

## Mould Spores

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There are thousands of types of moulds and yeasts in the fungus family. Yeasts are single cells that divide to form clusters. Moulds are made of many cells that grow as branching threads called hyphae. Although both can probably cause allergic reactions, only a small number of moulds are widely recognized offenders.

The seeds or reproductive pieces of fungi are called spores. Spores differ in size, shape, and colour among types of mould. Each spore that germinates can give rise to new mould growth, which in turn can produce millions of spores.



**Under the Microscope**

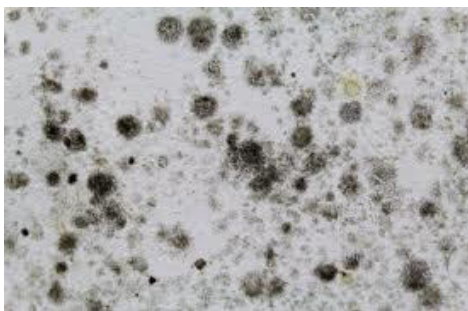
Mould spores are a potent allergen that can trigger severe asthma and rhinitis symptoms and cause a broad range of respiratory conditions. It occurs both indoors and outdoors and the density of mould spores is normally much higher than that of Pollen.

Mould spores, sometimes also called fungal spores, are light and are therefore readily carried through the air of your home or office. This is because their diameter is between one and 100 microns, depending on species, with most being between 2 and 10 microns. Moulds come in a variety of colours: white, grey, orange, green, pink and black.

Your first step in keeping the mould count under control is to ensure that you tackle any damp areas. Another important step is to neutralise mould spores in the air and on surfaces, to prevent the mould from spreading.

## Types of mould

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### **Black Mould**

The most common types of black mould are *Stachybotrys chartarum* which is often mistaken for ordinary household dirt and the dark-coloured *Alternaria* mould which often lurks in your bathroom. *Aspergillus niger* is dark brown and often responsible for those mould patches on damp walls.

## Aspergillus

Aspergillus is a group of moulds which is very widely distributed worldwide, especially in the Northern hemisphere and in the latter half of the year. Aspergillus is found in locations such as compost heaps. Exposure to aspergillus can cause severe difficulties for people with existing respiratory conditions or weak immune systems.



## Mould allergies

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When inhaled, tiny fungal spores, or sometimes pieces of fungi, may cause allergic rhinitis or trigger an asthma attack. Because they are so small, mould spores also can reach the lungs.

In a small number of people, symptoms of mould allergy may be brought on or worsened by eating certain foods such as cheeses processed with fungi. Occasionally, mushrooms, dried fruits, and foods containing yeast, soy sauce, or vinegar will produce allergy symptoms.

Common symptoms:

- trigger severe asthma attacks
- sore eyes, nose and throat irritation
- coughing
- wheezing
- impaired lung functioning

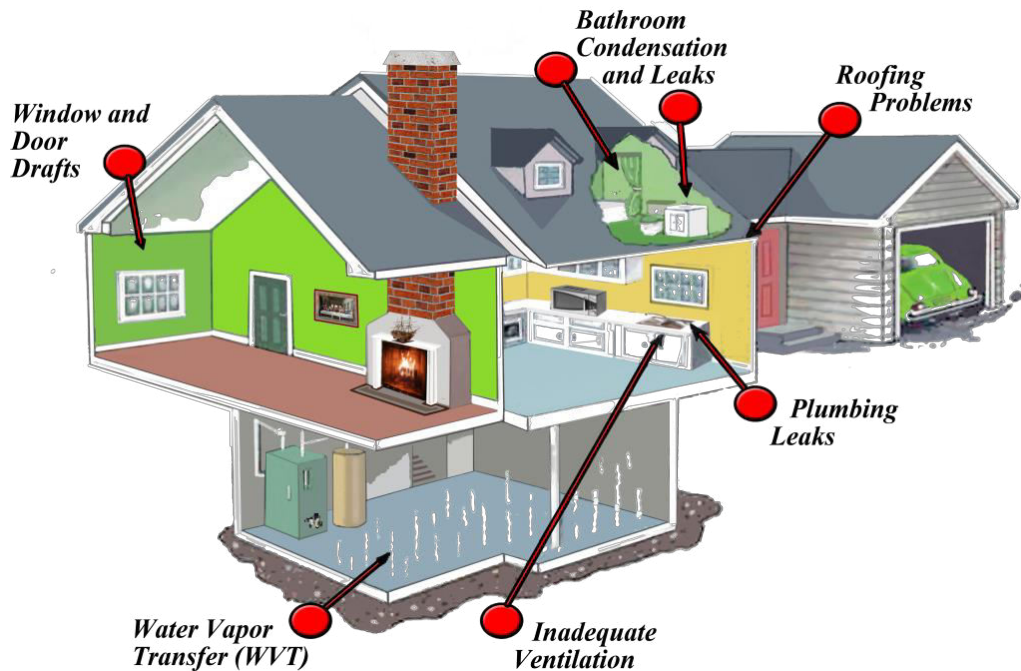
Mould spores can also cause Allergic Bronchopulmonary Aspergillosis (ABPA) which is an allergy to the spores of *Aspergillus fumigatus*. Around 5% of adults with asthma develop ABPA at some time during their lives.

## Where do moulds grow?

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Mould loves damp conditions, so you will tend to find it in places such as:

- kitchens
- bathrooms, especially on tiles and shower curtains
- in rooms with lots of houseplants, because mould can live on the soil
- cellars and basements where ventilation is limited
- any unheated room
- old houses



- rotting wood is a harbour for vast numbers of mould spores
- buildings being renovated, bedrooms containing wardrobes full of old clothes (check for the smell of mildew)
- any building near water where the air is sure to be damp
- rooms with humidifiers

## **What is the best way of preventing indoor mould?**

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Keep your home or office well-ventilated and dry, and discourage the dispersal of mould spores:

- when you are cooking, close the kitchen door and open a window
- dry clothes outside wherever possible
- don't have a carpet in your bathroom
- dust and vacuum regularly
- check the shower head very regularly and keep it clean
- replace any shower curtain regularly
- remove any old furniture that smells of mildew
- never sleep in a room with visible mould
- real christmas trees have mould growing on their needles and release spores in the warmth so use an artificial tree instead

- don't leave decaying food and fruit around
- food kept in plastic bags is more prone to develop mould so always remove from the bag to store
- always clean work surfaces of any food debris
- avoid handling old clothes and old books; especially if you can actually smell the mildew
- wash the bottom of your kitchen rubbish bin regularly
- check inside and under the freezer and fridge, especially in the rubber door seals where black mould can collect
- be aware that building works, and household cleaning, can stir up mould spores, so keep away at these times if you are allergic
- consider using a powerful dehumidifier or air-conditioning unit to remove moisture from the air and dry out the building fabric

#### **Repairs & Maintenance:**

- deal with any cracks, leaks, or rising damp
- check out any possible leakage, for example from a washing machine, which might be contributing to the damp
- deal with clogged guttering which could otherwise lead to water overflow running down outside walls and penetrating indoors

## **Removing mould**

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A mixture of bleach and water, a mixture of white spirit and surgical spirit, or a specialised anti-fungal spray can be used to get rid of mould patches. Mould tends to reoccur, so you may well have to repeat your cleaning operations.

## **Can an air purifier help?**

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While numerous manufacturers of 'air cleaners' / 'air filters' claim to be able to clear mould spores from the air, they can only reduce, not eliminate, the problem, because:

- they can only clean the air that passes through them, and stratification, eddies and more means that some air in the room never passes through the filter
- they don't clean surfaces at all and it only takes a small disturbance to put settled mould spores back into the air



The only technology we know of that can neutralise vegetative spores (mould) throughout the air in a room and on surfaces is Airora's 'Hydroxyl Cascade' technology.



You can learn more about why traditional air cleaners don't work well [here](#) and why Airoora's unique technology does work [here](#).