



Airborne mould spores

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Airborne mould spores can destroy your health. Many people are unaware that they are breathing mould spores until they are very sick. If you are lucky and have a minor allergic reaction to the mould, once you leave the affected area you will recover. But, if you have been exposed to the dangerous **stachybotris** spores you can have chronic bronchitis, learning disabilities, mental deficiencies, heart problems bleeding lungs and more. Here is what you need to know about mould in your homes, schools, and places of work.

25 million Americans suffer from allergic reactions to moulds, most of them don't even realize that when they're sneezing and sniffing the cause could be moulds. Many moulds produce airborne toxins that can cause serious breathing difficulties, memory and hearing loss, dizziness, flu-like symptoms, and bleeding in the lungs. Common ailments from mould---including allergies, asthma and bruising---usually can be treated and reduced after people leave their contaminated environment. But other health problems may remain permanently, such as brain damage and weakened immune systems.

Fungus reproduces into spores that come in many different sizes, shapes and colours. The spores will reproduce and germinate into new mould growth, which in turn can produce millions of more spores. Moulds are most prevalent from spring through late fall, but, in warm climates, moulds thrive all year and can cause year-round problems.

Moulds can be found wherever there is moisture, oxygen, warmth and something to feed on. In the fall they grow on rotting logs and fallen leaves, especially in moist, shady areas. In gardens, they can be found in compost piles and on certain grasses and weeds. Moulds grow in our homes in moist warm areas like damp basements, closets, and bathrooms. Also moulds can grow in places where fresh food is stored, refrigerator drip trays, houseplants, humidifiers, garbage pails, mattresses, upholstered furniture, or foam rubber pillows. Moulds can grow inside the walls and flooring of our homes, wherever there are wet cellulose materials they can feed on, such as wood, ceiling tiles, or plasterboard.

Moulds come in at least a thousand different varieties, but only a few are the offenders that invade our homes. **Alternaria** and **Cladosporium** are the moulds most commonly found both indoors and outdoors. **Aspergillus**, **Penicillium**, **Helminthosporium**, **Epicoccum**, **Fusarium**, **Mucor**, **Rhizopus**, and **Aureobasidium** are also common. The most dangerous mould strains are: **stachybotrys** (pronounced Stack-ee-BOT-ris). This black fungus releases toxic, microscopic spores that cause the worst symptoms that are usually irreversible.

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In some individuals, a minor exposure to mould can cause an allergy that can lead to asthma or to a lung disease. The symptoms are wheezing, low-grade fever, and coughing up of brown mucus.

The **Microgenix Air Purification System** has been proven effective in controlling a wide range of gram positive and gram negative bacteria, fungus, yeasts and algae. The following list represents types of micro-organisms against which the system has been specifically tested

Acinetobacter calcoaceticus 1
 Bacillus cereus
 Brucella abortus
 Brucella abortus
 Brucella canis
 Brucella canis
 Brucella suis
 Citrobacter diversus 1
 Clostridium perfringens
 Escherichia coli 1
 Corynebacterium bovis
 Enterobacter agglomerans 1
 Escherichia coli ATCC 23266
 Klebsiella pneumonia ATOC4352I
 Haemophilus influenzae
 Haemophilus suis
 Lactobacillus casei
 Leuconostoc lactis
 Listeria Monocytogenes
 Micrococcus sp

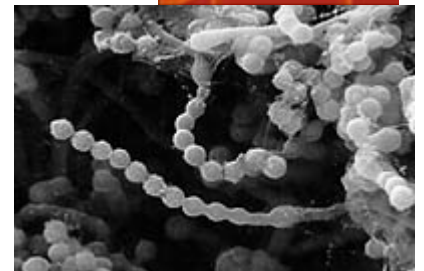
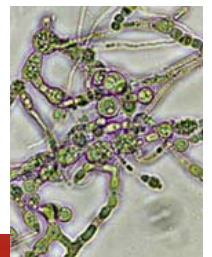
Aspergillus flavus
 Aspergillus fumigatus
 Aspergillus niger
 Aspergillus versicolor
 Aspergillus terreus
 Aureobasidium pullulans
 Chaetomium globosum
 Cladosporium herbarum
 Fusarium nigrum
 Fusarium solani
 Glicoladium reseau
 Mucor sp

Anabaena cylindrica
 Candida albicans
 Chlorella vulgaris
 Gonium sp. LB 9c

Mycobacterium smegmatis
 Mycobacterium tuberculosis
 Propionibacterium acnes
 Proteus mirabilis
 Proteus vulgaris
 Pseudomonas aeruginosa
 Propionibacterium acnes
 Proteus vulgaris
 Pseudomonas cepacia
 Pseudomonas fluorescens
 Salmonella Choleraesuis
 Salmonella typhosa
 Staphylococcus aureus (non pigmented) 1
 Staphylococcus aureus (pigmented) 1
 Staphylococcus epidermidis
 Streptococcus faecalis
 Streptococcus mutans
 Xanthomonas campestris

Oospota lactis
 Penicillium albicans
 Penicillium citrinum
 Penicillium elegans
 Penicillium funiculosum
 Penicillium humicola
 Penicillium notatum
 Penicillium variabile
 Stachybotrys atra
 Trichoderma flavus
 Tricophyton interdigitalis
 Tricophyton mentagrophytes

Pleurococcus sp. LB11
 Saccharomyces cerevisiae
 Schenedesmus quadricauda
 Selenastrum gracile B325





The approximate doses of UV 254nm energy required for the inactivation of 90% of micro-organisms is shown below:

The **Microgenix Air Purification System** delivers **45 mWsec/cm²** to the air in each pass through. An appropriately sized unit will turn the room air over 4 times an hour.

Doses expressed as Ultra Violet . 254nm in mWsec/cm² (mJ/cm²)

Organisms	Dose	Yeasts	Dose
Bacterium coli in water	5.4	Bakers yeast	3.9
Bacillus anthracis	4.52	Brewers yeast	3.3
B.megatherium (<i>veg</i>)	1.13	Common yeast cake	6.0
B.megatherium (<i>spores</i>)	2.73	Saccharomyces ellipsoideus	6.0
B.parathyphosous	3.20	Saccharomyces sp.	8.0
B. subtilis	7.10	Saccharomyces cerevisiae	6.0
B. subtilis (<i>spores</i>)	12.00	Torula sphaerica (<i>found in milk & cream</i>)	2.3
Corynebact, diphtheriae	3.37	Various algae	
Dysentery bacilli	2.20	Diatoms	
Eberthella typhosa	2.14	Green algae – 360.0 – 600.0	
Escherichian coli	3.0	Blue algae	
Legionella pneu . <i>Legionnaires</i>)		Protozoa	
Micrococcus candidus	6.05	Paramecium – 64.0 –100.0	
Micrococcus piltonencis	8.10	Mould spores	
Micrococcus sphaeroides	10.0	Aspergillus amstelodami (<i>meat</i>)	66.0
Neisseria catarrhalis	4.40	Aspergillus flavus	60.0
Phytomonas tumefaciens	4.40	Aspergillus glaucus	44.0
Proteus vulgaris	2.64	Aspergillus niger (<i>bakeries</i>)	132.0
Pseudomanas aeruginosa	5.50	Cladosporium herbarum (<i>cold sores</i>)	60.0
Pseudomanas fluorescens	3.50	Mucor mucedo (<i>meat, bread & cheese</i>)	65.0
S. typhimurium	8.0	Mucor racemodus A	17.0
Sarcina luta	19.70	Mucor racemodus B	17.0
Serratia marcescens	2.40	Oospara lactis	5.0
Shigella paradyscenteriae	1.68	Penicillium digitatum	44.0
Spirillum rubrum	4.40	Penicillium expansum	13.0
Staphylococcus albus	1.84	Penicillium chrysogenum (<i>fruit</i>)	50.0
Staphylococcus aureus	2.60	Penicillium roqueforti	13.0
Streptococcus hemolytics	2.16	Rhizopus nigricans	111.0
Streptococcus lactis	6.15	Scopulariopsis brevicaulis(<i>cheese etc</i>)	80.0
Streptococcus viridans	2.0		
Tubercle bacillus	10.0		

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