	n/a	2	80	n/a	3	120	n/a	7	280	n/a
Mycelial Fragments	2	80	n/a									
Pollen	1	40	n/a	1	40	n/a						
Fungal Identification	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**
Ascospores	1	40	6									
Aspergillus/Penicillium	10	400	59	38	1520	86	24	960	92	9	360	90
Basidiospores	3	120	18				2	80	8			
Cladosporium species	1	40	6	6	240	14				1	40	10
Smuts/Myxomycetes	2	80	12									
TOTAL	**17**	**680**		**44**	**1760**		**26**	**1040**		**10**	**400**	

Signature: Date: 2/27/2019 Reviewed: Date: 2/27/2019

SanAir Technologies Laboratory

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Project Name: Suitland Elementary
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2/27/2019 5:12:13 PM

Analyst: Shepperson, Josh

Air Cassette Analysis

ND = None Detected. Blank spaces indicate no spores detected.

SanAir ID Number	19008848-005			19008848-006			19008848-007			19008848-008		
Analysis Using STL	107C			107C			107C			107C		
Sample Number	2374519			2374518			2374517			2374516		
Sample Identification	Room 127 - Conference			Room 130			Room 149 - Music			Room 134		
Sample Type	Air Cassette - Micro-5			Air Cassette - Micro-5			Air Cassette - Micro-5			Air Cassette - Micro-5		
Volume	25 Liters			25 Liters			25 Liters			25 Liters		
Analytical Sensitivity	40 Count/M³			40 Count/M³			40 Count/M³			40 Count/M³		
Background Density	1+			1+			1+			1+		
Other	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**
Dander	11	440	n/a	10	400	n/a	15	600	n/a	1	40	n/a
Fibers	4	160	n/a	2	80	n/a	2	80	n/a			
Mycelial Fragments												
Pollen												
Fungal Identification	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**
Ascospores												
Aspergillus/Penicillium	6	240	86	2	80	25	5	200	83	4	160	>99
Basidiospores	1	40	14	1	40	13	1	40	17			
Cladosporium species				4	160	50						
Smuts/Myxomycetes				1	40	13						
TOTAL	**7**	**280**		**8**	**320**		**6**	**240**		**4**	**160**	

Signature: Date: 2/27/2019 Reviewed: Date: 2/27/2019

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2/27/2019 5:12:13 PM

Analyst: Shepperson, Josh

Air Cassette Analysis

ND = None Detected. Blank spaces indicate no spores detected.

SanAir ID Number	19008848-009			19008848-010				
Analysis Using STL	107C			107C				
Sample Number	2374515			2374502				
Sample Identification	Room 217 - Storage			Room 210				
Sample Type	Air Cassette - Micro-5			Air Cassette - Micro-5				
Volume	25 Liters			25 Liters				
Analytical Sensitivity	40 Count/M³			40 Count/M³				
Background Density	1+			1+				
Other	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**		
Dander	13	520	n/a	6	240	n/a		
Fibers	2	80	n/a	1	40	n/a		
Mycelial Fragments				1	40	n/a		
Pollen								
Fungal Identification	**Raw Count**	**Count/M³**	**%**	**Raw Count**	**Count/M³**	**%**		
Ascospores								
Aspergillus/Penicillium	65	2600	90	1	40	50		
Basidiospores	2	80	3					
Cladosporium species	5	200	7					
Smuts/Myxomycetes				1	40	50		
TOTAL	**72**	**2880**		**2**	**80**			

Signature: Date: 2/27/2019 Reviewed: Date: 2/27/2019

Direct Identification Lab Results

SanAir Technologies Laboratory

SanAir ID Number
19008848
FINAL REPORT
2/27/2019 5:12:13 PM

Name: Environmental Solutions, Inc
Address: 534-A Deale Road
Deale, MD 20751
Phone: 410-867-6262

Project Number: 4650 Homer Ave
P.O. Number:
Project Name: Suitland Elementary
Collected Date: 2/25/2019
Received Date: 2/26/2019 9:40:00 AM

Analyst: Shepperson, Josh

Direct Identification Analysis

SanAir ID: 19008848-011 Sample #:Swab Folded Table In Storage Room

D1 - Direct Identification Analysis on Surface Swab using STL 104

Direct ID of Mold

Fungi	Estimated Amount
Aspergillus species	Light

Estimated Amount	Indication of Growth	Evidence of Mycelial Fragments/Conidiophores
Rare	Not Likely	None
Light	Possible	Some, 10 to 25% of Tape Covered
Moderate	Probable	Abundant, 25 to 50% of Tape Covered
Heavy	Significant	Throughout, 50 to 100% of Tape Covered

*Refer to additional information page for further details

Signature: Joshua Shepperson
Date: 2/27/2019

Reviewed: Johnathan Wilson
Date: 2/27/2019

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Project Number: 4650 Homer Ave
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Project Name: Suitland Elementary
Collected Date: 2/25/2019
Received Date: 2/26/2019 9:40:00 AM

Organism Descriptions

The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.

Dander - Comprised of human and/or animal skin cells. Counts may be higher in carpeted rooms and in rooms with more traffic.
Health Effects: May cause allergies.

Fibers - This category can include clothing, carpet, and insulation fibers.

Mycelial Fragments - A mycelium (plural = mycelia) is the "body" of a fungus. It is a collective term for hyphae (singular = hypha), which are the tubular units of the mycelium usually composed of chitin. The terms hyphae and mycelial fragments are used interchangeably. [This information was referenced from the mycology text "The Fifth Kingdom"]In some cases a fungal identification cannot be obtained due to lack of sporulation. Only the mycelial fragments are present, and cannot be identified without the distinguishing characteristics of the spores or the structures they grow from.
Health Effects: Allergic reactions may occur in the presence of spores (conidia) or mycelial/hyphal fragments.

Pollen - Produced by trees, flowers, weeds and grasses. The level of pollen production can depend on water availability, precipitation, temperature, and light. Pollen is usually dispersed by either insects or the wind.
Health Effects: Mostly effects the respiratory tract with hay fever symptoms but has also been shown to trigger asthma in some people.

Ascospores - From the fungal Subphylum Ascomycotina. Ascospores are ubiquitous in nature and are commonly found in the outdoor environment. This class contains the "sac fungi" and yeasts. Some ascospores can be identified by spore morphology, however; some care should be excercised with regard to specific identification. They are identified on tape lifts and non-viable analysis by the fact that they have no attachment scars and are sometimes enclosed in sheaths with or without sacs. Ascomycetes may develop both sexual and asexual stages. Rain and high humidity may help asci to release, and dispurse ascospores, which is why during these weather conditions there is a great increase in counts.
Health Effects: This group contains possible allergens.

Aspergillus species - A genus of fungi containing over 180 recognized species. Members of this genus have been recovered from a variety of habitats, but are especially common as saprophytes on decaying vegetation, soils, stored food, and feed products in tropical and subtropical regions. Some species are xerophilic. Some species are parasitic on insects, plants and animals, including man. Some species are reported mycotoxin producers. Both Penicillium and Aspergillus spores share similar morphology on non-viable analysis and therefore are lumped together into the same group. Only through the visualization of reproductive structures can the genera be distinguished.
Health Effects: Can produce type I and III fungal hypersensitivities. All of the species contained in this genus should be considered allergenic. Various Aspergillus species are a common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms. Chronic cases may develop pulmonary emphysema. Members of this genus are reported to cause a variety of opportunistic infections of the ears and eyes. Severe pulmonary infections may also occur.
References: Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis,2001.

Aspergillus/Penicillium - These spores are easily aerosolized. Only through the visualization of reproductive structures can the genera be distinguished. Also included in this group are the spores of the genera Acremonium, Phialophora, Verticillium, Paecilomyces, etc. Small, round spores of this group lack the necessary distinguishing characteristics when seen on non-viable examination.
Health Effects: Can cause a variety of symptoms including allergic reactions. Most symptoms occur if the individual is immunocompromised in some way (HIV, cancer, etc). Both Penicillium and Aspergillus spores share similar morphology on non-viable analysis and therefore are lumped together into the same group.

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Organism Descriptions

The descriptions of the organisms presented are derived from various reference materials. The laboratory report is based on the data derived from the samples submitted and no interpretation of the data, as to potential, or actual, health effects resulting from exposure to the numbers of organisms found, can be made by laboratory personnel. Any interpretation of the potential health effects of the presence of this organism must be made by qualified professional personnel with first hand knowledge of the sample site, and the problems associated with that site.

Basidiospores - From the Subphylum Basidiomycotina which contains the mushrooms, shelf fungi, and a variety of other macrofungi. They are saprophytes, ectomycorrhizal fungi or agents of wood rot, which may destroy the structure wood of buildings. It is extremely difficult to identify a specific genera of mushrooms by using standard culture plate techniques. Some basidiomycete spores can be identified by spore morphology; however, some care should be exercised with regard to specific identification. The release of basidiospores is dependant upon moisture, and they are dispersed by wind.
Health Effects: Many have the potential to produce a variety of toxins. Members of this group may trigger Type I and III fungal hypersensitivity reactions. Rarely reported as opportunistic pathogens.

Cladosporium species - The most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter and are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is commonly found on the surface of fiberglass duct liner in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint and textiles. Often found in dirty refrigerators and especially in reservoirs where condensation is collected, on moist window frames it can easily be seen covering the whole painted area with a velvety olive green layer.
Health Effects: It is a common allergen. It can cause mycosis. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms, chronic cases may develop pulmonary emphysema. Illnesses caused by this genus can include phaeohyphomycosis, chromoblastomycosis, hay fever and common allergies.
References: Flannigan, Brian, Robert A. Samson, and J. David Miller, eds. Microorganisms in Home and Indoor Work Environments: Diversity, Health Impacts, Investigation, and Control. London and New York: Taylor & Francis,2001.

Smuts/Myxomycetes - Smuts and Myxomycetes are parasitic plant pathogens. They are typically grouped together due to their association with plants, the outdoors and because they share similar microscopic morphology.
Health Effects: Can produce type I fungal hypersensitivity reactions.
References: Martin, G.W., C.J. Alexopoulos, and M.L. Farr. The Genera of Myxomycetes. Iowa City, Iowa: University of Iowa Press, 1983.

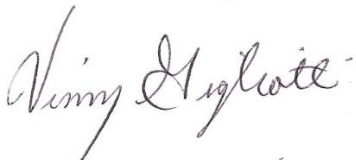
Conclusions/Recommendations

Although there was no visible microbial contamination or evident water damage, Classroom #115 did contain slight amplifications of Aspergillus/Penicillium in the breathable air space. The classroom should be properly cleaned and treated as addressed above.

In addition, the presence of Aspergillus was detected on the table in Storage Room # 217, and the room contained elevated airborne mold spores of Aspergillus/Penicillium. A wall-to-wall microbial cleaning should be performed in the room. Please see recommendations above.

I hope you found our service beneficial. If you have any questions or concerns, please feel free to contact me at 410-867-6262.

Respectfully,



Vinny Gigliotti (CIE)
Environmental Solutions, Inc.

Industry References

Since the 1993 New York City Department of Health (NYCDOH) document (Assessment and remediation of *Stachybotrys Atra* in Indoor Environments) was produced, several other guidance documents have been written. This report was developed in accordance with and including:

- *Fungal Contamination in Buildings: A Guide to Recognition and Management* (Health Canada, 1995).
- *Control of Moisture Problems Affecting Biological Indoor Air Quality* (Flannigan and Morey, 1996).
- *Bioaerosols: Assessment and Control* (American Conference of Government Industrial Hygienists [ACGIH], 1999).
- *Guidelines on Assessment and Remediation of Fungi in Indoor Environments* (NYCDOH, 2000). [external link]
- *Mold Remediation in Schools and Commercial Buildings* (U.S. EPA, 2001).
- *Report of the Microbial Growth Task Force* (The American Industrial Hygiene Association, 2001).
- *Fungal Contamination: A manual for investigation, remediation and control (BECi) 2005*.
- *29 CFR 1910, Occupational Safety and Health Standards for General Industry, U.S. Department of Labor*
- Institute of Inspection, Cleaning and Restoration Certification Standard IICRC S520 *29 CFR 1926, Occupational Safety and Health Standards for the Construction Industry*, U.S. Department of Labor
- *40 CFR 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), U.S. Environmental Protection Agency*
- *ACR 2006, Assessment, Cleaning and Restoration of HVAC Systems, National Air Duct Cleaners Association, 2006**
- *ASHRAE Standards 62.1 or 62.2*
- *ASTM D-1653, Standard Test Methods for Water Vapor Transmission of Organic Coating Films*
- *Bioaerosols: Assessment and Control,* American Conference of Governmental Industrial Hygienists, 1999
- *Field Guide for Determination of Biological Contaminants in Environmental Samples, American Industrial Hygiene Association, 2005*
- *A Guide for Mold Remediation in Schools and Commercial Buildings, US Environmental Protection Agency, 2001 Protecting the Built Environment: Cleaning for Health, Michael A. Berry Ph.D., 1993*
- *IICRC S100 Standard and Reference Guide for Professional Carpet Cleaning, Fourth Edition, Institute of Inspection, Cleaning and Restoration Certification, (S100)**
- *IICRC S300 Standard and Reference Guide for Professional Upholstery Cleaning, First Edition, Institute of Inspection, Cleaning and Restoration Certification, (S300)**
- *ANSI/IICRC S500 Standard and Reference Guide for Professional Water Damage Restoration, Third Edition, Institute of Inspection, Cleaning and Restoration Certification, (S500)**