AEML, Inc.
Microbiology Laboratories

Air Analytical Report

Prepared For: Michael Munn
BiltRite LLC
1140 Edgewood Ave S
Jacksonville, FL 32205
(904) 305-6741

AEML Batch: 180940

Project/Site: Green Point 805 Trailmark

ACCREDITED
TESTING CERT #2572.01

Authorized for release by:
Joshua Krinsky
Technical Director

TEXAS
Department of
State Health
Services
License LAB#1020

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Client: Michael Munn
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Project Narrative

Client: Michael Munn
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Receipt

The sample(s) contained in this report were collected on September 25, 2018 and recieved by AEML, Inc. Microbiolgy Laboratories on September 28, 2018. All samples were received in good condition unless otherwise noted in the results section of this report or on the accompanying Chain of Custody.

Sample Analysis

Analyses were performed in accordance to AEML, Inc.'s Standard Operating Procedures and Quality Assurance Program. No deviations were made to these procedures unless noted in the results section of this report. Any additional information that the laboratory believes relevant will be noted as Data Qualifiers accompanying the sample results.

Quality Assurance

AEML, Inc. has developed and implemented policies and procedures that adhere to the General Requirements for the Competence of Testing and Calibration Laboratories, ISO/IEC 17025:2005. These procedures have been reviewed by an independent outside organization and the laboratory has been accredited by the American Association for Laboratory Accreditation for Biological Testing (A2LA Testing Cert #2572.01). AEML, Inc. is also licensed by the Texas Department of State Health Services (Lab#1020). AEML, Inc. is an active participant in the AIHA EMPAT Proficiency Testing Program.

The laboratory is staffed by highly trained and experienced professionals. AEML, Inc. utilizes state of the art equipment that is of the most recent technology available for fungal spore identification and quantification. AEML, Inc. has the most up to date data systems available with capabilities to provide standard reports in hardcopy and electronic data deliverables.

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Sample Summary

Client: Michael Munn
BiltRite LLC
1140 Edgewood Ave S
Jacksonville, FL 32205

AEML Batch: 180940

Project/Site: Green Point 805 Trailmark

Lab Sample ID	Client Sample ID	Media	Collected	Received
180928K209	26367182 Indoor	Air-O-Cell	9/25/2018	9/28/2018
180928K210	26367174 Control	Air-O-Cell	9/25/2018	9/28/2018

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Detection Summary

Client: Michael Munn
BiltRite LLC
1140 Edgewood Ave S
Jacksonville, FL 32205

AEML Batch: 180940

Project/Site: Green Point 805 Trailmark

Lab Sample ID	Client Sample ID	Spore Type	Result / Count/m^3
180928K209	26367182 Indoor	Aspergillus/Penicillium-Like	40
		Cladosporium	40
		Curvularia	27
		Smut/Myxomyces/Periconia	13
180928K210	26367174 Control	Ascospores	40
		Aspergillus/Penicillium-Like	227
		Basidiospores	13
		Bipolaris/Dreschlera	13
		Cladosporium	200
		Curvularia	53
		Ganoderma	53
		Nigrospora	27
		Oidium/Peronospora	13
		Smut/Myxomyces/Periconia	93
		Hyphal Fragments	93

Michael Munn
BiltRite LLC
1140 Edgewood Ave S
Jacksonville, FL 32205

AEML, Inc.
1301 E. Atlantic Blvd., Suite 5
Pompano Beach, FL 33060
Phone: (954) 333-8149
Fax: (954) 333-8151
email: customerservice@aemlinc.com

Project: Green Point 805 Trailmark

Batch: 180940

Sampled: 9/25/2018
Received: 9/28/2018
Analysis Date: 9/28/2018
Report Date: 9/28/2018

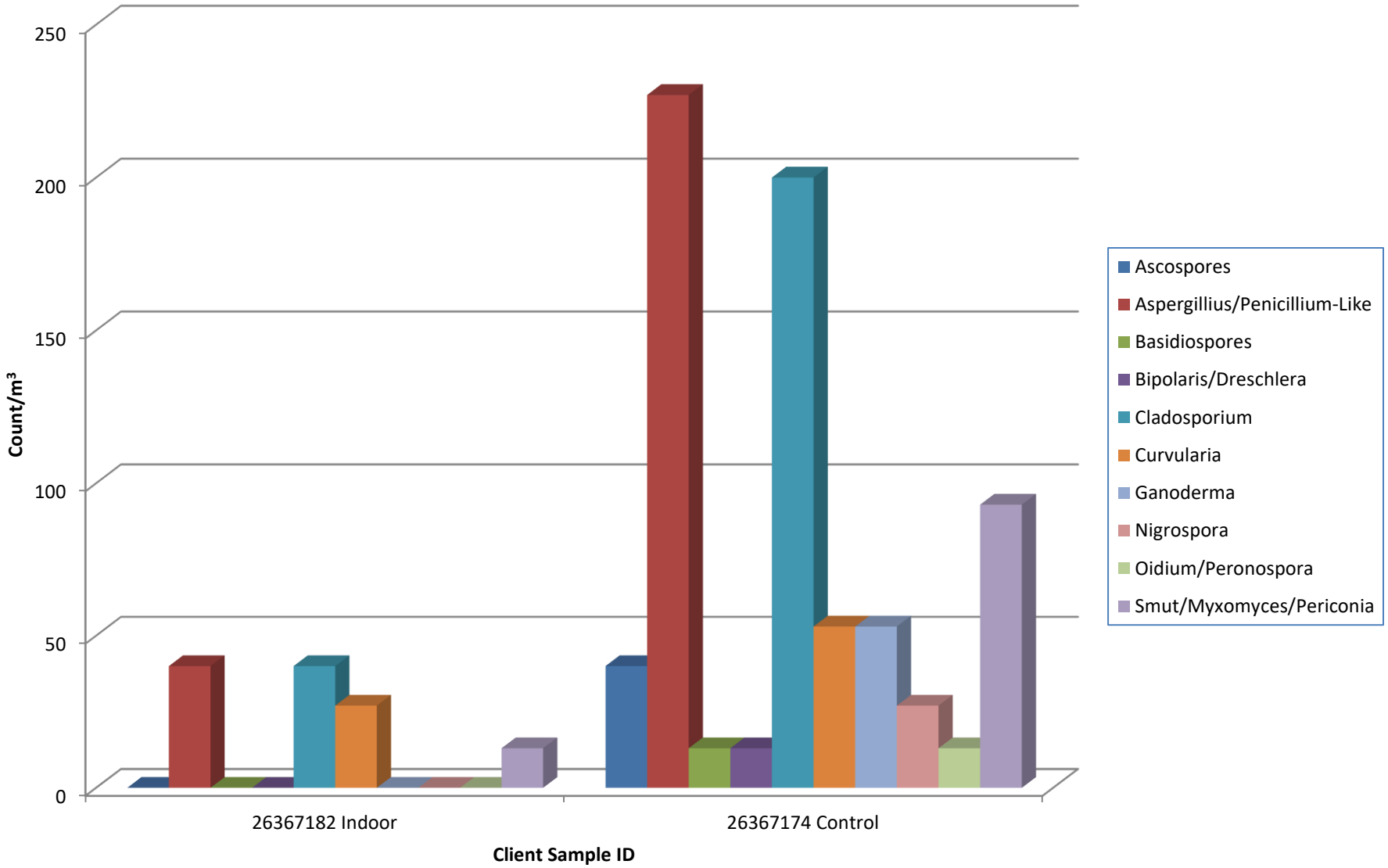
AEML Test: A001 Spore Trap Analysis

Sample ID:	180928K209	180928K210
Client Sample ID:	26367182 Indoor	26367174 Control
Volume Sampled (L):	75	75
Media:	Air-O-Cell	Air-O-Cell
Percent of Trace Analyzed:	100% at 600X Magnification	100% at 600X Magnification

Spore Types	**Raw Count**	**Count/m^3**	**%**	**Raw Count**	**Count/m^3**	**%**
Alternaria	–	–	–	–	–	–
Arthrinium	–	–	–	–	–	–
Ascospores	–	–	–	3	40	5
Aspergillus/Penicillium-Like	3	40	33	17	227	31
Basidiospores	–	–	–	1	13	2
Bipolaris/Dreschlera	–	–	–	1	13	2
Botrytis	–	–	–	–	–	–
Chaetomium	–	–	–	–	–	–
Cladosporium	3	40	33	15	200	27
Curvularia	2	27	22	4	53	7
Epicoccum	–	–	–	–	–	–
Fusarium	–	–	–	–	–	–
Ganoderma	–	–	–	4	53	7
Memnoniella	–	–	–	–	–	–
Nigrospora	–	–	–	2	27	4
Oidium/Peronospora	–	–	–	1	13	2
Pithomyces	–	–	–	–	–	–
Rust	–	–	–	–	–	–
Smut/Myxomyces/Periconia	1	13	11	7	93	13
Stachybotrys	–	–	–	–	–	–
Torula	–	–	–	–	–	–
Ulocladium	–	–	–	–	–	–
Unidentified Spores	–	–	–	–	–	–
Total Spores	**9**	**120**		**55**	**733**	
Hyphal Fragments	–	–		7	93	
Pollen	–	–		–	–	
Debris Rating	2			3		
Detection Limit	13			13		

Joshua Krinsky
Technical Director

Project: Green Point 805 Trailmark



Note: Graph may understate the importance of certain genre of spores.

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Definitions and Glossary

Definitions

Mold - A fungus that grows in the form of multicellular filaments called hyphae. Molds cause biodegradation of natural materials, which is necessary in nature but can become unwanted when it causes food spoilage or damage to property. Some diseases of animals and humans can be caused by certain molds. These diseases may result from allergic sensitivity to mold spores, from growth of pathogenic molds within the body, or from the effects of ingested or inhaled toxic compounds (mycotoxins) produced by molds.

Fungi - A Kingdom composed of eukaryotic organisms that include unicellular microorganisms such as molds, yeasts, smuts, and mushrooms. Fungi receive nutrients by absorbing disolved molecules and are referred to as nature's decomposers.

Spores - Produced by molds and fungi as units of reproduction that have adapted for dispersal. Spores can disperse through the air, by insects, animals, or humans and remain dormant on a surface for years until favorable conditions for growth occur.

Mycotoxin - A toxic secondary metabolite produced by mold. The term 'mycotoxin' is usually reserved for the toxic chemical products produced by fungi that readily colonize crops. One mold species may produce many different mycotoxins, and the same mycotoxin may be produced by several species.

Glossary

Sample ID - A unique internal identification assigned to the sample by the laboratory for traceability of the sample.

Client Sample ID - An identification given to the sample and provided to the laboratory by the person who collected the sample. This is typically the location the sample was collected.

Volume Sampled - The volume of air that was sampled displayed in liters. This is based on the flow rate of the sampling pump in Liters per minute and the time, in minutes, that the sample was collected.

Media - The device used for collection of the sample.

Percent of Trace Analyzed - The percent of the trace that was analyzed by the laboratory. When 100% of the trace is analyzed at 600X magnification, the entire impaction area of the sample is analyzed at a high level of magnification and provides the highest quality analysis.

Raw Count - Spore count present in the sample received by the laboratory.

Count/m^3 - An extrapolated count of spores that would be present in a cubic meter of air. This calculation is based on the volume of air sampled and the raw count.

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Definitions and Glossary

Glossary

Percent (%) - Percent composition of the sample. This is a breakdown of the percentage of the total spore count of the sample that each spore comprises.

Debris Rating - Background debris can interfere with the analyst's ability to analyze and accurately report the counts for each analyte. Therefore, a Debris Level system of 0-5 will be reported for each sample to aid clients in their interpretation of the data.

> **Debris Level: 0** - No non-microbial particulates were observed in the impaction area. Since most air samples contain at least some debris, this indicates that the sample is either a blank sample submitted to the lab as a control, that there was an error sampling, or that a defective spore trap cassette was used.
>
> **Debris Level: 1** - A minimal amount of background particulates are present. The background debris has no effect on the reported results.
>
> **Debris Level: 2** - Non-microbial particulates are covering up to 25% of the trace.
>
> **Debris Level: 3** - Non-microbial particulates are covering 26% to 75% of the trace.
>
> **Debris Level: 4** - Non-microbial particulates are covering 76% to 90% of the trace.
>
> **Debris Level: 5** - Non-microbial particulates are covering greater than 90% of the trace. An accurate count is not possible. A range of spores is reported based on the number of spores observed in and around the borders of the trace.

Debris Levels of 2, 3, or 4 contain background debris that could mask the presence of an analyte. The higher the level of debris, the greater the chance that this could occur.

Detection Limit - Also known as Method Detection Limit. This is the minimum number of spores that would need to be present in one cubic meter of air in order for one spore to be detected by this analysis. This calculation is based on the volume of air sampled and the percent of the trace analyzed.

Remediation

Remediation - The process correcting, or remedying, any issues in the building that were identified by a mold assessor. This may include cleaning or removing any contaminated material, as well as, identifying and correcting any conditions that may be favorable for mold growth.

AEML, Inc. makes no claims pertaining to the necessity of remediation. The results contained in this report should be used in conjunction with a physical inspection of the property to determine what, if any, actions are necessary.

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Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Alternaria

Description	Characteristics
These are a common plant pathogen involved in the decomposition of plants. In the indoor environment they are found growing on a variety of substrates including sheetrock and other building materials. They are common allergens causing hay fever or hypersensitivity reactions.	

Arthrinium

Description	Characteristics
These are a plant pathogen found in soil and decomposing plant material. Not typically found growing indoors. One species has been determined to be an allergen.	

Ascospores

Description	Characteristics
These are a very large group of spores that are found everywhere in nature. They are commonly found outdoors and associated with rain and moisture. Some species grow well indoors on damp materials. Ascospores have allergenic potential, however, it is species dependent.	 

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Fungal Glossary

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Aspergillus/Penicillium-Like	
Description	Characteristics
These are two of the most common genera in the world. They can be found everywhere in nature, both indoors and outdoors. Indoors they can be found on water damaged wallpaper, carpet, and other organic materials. They can also grow well in conditions of high humidity. Many species are allergens and a common cause of respiratory irritation. Some species are human and animal pathogens and can cause infection.	

Basidiospores	
Description	Characteristics
These are primarily comprised of mushrooms and shelf fungi. They are typically found outdoors. Occasionally they are found indoors growing on any organic matter causing dry rot. Some species can be an allergen to sensitive individuals.	

Bipolaris/Dreschlera	
Description	Characteristics
These are a plant pathogen typically found outdoors on grasses, grains, and decaying food. Indoors they can be found on plants and building materials. They are an allergen that can affect the nose, skin, eyes and upper respiratory track.	

AEML, Inc.
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Fungal Glossary

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Botrytis

Description	Characteristics
These are a plant pathogen typically found growing on vegetation particularly in temperate and subtropical climates. Indoors they can be found growing on plants. They are a potential allergen causing hay fever and asthma effects.	 

Chaetomium

Description	Characteristics
These are typically found indoors on water damaged cellulose containing materials such as paper, sheetrock, and wallpaper. Not well studied but possible allergen with hay fever and asthma effects.	  

Cladosporium

Description	Characteristics
One of the most common genera in both the indoor and outdoor environments. Indoors they grow well in damp environments and areas where condensation builds. They are often found on textiles, window sills, in bathrooms, and A/C systems. They are a common allergen when airborne.	

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Fungal Glossary

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Curvularia

Description	Characteristics
Primarily found outdoors on plants and soil especially in subtropical and tropical environments. Indoors they grow on a variety of building materials. They are a common allergen causing hay fever, asthma, and allergic fungal sinusitis.	 

Epicoccum

Description	Characteristics
Outdoors they are found in the soil, air, and rotting vegetation. Indoors they grow well on a variety of building materials such as paper and textiles. They are a potential allergen with hay fever, asthma, and skin allergy effects.	

Fusarium

Description	Characteristics
Indoors they are typically found under very wet conditions. Some places they can be found are dust in carpet and mattresses, damp walls, wallpaper, and duct liner. They are a potential allergen causing hay fever and asthma effects.	  

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Fungal Glossary

 **Typically found growing outdoors.**

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 **Potential to produce mycotoxins.**

Ganoderma	
Description	Characteristics
These are shelf mushrooms that are typically found growing outdoors on wood causing white rot, root rot, and stem rot. They are a possible allergen at high concentrations.	

Memnoniella	
Description	Characteristics
These are mycotoxin producing spores related to and often found in conjunction with Stachybotrys. These grow well on water damaged cellulose containing building materials such as sheetrock, paper, wallpaper, and textiles.	

Nigrospora	
Description	Characteristics
These are typically found on decaying plant material and soil and are usually not found growing indoors. They are a potential allergen causing hay fever and asthma effects.	

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 **Potential to produce mycotoxins.**

Oidium/Peronospora

Description	Characteristics
These are plant pathogens that are common obligate parasites on leaves, stems, flowers, and fruits of higher living plants.	

Pithomyces

Description	Characteristics
These are typically found on dead leaves and stems of plants. Rarely found growing indoors; however, they grow well on paper indoors given the right conditions.	

Rust

Description	Characteristics
These are parasitic plant pathogens that grow on plants, grass, and trees. They are rarely found growing indoors since they require a living host, and therefore typically not found on cellulose containing building materials. They are a potential allergen causing hay fever and asthma effects.	

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Fungal Glossary

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 **Potential to produce mycotoxins.**

Smut/Myxomyces/Periconia

Description	Characteristics
This is a grouping of several genera organizeed together in a general category that are mostly associated with living and decaying plants, wood, soil, grass, cereal crops, weeds, and flowering plants. These are rarely found growing indoors. They are a potential allergen causing hay fever and asthma effects.	 

Stachybotrys

Description	Characteristics
These are typically found indoors growing on water damaged cellulose containing building materials such as sheetrock, paper, and ceiling tiles. They are often referred to as "toxic black mold." They have the ability to produce mycotoxins which may cause a burning sensation in the mouth, throat, and nasal passages. Chronic exposure has been known to cause headaches, diarrhea, memory loss, and brain damage.	 

Torula

Description	Characteristics
These are typically found growing outdoors on leaves, roots, wood, and soil. Indoors they can be found growing on water damaged cellulose, paper, wicker, straw baskets and ceiling tiles. They are a potential allergen causing hay fever and asthma effects.	

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Ulocladium	
Description	Characteristics
Requires very wet conditions and can commonly be found indoors in damp or wet areas such as bathrooms, kitchens, basements, and around windows. These grow well on cellulose containing materials such as paper and straw and on water damaged building material such as sheetrock. They are a common allergen causing hay fever and asthma effects.	

Unidentified Spores	
Description	Characteristics
This is a grouping of spores that are unable to be categorized due to a variety of reasons. They may be weathered, disfigured, or otherwise lacking the morphological structures necessary to identify the genus.	

Hyphal Fragments	
Description	Characteristics
These are branched filamentous structures with cell walls. Hyphae are somewhat analogous to stems or roots in plants whereas the spores would be analogous to the seeds. Large quantities present may indicate an active fungal colony or active fungal growth in the structure.	

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Fungal Glossary

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 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Pollen	
Description	Characteristics
These are a fine to course powdery substance produced by the anthers of seed-bearing plants, trees, grasses, flowers, and weeds. They are an allergen that causes hay fever effects.	

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References and Links

Environmental Protection Agency (EPA) - www.epa.gov/mold/

- A Brief Guide to Mold, Moisture, and Your Home - www2.epa.gov/mold/brief-guide-mold-moisture-and-your-home
- Should You Have the Air Ducts in Your Home Cleaned? - www2.epa.gov/indoor-air-quality-iaq/should-you-have-air-ducts-your-home-cleaned
- Flood Cleanup - Avoiding Indoor Air Quality Problems - www2.epa.gov/indoor-air-quality-iaq/flood-cleanup-protect-indoor-air-quality

Center for Disease Control and Prevention (CDC) - www.cdc.gov/mold/

- General Information - www.cdc.gov/mold/basics.htm
- Cleanup and Remediation - www.cdc.gov/mold/cleanup.htm

Occupational Safety & Health Administration (OSHA) - www.osha.gov/SLTC/molds

American Academy of Allergy, Asthma & Immunology (AAAAI) - www.aaaai.org

Institute of Inspection, Cleaning and Restoration Certification (IICRC) - www.iicrc.org

Information and recommendations about mold can vary based on location and climate. More information can be found through your local state's and county's Indoor Air Quality programs. Links for your state's environmental agencies can be found through the EPA's website at: http://www2.epa.gov/indoor-air-quality-iaq/find-regional-and-state-indoor-air-quality-contact-information