Air Quality Assessment Report

LOCATED AT:
8675309 Main St
Richmond, VA 23235

PREPARED EXCLUSIVELY FOR:
Steven Kwan

INSPECTED ON:
Thursday, August 22, 2024

Inspector: Inspector Gadget
Burgess Inspections
530-C Southlake Blvd
N Chesterfield, VA 23236
(804) 794-1423

Lab Report Explanations

Our report is designed to be clear, easy to understand, and helpful. Please take the time to review it carefully. If there is anything you would like us to explain, or if there is other information you would like, please feel free to call us. We would be happy to answer any questions you may have.

We screened for the organisms listed on page two of the lab report. If there are numbers across the rows, that organism was found. If there are no numbers, those organisms were not found.

We highly recommend you take these results to your allergen doctor or other equally qualified person in this field.

Page Four of the lab report explains what the highlighted colors mean. The end of the lab report has a description of each organism found.

All buildings have mold to some degree. There is no such thing as a mold free building . If the mold levels are a concern, we recommend taking the results to a qualified doctor or allergist. The mold levels can be reduced by using a qualified mold remediation specialist.

Mold affects everyone differently and what is listed as low on the lab report may cause you to have some type of symptoms. Again, please consult a qualified individual to discuss these results if you have any concerns.

Temperature and seasonal change have a significant impact on the growth rate of mold. Cold weather may cause mold to grow at a slower rate, while hotter, moist weather can cause it to increase. This can also have an impact on the mycotoxins produced, as it is directly affected by temperature and humidity. Consult a remediation professional if you are unsure of the severity of mold in your building.

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INTRODUCTORY NOTES

INSPECTION DATE
8/22/2024

START TIME
3:33:20 PM

REPORT TYPE
Air Quality / Mold Assessment

SQUARE FOOTAGE
1850

YEAR BUILT
1978

AGE
46 year(s)

TEMPERATURE
60s to 70s

WEATHER
Cloudy

RAIN IN THE LAST 3 DAYS
No

ORIENTATION
4: We will describe the locations of this property, left or right, as though viewing it from the front door.

GENERAL NOTES
5: The mold sampling device was calibrated for accuracy. Calibration is crucial for maintaining the accuracy, reliability, and trustworthiness of air quality monitoring devices, ensuring that they provide dependable data for various applications and regulatory purposes.

6: The occupant noted some areas of concern in the bathroom and in the laundry room

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Exterior

Taking an exterior air sample during an air quality assessment serves several important purposes:

1. ****Baseline Comparison****: It provides a baseline measurement of air quality in the surrounding environment, which can be used for comparison with indoor air quality measurements. This helps in assessing the extent to which indoor air quality may be influenced by outdoor pollutants.
2. ****Identifying Outdoor Sources****: It helps in identifying outdoor sources of pollution that may be impacting indoor air quality. By analyzing the composition of outdoor air, environmental consultants or scientists can identify specific pollutants and their concentrations.
3. ****Understanding Background Levels****: It allows for an understanding of background pollutant levels in the area. This is particularly important when assessing indoor air quality in industrial or urban areas where outdoor pollution levels may be higher due to vehicular emissions, industrial activities, or other sources.
4. ****Health Considerations****: Outdoor air quality can directly impact the health of occupants in indoor environments. Pollutants such as particulate matter, ozone, nitrogen dioxide, and volatile organic compounds (VOCs) can infiltrate indoor spaces, affecting indoor air quality and potentially causing health problems. Understanding the outdoor air quality is crucial for assessing potential health risks associated with indoor air pollution.

Overall, conducting an exterior air sample as part of an air quality assessment provides essential information for understanding the environmental context, identifying sources of pollution, and evaluating potential health risks associated with indoor air quality.

Inspection notes pertain to moisture issues or visible mold-like substance. Condition and/or operation is not inspected.

LOCATION OF OUTSIDE AIR SAMPLE

7: Front door

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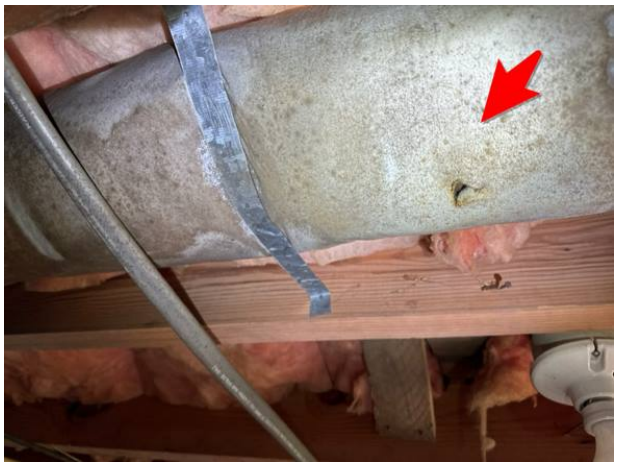
GENERAL EXTERIOR NOTES

8: There was some growth noted in the crawlspace on the air Ducts



9: Efflorescence was noted on the masonry block wall at the front of the home.

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SIDING SURFACES

10: A leaking hose bib was noted at the front of the home, causing substantial growth against the brick.

11: Microbial growth was noted on the siding around the home.

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12: Sealant failure and microbial growth was noted at/ on the window trim and sills all around the home.

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13: Microbial growth was noted on the front and rear wood stairs.

ROOF AIR HANDLING UNITS

14: The air handler unit was located in the crawlspace. There were two steady leaks coming from the unit. The HVAC should be serviced by a licensed HVAC company.

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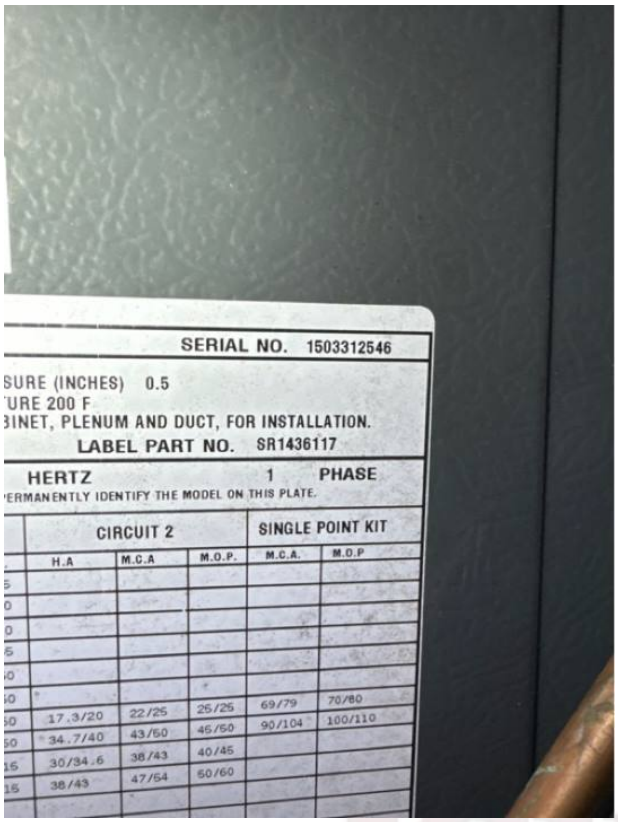

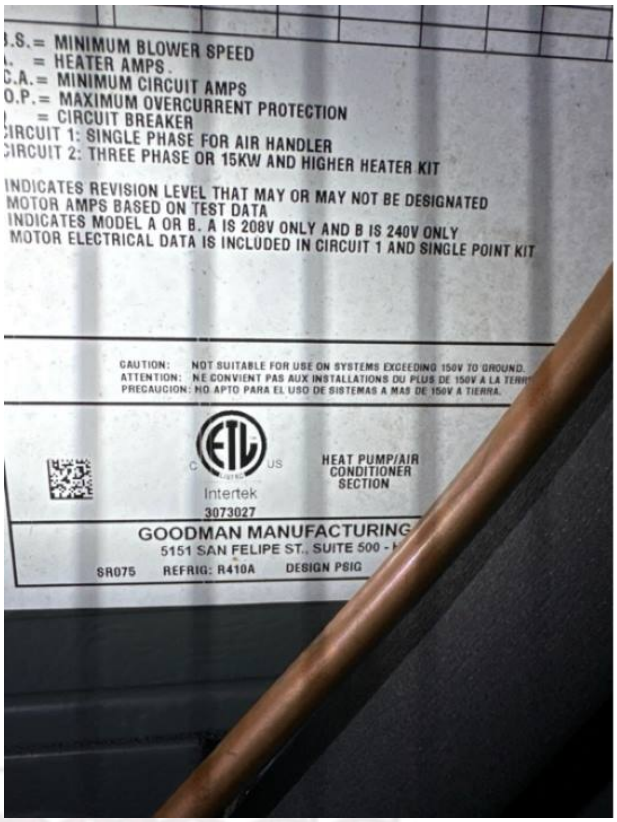

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Interior

Inspection notes pertain to moisture issues or visible mold-like substance. Condition and/or operation is not inspected.

LOCATIONS OF INDOOR AIR SAMPLES

15: Second floor hallway

LOCATION OF INDOOR MOLD TAPE LIFT(S)

16: The tape lift was taken from the air vent cover in the laundry room, where a previous leak and subsequent repairs were taking place as reported by the homeowner.

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GENERAL INTERIOR NOTES

17: First floor bathroom, sealant failure was noted around the tub, shower and the sink.




18: The second floor was a finished attic. The attic area was accessed via the knee wall. There was heavy storage and not all areas of the attic could be inspected.


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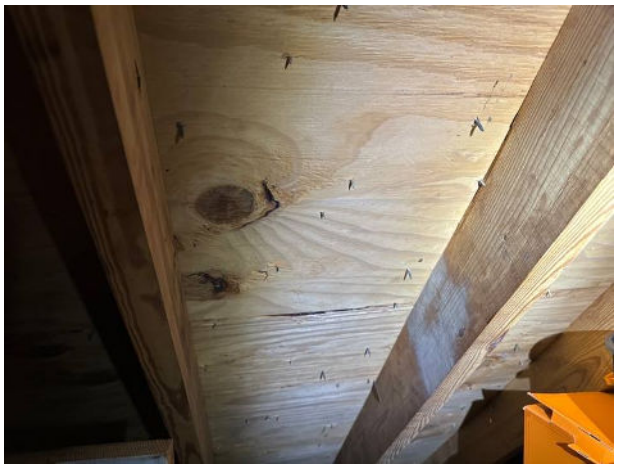
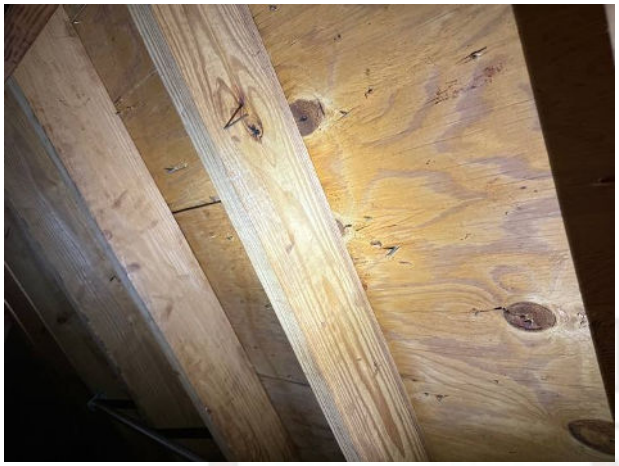

19: Rust was noted on the air vents on the second floor in the children's playroom located to the left side of home. This moisture maybe coming from the air-handler unit where a leak was previously noted.


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INSIDE SURFACES ON WALL & BASE CABINETRY (KITCHENS & BATHS)

20: Some old stains and a dip in the bottom of the cabinet under the kitchen sink was noted. Homeowner confirmed it was an old leak that had been fixed.

WALLS AROUND WATER HEATER

21: There was a leak that has been previously repaired at the water heater in the laundry room. The flooring was pulled up and repairs had been done in the crawlspace and plans for a new floor covering would be underway according to the home owner.

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Lab Results

EXPLANATION OF RESULTS FROM LAB REPORT

22: Lab results indicate that the following spores found were at a level significantly higher than the exterior baseline: Aspergillus-Penicillium, Chaetomium and Stachybotrys.

23: Lab results from the tape lift indicate that a heavy spore count of Cladosporium was present with possible active growth.

24: The following spores were found inside the home, but not on the exterior baseline sample: Chaetomium, Epicoccum, Myxomycetes, Pithomyces and Stachybotrys.

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Conclusion

The conclusion below is our opinion and should be verified by a professional remediator. A remediator s opinion should always outweigh ours.

CONCLUSION BASED ON LAB REPORT

25: A mold remediation company should be consulted to correct all issues.

26: A spore was found that indicates possible water damage. Recommend a licensed contractor to assess and correct any moisture intrusion issues and repair any water damage. A licensed mold remediation company should be consulted to correct all mold issues. Once complete a follow up mold assessment should be completed to ensure all issues have been rectified.

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HAYES
MICROBIAL CONSULTING

#24014574

Analysis Report prepared for

Burgess Inspections, Inc.

530 C Southlake Blvd
Richmond, VA 23236

Phone: **(804) 794-1423**

[redacted]

Collected: **April 9, 2024**
Received: **April 10, 2024**
Reported: **April 10, 2024**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 3 samples by Drop Off in good condition for this project on April 10th, 2024

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. Information supplied by the customer can affect the validity of results. These results apply only to the samples as received. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC.

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This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.

Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC.

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Spore Trap +
SOP - #HMC101

Sample Number*	1	3782 8630		3	3782 6830	
Sample Name*	Outdoor, Front Door			2nd Floor Indoor, Hallway By Return		
Sample Volume*	150 L			150 L		
Reporting Limit	7 spores/m³			7 spores/m³		
Background	2			2		
Fragments	33/m³			ND		
Particles	Dander	Pollen	Fiber	Dander	Pollen	Fiber
Counts	27 / m³	1200 / m³	7 / m³	2900 / m³	150 / m³	80 / m³
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria						
Ascospores	56	370	25.1%			
Aspergillus|Penicillium	4	27	1 8%	609	4100	97 3%
Basidiospores	91	610	40.8%	4	27	<1%
Bipolaris|Drechslera						
Chaetomium				3	20	<1%
Cladosporium	70	470	31 4%	4	27	<1%
Curvularia						
Epicoccum				1	7	<1%
Fusarium						
Memnoniella						
Myxomycetes				1	7	<1%
Pithomyces				1	7	<1%
Stachybotrys				3	20	<1%
Stemphylium						
Torula	2	13	<1%			
Ulocladium						
Total	223	1490	100%	626	4215	100%

Water Damage Indicator | Common Allergen | Slightly Higher than Baseline | Significantly Higher than Baseline | Ratio Abnormality

* indicates data provided by the customer

Collected **Apr 9, 2024** Received **Apr 10, 2024** Reported **Apr 10, 2024**

HAYES MICROBIAL CONSULTING

Project Analyst
Andrew Shields,

Date
04 - 10 - 2024

Reviewed By
Steve Hayes, BSMT

Date
04 - 10 - 2024

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Direct Analysis +
SOP - HMC#102

#2	Bio-Tape (1.00 cm2*)	Organism	Spore Estimate	Mycelial Estimate	Raw Count	% Total
	15509156 - Indoor Laundry Room Air Vent	Cladosporium	Very Heavy	Many	80000	100%

Reporting Limit 1 spore/cm2

* indicates data provided by the customer

Collected **Apr 9, 2024** Received **Apr 10, 2024** Reported **Apr 10, 2024**

HAYES MICROBIAL CONSULTING

Project Analyst	Date	Reviewed By	Date
Andrew Shields,	04 - 10 - 2024	Steve Hayes, BSMT Stephen N. Hayes	04 - 10 - 2024

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Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.
Blanks	Results have not been corrected for field or laboratory blanks.
Background	The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows: **NBD:** No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD) **1 :** <5% of field occluded. No spores will be uncountable. **2 :** 5-25% of field occluded. **3 :** 25-75% of field occluded. **4 :** 75-90% of field occluded. **5 :** >90% of field occluded. Suggested recollection of sample.
Fragments	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.
Control Comparisons	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.
Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality	**Blue:** These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. **Green:** Although all molds are potential allergens, these are the most common allergens that may be found indoors. **Orange:** The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. **Red:** The spore count is significantly higher than the baseline count and probably indicates a source of contamination. **Violet:** The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.
Color Coding	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.
Significant Figures	Raw counts and column totals may reflect more than 2 significant figures, but results should only be considered significant to 2 figures.

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Direct Analysis Information

Spore Estimate		Percentages
ND	None Detected	0%
Rare	Less than 10 spores	< 1%
Light	10 - 99 spores	1-10%
Moderate	100 999 spores	11 25%
Heavy	1000 - 9999 spores	26-50%
Very Heavy	10000 or greater spores	51 100%

Mycelial Estimate	
ND	None Detected No active growth at site.
Trace	Very small amount of Mycelium Probably no active growth at site
Few	Some Mycelium Possible active growth at site.
Many	Large amount of Mycelium Probable active growth at site

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Organism Descriptions

Ascospores	**Habitat:**	A large group consisting of more than 3000 species of fungi Common plant pathogens and outdoor numbers become very high following rain Most of the genera are indistinguishable by spore trap analysis and are combined on the report
	Health Effects:	Health affects are poorly studied, but many are likely to be allergenic.
Aspergillus|Penicillium	**Habitat:**	The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.
	Health Effects:	This group contains common allergens and many can cause hypersensitivity pneumonitis They may cause extrinsic asthma, and many are opportunistic pathogens Many species produce mycotoxins which may be associated with disease in humans and other animals Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions
Basidiospores	**Habitat:**	A common group of Fungi that includes the mushrooms and bracket fungi They are saprophytes and plant pathogens In wet conditions they can cause structural damage to buildings
	Health Effects:	Common allergens and are also associated with hypersensitivity pneumonitis.
Chaetomium	**Habitat:**	Ascomycete fungus, commonly isolated from soil and decaying plant materials. It is cellulolytic and grows well indoors on damp sheetrock and other paper substrates. It is often found growing with Stachybotrys.
	Health Effects:	It is reported to be allergenic and may produce toxins
Cladosporium	**Habitat:**	One of the most common genera worldwide Found in soil and plant debris and on the leaf surfaces of living plants The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity The outdoor numbers often spike in the late afternoon and evening Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts
	Health Effects:	A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.
Dander	**Habitat:**	Dander is dead skin cells. The average person sheds about 600,000 skin cells per day.
	Health Effects:	Sources are people and animals

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Organism Descriptions

Epicoccum	**Habitat:**	It is found in soil and plant litter and is a plant pathogen. It can grow indoors on a variety of substrates, including paper and textiles and is commonly found on wet drywall.
	Health Effects:	It is a common allergen. No cases of infection have been reported in humans.
Myxomycetes	**Habitat:**	Found on decaying plant material and as a plant pathogen.
	Health Effects:	Some allergenic properties reported, but generally pose no health concerns to humans.
Pithomyces	**Habitat:**	Common fungus isolated from soil, decaying plant material. Rarely found indoors.
	Health Effects:	Allergenic properties are poorly studied. No cases of infection in humans.
Pollen	**Habitat:**	Reproductive structures of trees, grasses and plants.
	Health Effects:	Trees, grasses and plants.
Stachybotrys	**Habitat:**	Commonly found in soil and on decaying plant material. It is cellulolytic, and can be found indoors on wet materials containing cellulose, such as wallboard, ceiling tile, and other paper-based materials. It is found outdoors on decaying plant material although it is rarely detected on outdoor air samples.
	Health Effects:	Allergenic properties are poorly studied and no cases of infection have been reported in humans. They do however produce potent tricothecene mycotoxins. The toxins produced by this fungus can suppress the immune system affecting the lymphoid tissue and the bone marrow. The mycotoxin is also reported to be a liver and kidney carcinogen.
Torula	**Habitat:**	Found in soil and on wood and grasses. Occasionally found growing indoors on cellulose containing materials.
	Health Effects:	A known allergen. No known cases of human infection.