PRIORITYLAB

3301 N.W. 55TH ST., FT. LAUDERDALE, FL 33309
888-854-0477

PREPARED FOR: VIGILANT HOME INSPECTIONS **TEST ADDRESS:** 2028 HAWKEYE LN NW PALO, IA 52324

CERTIFICATE OF MOLD ANALYSIS

PREPARED FOR:

VIGILANT HOME INSPECTIONS

PHONE NUMBER: (319) 899-7538

EMAIL: HELLO@VIGILANTHOME.COM

TEST LOCATION:

RACHEL CAFFERY

2028 HAWKEYE LN NW

PALO, IA 52324

CHAIN OF CUSTODY # 52324006

COLLECTED: TUE JANUARY 28, 2020

RECEIVED: WED JANUARY 29, 2020

REPORTED: WED JANUARY 29, 2020

APPROVED BY:

JOHN D. SHANE PHD
LABORATORY MANAGER

VERSION: 1.0 (A VERSION NUMBER GREATER THAN ONE (1) INDICATES THAT THE DATA IN THIS REPORT HAS BEEN AMENDED)

EPA regulations or standards for airborne or surface mold concentrations have not been established. There are also no EPA regulations or standards for evaluating health effects due to mold exposure. Information about mold can be found at www.epa.gov/mold.

All samples were received in an acceptable condition for analysis unless noted specifically in the Comments section under a particular sample. All results relate only to the samples submitted for analysis and apply to the samples as received by the laboratory. Volumes, flowrates, areas or other information are supplied by the customer. This information can affect the validity of the results. Results have not been adjusted for field or laboratory unless otherwise noted. InspectorLab bears no responsibility for sample collection activities or analytical method limitations. No warranty is either express or implied and InspectorLab assumes no responsibility or liability for error in public information utilized, statements from sources other than InspectorLab, or developments resulting from situations outside the scope of this analysis, nor for the purpose for which the client uses the analysis. The determinations in this report are outside the scope of the AIHA LAP, LLC scope of accreditation. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. InspectorLab liability is limited to the cost of the sample analysis and may not exceed the amount of the fee paid by the client.

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Detailed Mold Report

(WATER-INDICATING FUNGI, IF PRESENT, ARE SHOWN BELOW IN RED)

Analysis Method	Air Analysis	Air Analysis	Air Analysis	Air Analysis
Lab Sample #	52324006-1	52324006-2	52324006-3	52324006-4
Sample Identification	29798571	29798491	29798573	29798570
Sample Location	DINING ROOM LIVING ROOM	MASTER MF BEDROOMS	BSMT HALLWAY @ BATH BED FURNACE ROOM	BSMT HALLWAY BETWEEN 2 BEDS AND LIVING ROOM
Sample Type / Metric	Air-O-Cell/150L	Air-O-Cell/150L	Air-O-Cell/150L	Air-O-Cell/150L
Analysis Date	Wed January 29, 2020	Wed January 29, 2020	Wed January 29, 2020	Wed January 29, 2020
Determination	**PROBLEM**	**NORMAL**	**NORMAL**	**NORMAL**

Fungal Types Identified	Raw Count	Spores / m^3	% of Total	Raw Count	Spores / m^3	% of Total	Raw Count	Spores / m^3	% of Total	Raw Count	Spores / m^3	% of Total
✳INDOOR PROBLEM FUNGI												
Penicillium/Aspergillus	**212**	**1,420**	**86**	---	---	---	---	---	---	---	---	---
✳✳Non-Problem Fungi												
Alternaria	---	---	---	**3**	**20**	**4**	**1**	**7**	**8**	**1**	**7**	**5**
Ascospores	---	---	---	**1**	**7**	**1**	**1**	**7**	**8**	**3**	**20**	**15**
Basidiospores	**1**	**7**	**<1**	**5**	**34**	**8**	**4**	**27**	**32**	**6**	**40**	**31**
Cladosporium	**27**	**181**	**11**	**7**	**47**	**11**	---	---	---	**7**	**47**	**36**
Epicoccum	**2**	**13**	**<1**	**6**	**40**	**9**	**3**	**20**	**24**	**1**	**7**	**5**
Nigrospora	**1**	**7**	**<1**	**4**	**27**	**6**	---	---	---	---	---	---
Oidium-like	---	---	---	**1**	**7**	**1**	---	---	---	---	---	---
Penicillium/Aspergillus	✳	✳	✳	**24**	**161**	**39**	---	---	---	---	---	---
Pithomyces	---	---	---	**3**	**20**	**4**	**1**	**7**	**8**	---	---	---
Scopulariopsis	---	---	---	---	---	---	**1**	**7**	**8**	---	---	---
Smut/Myxomycetes	**1**	**7**	**<1**	**5**	**34**	**8**	**1**	**7**	**8**	**1**	**7**	**5**
Unclassified Pigmented Spores	---	---	---	**1**	**7**	**1**	---	---	---	---	---	---
Total Spore Count#	240	1,600	100	60	400	100	12	82	100	19	130	100
Minimum Detection Limit	7			7			7			7		

Comments/Definitions			
Raw Count: Actual number of spores observed and counted. **Spores/m^3:** 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".	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. LIGHT DEBRIS: The debris present in the sample likely had no effect on the accuracy of the mold count.	Mold counts are within a NORMAL RANGE and there is no indication, based on the mold counts, that there is any exposure concern to the occupants. The LIGHT DEBRIS present in the sample likely had no effect on the accuracy of the mold count.	Mold counts are within a NORMAL RANGE and there is no indication, based on the mold counts, that there is any exposure concern to the occupants. MODERATE DEBRIS: The debris present in the sample likely had limited effect on the accuracy of the mold count.	Mold counts are within a NORMAL RANGE and there is no indication, based on the mold counts, that there is any exposure concern to the occupants. MODERATE DEBRIS: The debris present in the sample likely had limited effect on the accuracy of the mold count.

* **Indoor Problem Fungi** are generally capable of growing on wetted building materials.

** **Non-Problem Fungi** are less capable or do not grow on wetted building materials. They are commonly found in the air outside and infiltrate into indoor air naturally. High numbers of any one of these spore types as compared to the Control sample may indicate that they are growing on wetted building materials indoors.

Spore types not listed in this report were not observed.

Background debris estimates the amount of non-spore particles. Increasing amount of debris will affect the accuracy of the spore counts. Total percent may not equal 100% due to rounding.

#**Total Spore Counts** are reported to 2 significant figures.

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Mold Glossary

PREPARED FOR: VIGILANT HOME INSPECTIONS

TEST ADDRESS: 2028 HAWKEYE LN NW PALO, IA 52324

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.

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.

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 Ascotricha. If these types of ascspores are observed they will be listed in the report under their own names.

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.

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.

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.

Nigrospora

Outdoor Habitat: Soil and decaying vegetation

Indoor Habitat: Can grow on wetted wood and gypsum wallboard paper

Allergy Potential: Type I (hay fever, asthma)

Disease Potential: None known

Toxin Potential: None known

Comments: Rarely observed growing indoors, but is often found in the indoor air in small amounts because this spore type is frequently found in outdoor air.

Oidium-like

Outdoor Habitat: Powdery mildew growing on living plant hosts.

Indoor Habitat: Not known to grow indoors except rarely on indoor indoor plants.

Allergy Potential: None known

Disease Potential: None known

Toxin Potential: None known

Comments: Needs a living plant host to grow.
This group includes other genera as well, e.g., Blumeria, Microsphaera, Podosphaera, and Golovinomyces. The spores of these genera are morphologically similar and cannot be distinguished by their spores alone.

Penicillium/Aspergillus

Outdoor Habitat: Soil and decaying vegetation, textiles, fruits. These spores are commonly observed and are a normal part of outside air.

Indoor Habitat: Wetted wood and gypsum wallboard paper, textiles, leather, able to grow on many types of substrates.

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: 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.

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.

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.

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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Unclassified Pigmented Spores

Outdoor Habitat: None specified

Indoor Habitat: None specified

Allergy Potential: Although no specific allergic potential can be given, ALL spores have the potential to be allergenic.

Disease Potential: None known

Toxin Potential: Unknown

Comments: This category is for unknown spores that have at least some color and do not have enough distinctive characteristics to be identified as any particular type of spore that the laboratory recognizes.

There are a great many spore types that cannot be identified either because they are undescribed in the literature or new to science. Therefore, these types of spores are classified as "unclassified". There should not be an over abundance of this type of spore (or any spore) indoors. An large amount of this type of spore indoors would make this spore type as "water-indicating", but the origin and growth is not known.