

Definitions and Glossary

Definitions

Mold – A type of fungus that grows as multicellular filaments called hyphae. Molds play an important role in nature by breaking down organic materials; however, they can become problematic when they cause food spoilage or damage to building materials and other property. Certain molds can also cause disease in humans and animals. These health effects may result from allergic reactions to mold spores, infections caused by pathogenic molds, or exposure to toxic compounds (mycotoxins) produced by some mold species.

Fungi – A kingdom of eukaryotic organisms that includes molds, yeasts, mushrooms, and smuts. Fungi obtain nutrients by absorbing dissolved organic matter from their surroundings and are often referred to as nature’s decomposers because of their role in breaking down dead organic material.

Spores – Reproductive units produced by molds and other fungi that are adapted for dispersal and survival. Spores can be spread through the air or carried by insects, animals, or humans. They may remain dormant for extended periods until environmental conditions become favorable for growth.

Mycotoxin – A toxic secondary metabolite produced by certain molds. The term *mycotoxin* is generally used to describe toxic compounds produced by fungi that commonly colonize agricultural crops and other organic materials. A single mold species may produce multiple mycotoxins, and the same mycotoxin may be produced by several different mold species.

Glossary

Client Sample ID – An identifier assigned to the sample by the client or field sampler, typically corresponding to the sampling location or sample description.

Lab ID-Version – A unique laboratory-assigned identification number used to track and maintain traceability of a sample throughout the analytical process.

Count (Raw Count) – The number of fungal structures observed and counted by the analyst in the portion of the sample trace examined.

% Read – The percentage of the sample trace examined by the analyst during microscopic analysis. Depending on the amount of particulate loading and fungal structures present, only a portion of the trace may be analyzed. Raw counts are adjusted based on the percentage read to calculate the Adjusted Count (Adj. Ct.) and reported concentrations.

Adjusted Count (Adj. Ct) – The raw count corrected for the percentage of the sample trace examined during microscopic analysis.

Fungal Structures/m³ – The calculated concentration of fungal structures per cubic meter of air. This value is extrapolated from the raw count and is based on the volume of air sampled and the analytical method used.

Detection Limit (DL)/m³ – The minimum concentration of fungal structures, expressed as structures per cubic meter of air, that can be detected and reported using the analytical method and sample volume analyzed.

Relative Percent (Rel. %) – The percentage of a specific fungal structure type relative to the total fungal structures counted in the sample.

Total Fungal Structures/m³ – The total concentration of fungal structures identified in the air sample, expressed as fungal structures per cubic meter of air (structures/m³). This value represents the sum of all fungal categories reported in the sample and is calculated based on the adjusted counts and the volume of air collected. This value is calculated from the adjusted counts and sample volume and may not equal the exact sum of individual categories due to rounding.

Sample Volume – The total volume of air collected during sampling, expressed in liters (L). Sample volume is calculated using the sampling flow rate (liters per minute) multiplied by the sampling duration (minutes).

Background Debris (Fungal Loading Category) – A qualitative assessment of non-fungal particulate matter present on the sample trace that may affect visibility, analytical sensitivity, and the accurate quantification of fungal structures. Results are reported using a Fungal Loading Category of 0–5, with higher categories indicating greater particulate loading and a greater potential for negatively biased results.

Loading Category Scale

- 0 – No non-microbial particulate matter observed. This may indicate a blank/control sample, sampling error, or defective sampling cassette.
- 1 – Particulate matter obscures approximately >0–5% of the trace. Minimal background debris; little to no impact on analysis.
- 2 – Particulate matter obscures approximately 5–25% of the trace. Low particulate loading; some obscuration of the trace may occur.
- 3 – Particulate matter obscures >25–75% of the trace. Moderate particulate loading; fungal structures may be partially obscured, potentially resulting in underestimation.
- 4 – Particulate matter obscures >75–90% of the trace. Heavy particulate loading; visibility is significantly reduced and reported concentrations may be negatively biased.
- 5 – Particulate matter obscures >90% of the trace. Extreme particulate loading (overloaded sample); accurate quantification is not possible. Fungal structures are reported qualitatively (present/not observed) rather than quantitatively.

Remediation – Actions taken to address conditions that support fungal growth and/or to remove or clean contaminated materials. Remediation activities may include correcting moisture intrusion or elevated humidity conditions, cleaning affected surfaces, removing contaminated materials, and implementing measures to prevent future fungal growth.

Eurofins reports analytical observations and results only and does not determine whether remediation is necessary. Laboratory findings should be evaluated in conjunction with a site inspection, building conditions, moisture sources, occupancy considerations, and applicable regulatory or industry guidance to determine whether corrective actions are warranted.

Fungal Glossary*



Typically found growing outdoors



Potential allergen



Considered water damage indicator



Potential to produce mycotoxins

Spore Type	Description	Characteristics
Acremonium-like	Possible allergen. Opportunistic fungus occasionally associated with infections in immunocompromised individuals. Commonly found in soil, decaying vegetation, and water-damaged building materials.	   
Alternaria/Ulocladium-like	Common allergenic spores associated with hay fever and asthma. Frequently found on decaying vegetation and water-damaged cellulose materials such as paper, wallboard, and wood.	   

Ascospores	Very common outdoor spores associated with damp weather, rain, and decaying vegetation. Frequently encountered in both outdoor and indoor air.	 
Basidiospores	Common outdoor spores produced by mushrooms, bracket fungi, puffballs, and other basidiomycetes. May cause allergic reactions in sensitive individuals.	 
Bipolaris/Drechslera-like	Potential allergen associated with irritation of the eyes, nose, skin, and respiratory tract. Commonly found on grasses, grains, and decaying plant material. Opportunistic infections are uncommon and occur primarily in immunocompromised individuals.	  
Bispora/Diplococcium-like	Dematiaceous fungi commonly associated with decaying wood and plant material. Typically considered outdoor spores with limited documented human health significance.	
Botrytis	Potential allergen associated with hay fever and asthma. Common plant pathogen frequently found on indoor plants and decaying vegetation.	 
Cercospora-like	Plant pathogenic fungi commonly found on leaves and vegetation. Generally considered indicators of outdoor air with limited human health significance.	

Chaetomium	Moisture-indicating fungus commonly associated with chronically water-damaged cellulose materials such as drywall, paper, and wood. May cause allergic reactions; opportunistic infections are rare.	  
Cladosporium	One of the most common airborne molds. Frequently associated with hay fever, asthma, and other allergic reactions. Commonly found outdoors and in damp indoor environments.	  
Curvularia	Potential allergen associated with hay fever, asthma, and allergic fungal sinusitis. Opportunistic infections have been reported, primarily in immunocompromised individuals. May colonize water-damaged building materials.	  
Epicoccum	Potential allergen associated with hay fever, asthma, and skin allergies. Commonly found in soil, outdoor air, and decaying vegetation.	 

Fusarium	Potential allergen associated with hay fever and asthma. Some species may produce mycotoxins and may cause opportunistic infections in immunocompromised individuals. Frequently associated with wet building materials and plant material.	   
Memnoniella	Moisture-associated fungus closely related to Stachybotrys. Commonly found on chronically water-damaged cellulose materials and may produce mycotoxins under favorable conditions.	  
Nigrospora	Potential allergen commonly associated with decaying vegetation and soil. Indoor growth is uncommon.	 
Non-specified Spore	Spore observed but not identifiable due to orientation, condition, or insufficient distinguishing characteristics.	
Penicillium/Aspergillus-like†	Common airborne spores associated with allergic reactions, respiratory irritation, and asthma. Some species may cause opportunistic infections in immunocompromised individuals. Frequently found on water-damaged building materials and organic substrates. Light microscopy cannot reliably distinguish Penicillium from Aspergillus spores.	  

Peronospora/Oidium	Plant pathogens commonly found on leaves, stems, flowers, and fruits. Generally considered indicators of outdoor air.		
Pestalotiopsis/Pestalotia	Plant-associated fungi commonly found on leaves, wood, and decaying vegetation. Generally considered outdoor spores with limited human health significance.		
Pithomyces	Possible allergen. May colonize damp paper products and cellulose-containing materials under favorable moisture conditions.	 	
Polythrincium	Plant-associated fungus commonly found on grasses and other vegetation. Rarely associated with indoor growth.		
Rusts, Smuts, Periconia, Myxomycetes	Primarily outdoor spores associated with plants and decaying vegetation. May contribute to seasonal allergies but are rarely associated with indoor fungal growth.		
Spegazzinia	Fungus commonly associated with decaying leaves and plant debris. Typically considered an outdoor spore with limited documented health significance.		

Stachybotrys	Moisture-indicating fungus commonly associated with chronically water-damaged cellulose materials such as drywall, paper, ceiling tile, and wood products. Some species may produce mycotoxins under certain environmental conditions. Its presence generally indicates prolonged moisture intrusion requiring investigation and remediation. Exposure may contribute to allergic or irritant symptoms in susceptible individuals.	  
Tetraploa	Dematiaceous fungus commonly found on decaying vegetation and wood. Typically considered an outdoor spore with limited indoor significance.	
Torula	Potential allergen associated with hay fever and asthma. Frequently found on water-damaged cellulose materials, wood, straw, wicker, and outdoor vegetation.	  
Trichoderma	Commonly found in soil and on water-damaged cellulose materials. May cause allergic reactions; opportunistic infections are uncommon and occur primarily in immunocompromised individuals.	   

Zygomycetes	Fast-growing environmental molds commonly found in soil and decaying organic matter. Spores are common in outdoor air. Certain species may cause opportunistic infections in severely immunocompromised individuals.	
Hyphal Fragments	Branched fungal structures composed of filamentous hyphae. Their presence may indicate active fungal growth but does not identify the fungal genus or source.	
Pollen	Microscopic reproductive structures produced by plants. Common environmental allergens associated with seasonal allergic rhinitis (hay fever) and asthma in sensitive individuals.	

*The information provided in this table is intended for informational and environmental assessment purposes only and is not intended to provide medical advice, diagnose health conditions, or determine the presence or severity of health effects associated with mold exposure. Classifications such as “potential allergen,” “water damage indicator,” or “potential to produce mycotoxins” are based on general scientific and environmental literature and do not indicate that exposure will cause symptoms, that a health risk exists, or that mycotoxins are present.

Individuals may respond differently to mold, fungal spores, and other environmental particulates based on factors such as personal sensitivity, exposure level, duration of exposure, and existing health conditions. Individuals with concerns regarding possible mold-related health effects should consult a qualified healthcare professional.

Fungal spores are naturally present in indoor and outdoor environments. The detection or identification of fungal spores does not, by itself, confirm active fungal growth, water damage, or a health hazard. Interpretation of fungal findings should consider building conditions, moisture sources, inspection observations, sampling methods, laboratory limitations, and other site-specific factors.

Fungal identification by microscopy is limited to the level of classification possible using the analytical method performed and may not identify individual species. Different species within the same fungal group may vary in their environmental behavior, allergenic potential, and ability to produce secondary metabolites. A designation of “potential to produce mycotoxins” indicates that certain species have been reported to produce mycotoxins under specific conditions and does not indicate that mycotoxins are present or that exposure has occurred.

This table is intended to assist with interpretation of environmental sampling results and should not be used as a standalone determination of health risk, remediation requirements, or building condition.

References and Links

The following organizations provide information regarding mold, indoor air quality, moisture control, remediation, and health-related considerations:

U.S. Environmental Protection Agency (EPA)

- Mold: <https://www.epa.gov/mold>
- Mold and Health: <https://www.epa.gov/mold/mold-and-health>
- A Brief Guide to Mold, Moisture, and Your Home: <https://www.epa.gov/mold/brief-guide-mold-moisture-and-your-home>

Centers for Disease Control and Prevention (CDC)

- Mold Information: <https://www.cdc.gov/mold>
- Mold, Testing, and Remediation: <https://www.cdc.gov/niosh/mold/testing-remediation>
- Mold in the Workplace: <https://www.cdc.gov/niosh/mold/about>

Occupational Safety and Health Administration (OSHA)

- Mold Safety and Health Topics: <https://www.osha.gov/mold>

American Academy of Allergy, Asthma & Immunology (AAAAI)

- <https://www.aaaai.org>

Institute of Inspection, Cleaning and Restoration Certification (IICRC)

- <https://www.iicrc.org>

Additional Information

Information and recommendations regarding mold, indoor air quality, and remediation may vary based on building characteristics, climate, occupancy, and local regulations. Additional resources may be available through state, county, or local environmental health and indoor air quality agencies. The EPA maintains regional and state indoor air quality contact information at:

<https://www.epa.gov/indoor-air-quality-iaq>

Disclaimer

The references provided above are intended for informational purposes only. Eurofins does not endorse, warrant, or guarantee the content of external websites and is not responsible for changes to information maintained by third-party organizations. Laboratory findings should be interpreted in conjunction with site observations, moisture investigations, and other relevant environmental data.