

Home-Safe™ Guide to Common Fungi

Characteristics of Common Fungi and Mold Spores Often Observed in Indoor Samples

Mold Type (1)	Allergenic (2)	Toxic (3)	Infectious (4)	Easily Airborne (5)	Occurrence in Outdoor Air (6)	Degradation of Wood (7)
Acremonium species	+++	+	+	++	+	0
Alternaria species	+++	++	++	+	+++	0
Arthrospore-Forming Fungi*	ND	ND	ND	+	+++	varies
Ascospores / Ascomycete*	varies	+ / +++	+	++ / +++	++++	varies
Aspergillus species	++++	+++	+++	++++	++	+
Aspergillus / Penicillium-like spores	varies	varies	varies	++++	+ / ++	+
Aureobasidium species	+++	0	+	+	+	+
Basidiospores / Basidiomycete*	+ / ++	+	+	+++	++++	+++
Bipolaris/Drechslera/Exserohilum	++	0	++	++	+++	0
Chaetomium species	+	++	+	+	+	+
Chrysonilia species	ND	ND	+	+	+	ND
Cladosporium species	+++	+	+	+++	++++	+
Cunninghamella species	ND	ND	+	++	+	0
Curvularia species	++	0	+	++	+	0
Epicoccum species	+	++	0	++	++	+
Fusarium species	+	++++	++	+	+	0
Memnoniella species	ND	++++	0	+	+	+
Mucor species	++	0	+	++	+	0
Myxomycetes*	++	0	0	++	+++	+
Non-sporulating Mycelia*	varies	varies	varies	varies	++++	varies
Nigrospora species	+	0	+	+	+	0
Paecilomyces species	++	++	++	+++	+	+
Penicillium species	++++	++ / +++	+	++++	++	+
Phialophora species	ND	ND	++	+	+	+++
Phoma species	++	0	+	+	+	+
Pithomyces species	ND	+	0	++	++	0
Poria incrassata	ND	ND	ND	+	+	++++
Pycnidial Forming Fungi*	+ / ++	ND	ND	+	+	+
Rhizopus species	+++	0	+++	++	+	0
Rusts*	+	0	0	+ / ++	++	0
Scopulariopsis species	+	ND	+	++	+	+
Serpula lacrimans	ND	ND	ND	+	+	++++
Sporothrix species	ND	ND	++	+	+	+
Stachybotrys species	ND / +	++++	0	+	+	0
Stemphilium species	++	0	0	+	++	+
Smuts*	+	0	0	++	+++	0
Torula species	+	+	0	++	++	+
Trichoderma species	+++	+++	+++	++	+	+
Ulocladium species	++	0	+	++	++	+
Unknown colorless spore*	varies	varies	varies	varies	++	ND
Yeast*	+ / ++	0	varies	+	+	0
Zygomycete*	++ / +++	0	varies	varies	+	0

Key: + = Slight Effect or Risk ++ = Moderate Effect or Risk +++ = High Effect or Risk ++++ = Severe Effect or Risk	0 = None Known ND = No Data Currently Available * = Very Large and Diverse Group
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Notes:

General Comment: The information contained in this table is a collection of available information from various texts, compendia and research literature. The availability of information is often dependent on the types and amount of research work that has been done with any particular fungus, and as such there may be substantial gaps in the information on many fungi. Our presentation of information is for guidance and comparison only, and should not be considered to be absolutely complete or to apply to all members within a particular group. The ratings given in each category may reflect the characteristic for most members of a fungal group or for only a few (or one) members. Without more specific identifications, risks and characteristics can only be given as generalities and/or estimates.

(1) Mold Types. Some types of fungal spores are non-distinct and are impossible to separate from other types of spores without laboratory culture. Such spores are placed in groups and identified to the most specific level possible. Identifications from swabs, tape-lifts and bulk materials are generally more precise than spore-trap air samples due to the presence of additional structures necessary for identification.

(2) Allergy. All fungi should be considered to be allergenic to some extent. Many individuals will vary widely in their allergic reactions to the same mold. This rating is only intended as a guide when comparing different types of mold.

(3) Toxins. Many types of mold produce toxic substances of varying potency. This potency varies with mold type, with species in any given mold type, with growth substrate (food source for the mold) and among reactions of individual people. The fact that toxins have not been found in a particular fungus does not necessarily mean that toxins are not produced. On the other hand, fungi known to produce toxins do not necessarily produce them under all conditions. In general, all molds should be considered to be toxic to some extent.

(4) Infection. In general, the adverse health effects from exposure to mold are due to the chemical components of the mold – allergens, toxic substances and other substances that act as irritants. Information on fungi involved in human infections is generally based on hospital cases involving individuals with immune systems compromised due to disease or to drug therapy. Healthy individuals are rarely at risk of respiratory infection from most types of mold seen in indoor environments.

(5) Easily Airborne. A relative indicator to compare mold types amongst each other. The more easily that mold spores become airborne, the greater risk for inhalation exposure. Generally spores that are large or that exist in moist aggregates or in sacs are less likely to become airborne and travel far from their growth source.

(6) Occurrence in Outdoor Air. Fungal spores that more commonly occur in outdoor air will be more commonly seen in indoor air due to migration into buildings through open windows, doors, and other means. They may also settle along with common dust and become airborne again when the dust is disturbed. This rating may somewhat vary geographically as well as seasonally.

(7) Degradation of Wood. Almost all fungi can grow on wood, but some are especially good at degrading the principal structural components of wood. Over time, this can lead to serious cosmetic and structural damage of wooden building materials.

Final Note: Many other types of fungi exist and your report may contain identifications not present in this guide. Information on these fungi may be found on the internet or by contacting Northeast Laboratory Services at: IndoorAir@nelabservices.com.