

# Detailed Mold Analysis (WATER-INDICATING FUNGI, IF PRESENT, ARE SHOWN BELOW IN RED)

Analysis Method	Air Analysis - IN-009	Air Analysis - IN-009	Air Analysis - IN-009	Air Analysis - IN-009
Lab Sample #	53171748-1	53171748-2	53171748-3	53171748-4
Sample Identification	27906476	28038906	28286919	28284896
Sample Location	BASEMENT	KITCHEN	ATTIC	OUTSIDE
Sample Type / Metric	Breeze ST/150L	Breeze ST/150L	Breeze ST/150L	Breeze ST/150L
Analysis Date	Tue May 19, 2026	Tue May 19, 2026	Tue May 19, 2026	Tue May 19, 2026
Determination	<b>PROBLEM</b>	<b>PROBLEM</b>	<b>PROBLEM</b>	<b>CONTROL</b>

Fungal Types Identified	Raw Count	Spores / m <sup>3</sup>	% of Total	Raw Count	Spores / m <sup>3</sup>	% of Total	Raw Count	Spores / m <sup>3</sup>	% of Total	Raw Count	Spores / m <sup>3</sup>	% of Total
<b>*INDOOR PROBLEM FUNGI</b>												
Chaetomium	2,548	17,072	11	243	1,628	3	90	603	<1	---	---	---
Cladosporium	---	---	---	---	---	---	245	1,642	2	---	---	---
Eurotium	---	---	---	---	---	---	468	3,136	3	---	---	---
Geotrichum-like	3,822	25,607	17	1,456	9,755	20	---	---	---	---	---	---
Microascus	273	1,829	1	---	---	---	---	---	---	---	---	---
Penicillium/Aspergillus	70	<sup>a</sup> 87,000	57	5,005	33,534	69	56	<sup>a</sup> 69,000	86	---	---	---
Scopulariopsis	182	1,219	<1	83	556	1	112	750	<1	---	---	---
Stachybotrys	2,457	16,462	10	304	2,037	4	199	1,333	1	---	---	---
Trichoderma	112	750	<1	32	214	<1	---	---	---	---	---	---
<b>**Non-Problem Fungi</b>												
Alternaria	1	7	<1	3	20	<1	1	7	<1	---	---	---
Ascospores	2	13	<1	---	---	---	2	13	<1	16	107	28
Basidiospores	2	13	<1	---	---	---	379	2,539	3	17	114	30
Chaetomium	*	*	*	*	*	*	*	*	*	1	7	1
Cladosporium	1	7	<1	12	80	<1	*	*	*	14	94	25
Epicoccum	---	---	---	---	---	---	2	13	<1	---	---	---
Microascus	*	*	*	42	281	<1	59	395	<1	---	---	---
Penicillium/Aspergillus	*	*	*	*	*	*	*	*	*	4	27	7
Pithomyces	---	---	---	---	---	---	4	27	<1	---	---	---
Smut/Myxomycetes	---	---	---	---	---	---	2	13	<1	4	27	7
Ulocladium	---	---	---	1	7	<1	---	---	---	---	---	---
<b>Total Spore Count*</b>	9,500	<sup>a</sup> 150,000	100	7,200	48,000	100	1,600	<sup>a</sup> 80,000	100	56	380	100
<b>Minimum Detection Limit</b>	7			7			7			7		

<p><b>Comments/Definitions</b>  <b>Raw Count:</b> Actual number of spores observed and counted.  <b>Spores/m<sup>3</sup>:</b> Spores per cubic meter.  <b>% of Total:</b> Percentage of a particular spore in relation to total number of spores.  <b>Present = growth observed.</b>                  ---: Spore type was not observed.                  * : Indicates to look above at the names in red under "indoor problem fungi".</p>	<p>Mold concentrations in the air are ABNORMAL and based on the mold counts, you likely have a mold source from which spores are able to become airborne and are an exposure concern to the occupants. HEAVY DEBRIS in the sample likely caused significant interference affecting the accuracy of the mold count. Counts are probably higher than shown in this report.</p>	<p>Mold concentrations in the air are ABNORMAL and based on the mold counts, you likely have a mold source from which spores are able to become airborne and are an exposure concern to the occupants. MODERATE DEBRIS in the sample likely had a limited effect on the accuracy of the mold count.</p>	<p>Mold concentrations in the attic air are difficult to interpret. Attics are usually positively pressured and this tends to keep spores from entering the living space. However, there may well be a mold source from which spores are able to become airborne and this could indicate a past or ongoing water issue that should be investigated. HEAVY DEBRIS in the sample likely caused significant interference affecting the accuracy of the mold count.</p>	<p>CONTROL samples are normally taken outside a building to provide a baseline from which samples on the interior of the building are compared. Outside air is considered normal whatever the mold counts may be. LIGHT DEBRIS: The debris present in the sample likely had no effect on the accuracy of the mold count.</p>
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PREPARED FOR: XPRT RESTORATION

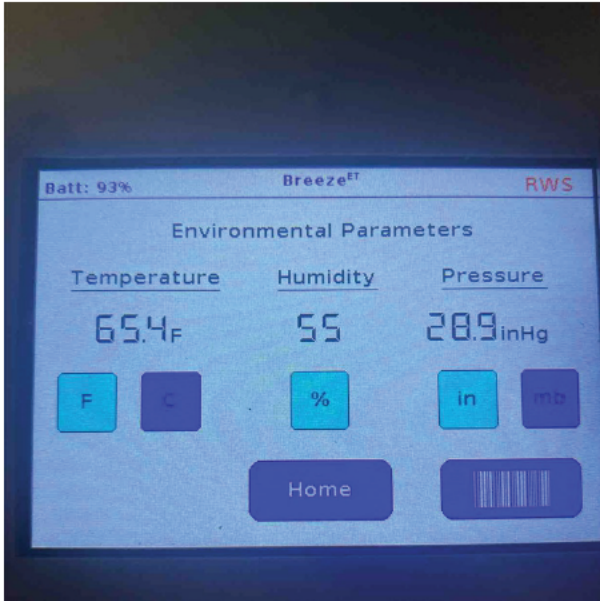
TEST ADDRESS: [REDACTED]

## Detailed Mold Analysis (WATER-INDICATING FUNGI, IF PRESENT, ARE SHOWN BELOW IN RED)

Analysis Method	Surface Analysis - IN-002	Intentionally Blank	Intentionally Blank	Intentionally Blank
Lab Sample #	53171748-5			
Sample Identification	TAPE			
Sample Location	BASEMENT			
Sample Type / Metric	E Tape			
Analysis Date	Tue May 19, 2026			
Determination	<b>GROWTH</b>			

Fungal Types Identified	Mold Present			
<b>Aspergillus</b>	<b>Present</b>			
<b>Hyphae</b>	<b>Present</b>			
Total Spore Count#	NA			
Minimum Detection Limit	1			
<b>Comments/Definitions</b> Raw Count: Actual number of spores observed and counted. Spores/m <sup>3</sup> : Spores per cubic meter. % of Total: Percentage of a particular spore in relation to total number of spores. Present = growth observed. ---: Spore type was not observed. * : Indicates to look above at the names in red under "indoor problem fungi".	Presence of current or former MOLD GROWTH observed. EXPOSURE TO SPORES LIKELY and will continue if the growth is not removed. An active or intermittent water source will cause the mold to continue to grow if the water source is not eliminated.	INTENTIONALLY BLANK	INTENTIONALLY BLANK	INTENTIONALLY BLANK

1. Sample #53171748-1



Caption: Environmental parameters

2. Sample #53171748-2



Caption: kitchen/dining location

3. Sample #53171748-2



Caption: Environmental parameters

4. Sample #53171748-3



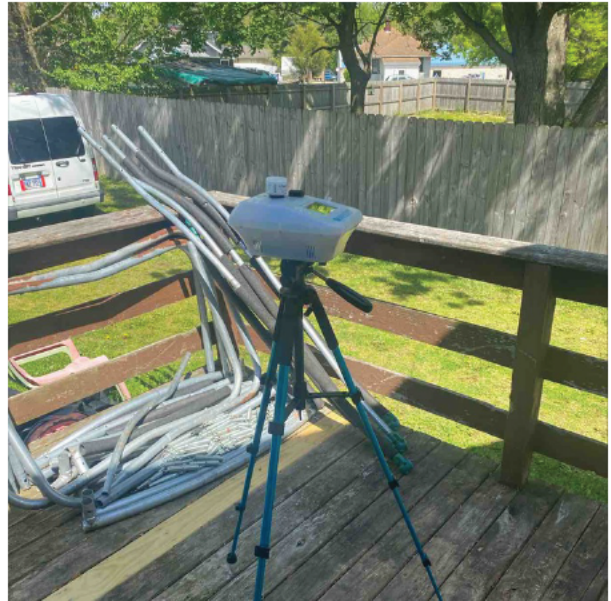
Caption: machine location

5. Sample #53171748-3



Caption: Environmental parameters

6. Sample #53171748-4



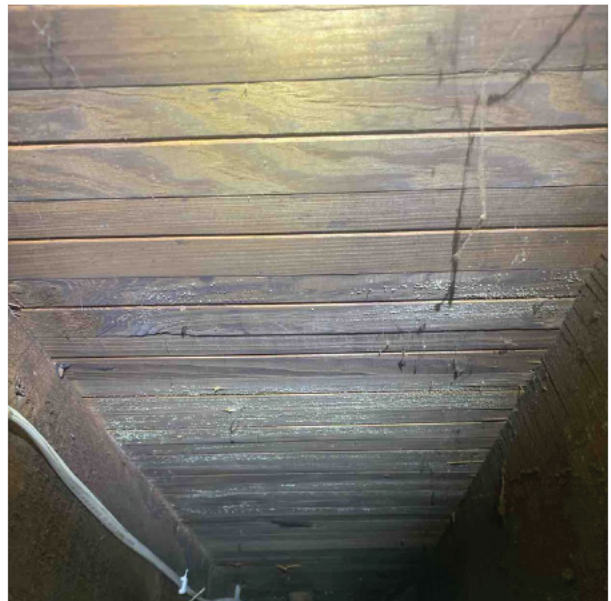
Caption: machine location

7. Sample #53171748-4



Caption: Environmental parameters

8. Sample #53171748-5



Caption: Rafters

## Introduction

All spores found in indoor air are also normally found in outdoor air because most originate or live in the soil and on dead or decaying plants. Therefore, it is not unusual to find mold spores in indoor air. This Mold Glossary is only intended to provide general information about the mold found in the samples that were provided to the laboratory.

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### *Alternaria*

**Outdoor Habitat:** One of the most commonly observed spores in the outdoor air worldwide, normally in low numbers.

**Indoor Habitat:** Capable of growing on a wide variety of substrates and manufactured products found indoors when wetted.

**Allergy Potential:** Type I (hay fever, asthma), Type III (hypersensitivity pneumonitis), Common cause of extrinsic asthma

**Disease Potential:** Not normally considered a pathogen, but can become so in immunocompromised persons.

**Toxin Potential:** Several known

**Comments:** One of the most common and potent allergens in the indoor and outdoor air. Seen in indoor air in low concentrations, probably as a result of outdoor air infiltration and/or recycling of settled dust. However, it is frequently found growing on indoor substrates.

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### *Ascospores*

**Outdoor Habitat:** Soil and decaying vegetation, dead and dying insects. These spores constitute a large part of the spores in the air and can be found in the air in very large numbers in the spring and summer, especially during and up to three (3) days after a rain.

**Indoor Habitat:** Very few of fungi that produce ascospores grow indoors. Some fungi that produce ascospores are recognizable by their spores and when observed are listed under their own categories. Wetted wood and gypsum wallboard paper

**Allergy Potential:** Depends on the type of fungus producing the ascospores.

**Disease Potential:** Not normally pathogenic as a group

**Toxin Potential:** None known

**Comments:** Ascospores are produced from a very large group of fungi. Notable ascospores that are considered problematic for indoor environments are Chaetomium, Peziza, and Ascotracha. If these types of ascspores are observed they will be listed in the report under their own names.

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## *Aspergillus*

**Outdoor Habitat:** Soil and decaying vegetation, various other kinds of substrates

**Indoor Habitat:** Capable of growing on a wide variety of substrates and manufactured products found indoors when wetted, including dusts, leather, paint, paper, rubber, textiles

**Allergy Potential:** Type I (hay fever, asthma), Type III (hypersensitivity pneumonitis), can cause allergic sinusitis, and ABPA (allergic bronchopulmonary aspergillosis)

**Disease Potential:** Second most common pathogen for humans next to *Candida*, but not normally considered a pathogen, but can become so in immunocompromised persons.

**Toxin Potential:** Several species of *Aspergillus* produce toxins, including aflatoxin B1 & B2, cyclopiazonic acid, kojic acid, ergot alkaloids, fumigaclavines, gliotoxin, fumigatoxin, fumigillin, fumitremorgens, helvolic acid, tryptoquivaline tremorgens, verruculogen, malformin C, oxalic acid, austocystins, aspercolorin, averufin, cyclopiazonic acid, sterigmatocystin, versicolorin.

**Comments:** *Aspergillus niger*-like spores are the most common group identified in the indoor air.

*Aspergillus* identified in air samples indicates that the fruiting bodies were observed. This usually suggests that the source of the mold is nearby and / or a growth was disturbed. The fruiting bodies are not easily sent airborne, nor do they stay in the air long.

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## *Basidiospores*

**Outdoor Habitat:** These are mushroom spores and are common everywhere outside, especially in the late summer and fall.

**Indoor Habitat:** Sometimes mushrooms can be observed growing in potted plants indoors.

**Allergy Potential:** Rarely reported, but some Type I (hay fever, asthma) and Type III (hypersensitivity pneumonitis) has been reported.

**Disease Potential:** None known

**Toxin Potential:** None known

**Comments:** Mushroom spores are commonly found indoors, especially when the outdoor spore count is high. When spores of this group are derived from wood rotting fungi, including dry rot (*Serpula* and *Poria*), they can be especially destructive to buildings. When spores from destructive types of mushrooms (dry and wet rot group) are observed in the sample they are listed under their own names on the report.

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## *Chaetomium*

**Outdoor Habitat:** Commonly found on paper products, cotton products, soil, decaying vegetation, wood and natural fiber textiles (such as jute-backed carpets, canvas, etc.) and similar materials. They are rarely identified in outdoor air. These spores can be disseminated by insects, wind and water splash, etc. It is also known as a soft-rot fungus for softwood and hardwood timber.

**Indoor Habitat:** Chaetomium is often found on a variety of substrates containing cellulose that are chronically wetted, including paper documents, wallpaper, textiles and construction materials like gypsum board (paper-coated sheet rock) and wood.

Chaetomium can develop quickly, covering a surface with substantial growth after two weeks.

Chaetomium globosum is the most commonly found species of Chaetomium indoors. It is not that unusual to find the occasional Chaetomium spore in the air indoors.

**Allergy Potential:** Type I (hay fever, asthma) potential. However, no allergens have yet been characterised. However, at least two potential allergens have been isolated.

**Disease Potential:** Rarely reported as human pathogen.

**Toxin Potential:** Several known

**Comments:** Chaetomium spores are easily disseminated when it becomes dry. However, Chaetomium spores do not remain airborne for long unless disturbed.

This genus is often associated with termite damaged and rotting wood. These spores will continue to be found in the air until this damaged wood is removed.

High numbers of spores of this genus is not normal for indoor environments and indicate a current or former water problem. Furthermore, since the spores are held together by mucilage and trapped by hairs, few become airborne until the mold has completely dried out or is mechanically disturbed during renovations remediation. It is, therefore, not uncommon to find low Chaetomium spore counts in pre-remediation air samples and relatively higher counts in post-remediation samples.

Chaetomium species colonize surfaces under similar conditions as Stachybotrys, Alternaria, Fusarium and Ulocladium.

HIGH CONCENTRATIONS AND LONG EXPOSURES TO CHAETOMIUM SHOULD BE AVOIDED.

## *Cladosporium*

**Outdoor Habitat:** Cladosporium is one of the most common environmental fungi observed worldwide and is widely reported from soil and decaying vegetation.

Cladosporium herbarum and C. cladosporioides are among the most frequently encountered species, both in outdoor and indoor environments.

**Indoor Habitat:** Wetted wood and gypsum wallboard paper, paper products, textiles, rubber, window sills. Cladosporium has the ability to grow at low temperatures and can thus, grow on rubber gaskets and food in refrigerators.

**Allergy Potential:** Type I (hay fever, asthma) - an important and common outdoor allergen

**Disease Potential:** Opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals. Cladosporium are some of the most common species reported as indoor contaminants, occasionally linked to health problems.

**Toxin Potential:** Cladosporium has two known toxins (cladosporin and emodin). These toxins are not known to be highly toxic. There is no evidence in the literature of toxic effects associated to inhalation of Cladosporium conidia (spores) indoors.

**Comments:** The most commonly reported spore in the outdoor air worldwide. This makes Cladosporium one of the most commonly reported and abundant spore types both indoors and outdoors. The prevalence of this spore can vary throughout the year, but is especially high in late summer and autumn, especially where cereal crops are commonly planted.

An important and common allergen source.

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## *Epicoccum*

**Outdoor Habitat:** Epicoccum is a widespread cosmopolitan that grows on dead or decaying organic matter, wood, textiles, paper, a variety of foods, insects and human skin. It is commonly found in the soil. Epicoccum spores are more prevalent on dry, windy days, with higher counts late in the day.

**Indoor Habitat:** Capable of growing on a wide variety of substrates and manufactured products found indoors when wetted such as gypsum board, floors, carpets, mattress dust, and house plants.

**Allergy Potential:** Type I (hay fever, asthma)

**Disease Potential:** None known

**Toxin Potential:** None known

**Comments:** Very common in outdoor air in the summer months, especially in the midwest USA during harvest times.

## *Eurotium*

**Outdoor Habitat:** Commonly observed growing on storage seeds

**Indoor Habitat:** Leather, resin-coated or lacquered surfaces, textiles or other poorly wetted materials

**Allergy Potential:** None known

**Disease Potential:** None known

**Toxin Potential:** Similar to *Aspergillus* species

**Comments:** Sexual state of *Aspergillus* and may have the same allergy and disease potential.

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## *Geotrichum-like*

**Outdoor Habitat:** Soil and decaying vegetation, wood and food products

**Indoor Habitat:** Wetted cellulosic and food products, humans

**Allergy Potential:** None known

**Disease Potential:** Rare opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals.

**Toxin Potential:** Not known

**Comments:** This type of mold closely resembles *Geotrichum* such that a positive identification cannot be confidently and consistently made. Often produces a strong, pungent odor indoors when present.

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## *Hyphae*

**Outdoor Habitat:** Any cellulose-based substance that fungi can inhabit.

**Indoor Habitat:** Wetted wood and gypsum wallboard paper, etc.

**Allergy Potential:** Known to be allergenic.

**Disease Potential:** None known

**Toxin Potential:** None known

**Comments:** "Root-like" structures of fungal growth that can become airborne and can possibly be allergenic. When hyphae are found growing on a surface and associated with fruiting bodies and/or fungal spores, they indicate that growth has taken. Sometimes hyphae grow and do not produce spores. Hyphae are generally not specific to any particular type of fungus or mold type. A mass of hyphae on a surface is indicative of mold growth.

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## *Microascus*

**Outdoor Habitat:** Found growing on a wide ranging number of substrates, especially grains, soil and dung.

**Indoor Habitat:** Wetted cellulosic products

**Allergy Potential:** None known

**Disease Potential:** Rare opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals.

**Toxin Potential:** Not known

**Comments:** Rarely observed in air samples.

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## *Penicillium/Aspergillus*

**Outdoor Habitat:** Soil and decaying vegetation, textiles, fruits

**Indoor Habitat:** Wetted wood, gypsum wallboard paper, textiles, leather, able to grow on many types of substrates. Often growing on HVAC filters in large numbers in homes that have been unoccupied for extended periods of time.

**Allergy Potential:** MAY have Type I (hay fever, asthma), Type III (hypersensitivity pneumonitis), but it is really unknown as to their health affect.

**Disease Potential:** MAY be an opportunistic pathogen, but it is unknown as to their health affect.

**Toxin Potential:** Several known.

**Comments:** Extremely common in indoor air in low to moderate amounts as compared to the outside air. This type of spore should not be present in very high numbers as compared to the outside (control) nor constitute an overwhelming percentage (e.g., 90% or greater) of the total spores in that room(s). However, this type of mold spore is not always detected in outside air and when diversity of mold types are low in the indoor sample(s), their percentage can be 90% or more. Therefore, when the raw numbers are low the determination would be NORMAL even if the percentage is high.

There is a wide range of what is a NORMAL amount of this type of mold spores in indoor air and 200 - 700 spores per cubic meter are commonly seen in homes.

These two genera are grouped together because they cannot be reliably differentiated into their respective genera based solely on spore morphology. Furthermore, they can be very small and nondescript, making them hard to count accurately.

## *Pithomyces*

**Outdoor Habitat:** Soil and decaying vegetation and their spores are easily dispersed into the air by wind

**Indoor Habitat:** Wetted wood and gypsum wallboard paper

**Allergy Potential:** None known

**Disease Potential:** None known

**Toxin Potential:** One known (sporidesmin)

**Comments:** A very common spore type in outdoor air. Can be a water indicator mold type when growing on surfaces indoors.

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## *Scopulariopsis*

**Outdoor Habitat:** Soil and decaying vegetation, dung

**Indoor Habitat:** Wetted wood and gypsum wallboard paper

**Allergy Potential:** Type III (hypersensitivity pneumonitis)

**Disease Potential:** Opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals.

**Toxin Potential:** Not well studied

**Comments:** Easily dispersed by wind and air currents. Can grow with very little water and can readily grow on wallboard in high humidity situations, e.g. closets. Capable of growing on leather clothes.

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## *Smut/Myxomycetes*

**Outdoor Habitat:** Soil and decaying vegetation and wood, especially dead stumps and bark

**Indoor Habitat:** Not normally known to grow indoors. However the Myxomycetes can sometimes be found on firewood inside the home and especially on wood paneling. Sometimes known to grow on wood framing inside walls, ceilings and woodwork in closets.

**Allergy Potential:** Type I (hay fever, asthma), rare

**Disease Potential:** None known

**Toxin Potential:** None known

**Comments:** These two groups are difficult to distinguish due to their "round and brown" morphology. Smuts are especially common in the outside environment and can be seen in indoor air samples even during the winter in homes because the spores enter homes. These spores can be recycled through the indoor environment all year in small amounts.

A large number of these types of spores indoors can mean that there are fruiting bodies inside the home due to excessive water, usually on a wood surface(s).

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## *Stachybotrys*

**Outdoor Habitat:** Soil and decaying vegetation, especially straw

**Indoor Habitat:** Wetted wood, gypsum wallboard paper, cardboard boxes and ceiling tiles. This type of mold needs significant water to grow and thrive

**Allergy Potential:** Type I (hay fever, asthma)

**Disease Potential:** None known

**Toxin Potential:** Several known (including macrocyclic trichothecenes, satratoxin F, G, H)

**Comments:** Spores can be dispersed into the air when old and dry, but are wet, slimy and heavy when actively growing and thus are not easily dispersed into the air. Significantly higher numbers of spores, as compared to outside background levels, of this genus are not normal for indoor environments and indicate a current or former water problem. It is not that unusual to find the occasional *Stachybotrys* spore in the air indoors. *Stachybotrys* has several mycotoxins and has been implicated as a causative agent in disease. HIGH CONCENTRATIONS AND LONG EXPOSURES TO STACHYBOTRYS SHOULD BE AVOIDED.

## *Trichoderma*

**Outdoor Habitat:** Soil and decaying vegetation, wood

**Indoor Habitat:** Wetted wood and gypsum wallboard paper, textiles, leather

**Allergy Potential:** Type I (hay fever, asthma), Type III (hypersensitivity pneumonitis)

**Disease Potential:** Opportunistic pathogen in immunocompromised persons, not normally a pathogen in healthy individuals.

**Toxin Potential:** Several known

**Comments:** Wet slimy spores not easily dispersed into the air in this condition. When dry these spores can be dispersed in the air and are often found in clumps in indoor air samples.

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## *Ulocladium*

**Outdoor Habitat:** A filamentous fungus that inhabits the soil and decaying herbaceous plants.

**Indoor Habitat:** Chronically wetted wood, gypsum wallboard paper, textiles, paint. Can be found in the air from disturbed growth and/or distributed in dust. Considered a contaminant indoors.

**Allergy Potential:** Type I (hay fever, asthma)

Anecdotal evidence suggests that *Ulocladium chartarum* induces symptoms of asthma, allergic rhinitis and hypersensitivity pneumonitis in sensitized individuals. It is possible that allergic reactions occur more frequently than has been reported.

**Disease Potential:** *Ulocladium* is rarely pathogenic for humans. A few cases of opportunistic infections have been reported although this mold is known to be allergenic. *Ulocladium* sp. is of low pathogenicity, and is very seldom reported as a human pathogen may result in opportunistic infections such as in chronic wounds.

**Toxin Potential:** There are no reported mycotoxins produced by *Ulocladium* that would be deleterious to humans or animals.

**Comments:** High water requirement mold type and is not often seen in indoor air samples unless growth is dried and disturbed. However, no studies have been reported to date;

*Ulocladium* species closely resemble certain species of *Alternaria* and have sometimes been classified as such in the past. In fact, *Ulocladium* spp. are phylogenetically related to *Alternaria* spp.

*Ulocladium* can be present on building materials but not in the air, possibly indicating that spores from certain types may not be easily released into the air.