

## newsletter

# Toxic mould

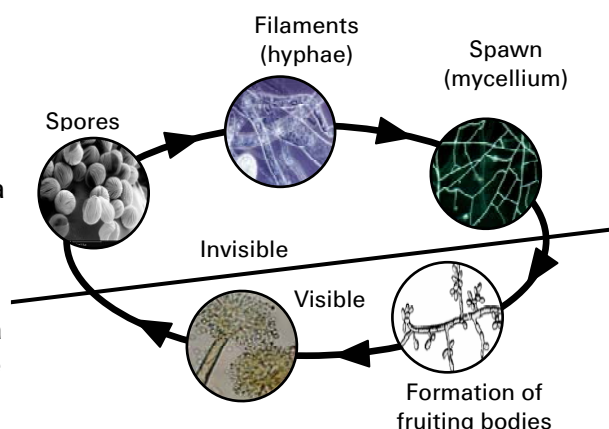
**Toxic mould in buildings has been cited in claims for damages in the billions in recent years, especially in the US. Expedient risk management can help both "victims" and the insurance industry to take preventative action.**

### Introduction

Mould is a natural part of our living environment and is simply the product of the reproduction of fungi. Mould can cause various kinds of harm, for example damage to buildings and property, health impairments to a building's occupants, or financial losses. In this context, the concept of "toxic mould" has recently emerged in the US.

### Origins, growth and reproduction

Fungus spores account for a major part of the aeroplankton (= organic particles suspended in the air, including bacteria, skin scrapings, mites and pollen). The growth and spread of mould are promoted by temperatures of 20-30 °C, a relative humidity >70%, and the presence of organic matter as nutrients. Moulds reproduce by making spores, which are released in large numbers. In a favourable environment, these germinate and form small, silk-like filaments called hyphae, which serve to take in nutrition and reproduce. Collectively, the germinating hyphae are known as the mycelium, popularly called spawn. The mycelium is the actual mould and is usually not visible to the naked eye. From the mycelium, the mould forms spore-bearing structures known as "fruiting bodies". As soon as the spores are mature, they are released and repeat the life cycle.



### Benefits and risks: Property damage, financial loss, loss of reputation

Moulds play an important part in the breakdown, decomposition and decay of dead organisms and organic materials. However, their unwanted presence in the human habitat frequently has adverse implications. Their enzymatic digestion processes may damage or even completely destroy valuable property. Apart from the reduction in the value of the infected objects themselves, expensive cleaning and repair may also be needed.

Mould infestation of buildings and property can cause financial harm due to loss of or reduced earnings, for instance loss of rental income, impairment of market value, diminished utility. In many cases, it can also lead to a loss of reputation, especially if the name of the company whose property is infested becomes publicly known, or if its services become associated with mould.

Loss of revenue due to declining sales is then accompanied by extra expenditure on enhanced quality assurance efforts and public relations work.

<b>Health risks</b>	The adverse health effects of mould in buildings can be broadly assigned to three categories:
<i>Mycoallergosis</i>	<ul style="list-style-type: none"><li>• allergic reactions due to persistent contact with mould or spores; the probability of this happening increases with the concentration, the frequency and the duration of exposure;</li></ul>
<i>Mycotoxicosis</i>	<ul style="list-style-type: none"><li>• toxic reactions: many of the mould's metabolic products are potentially harmful to human health ("mycotoxins"); direct toxic effects, eg on the respiratory tract, are possible, acute poisoning is unlikely;</li></ul>
<i>Mycosis</i>	<ul style="list-style-type: none"><li>• fungal diseases are rare and are not usually serious, unless the immune system is already weakened (eg due to AIDS).</li></ul>
	The possible effects of moulds, spores and mycotoxins on living organisms have been investigated in scientific studies but in many cases are not yet properly understood. It is thus not always easy to prove that they are the cause of a given medical condition.
<b>Reasons</b>	The reasons for mould growth are many and varied: <i>Technical reasons:</i> <ul style="list-style-type: none"><li>• design/architectural errors</li><li>• defective products</li></ul> <i>Organisational reasons:</i> <ul style="list-style-type: none"><li>• incorrect product descriptions/instructions for use</li><li>• inadequate information policy/missing cautionary notes</li></ul> <i>Human factors:</i> <ul style="list-style-type: none"><li>• inappropriate product manufacture</li><li>• installation/assembly errors</li><li>• inadequate care and maintenance</li><li>• incorrect operation/failure to keep buildings properly heated and aired</li><li>• inadequate cleaning/mould removal</li><li>• inadequate building remediation/restoration</li></ul>
<b>Exposed businesses</b>	In line with the diversity of the causes, various lines/types of business may be affected: <ul style="list-style-type: none"><li>• construction industry, including all related trades and professions such as architects, civil engineers, interior designers, building trades; landscaping;</li><li>• real-estate sector: agents, sellers, landlords, building management, servicing and maintenance providers;</li><li>• public sector, authorities and institutions</li><li>• pharmaceuticals and cosmetics industry</li><li>• waste disposal, composting</li><li>• food industry and agriculture</li></ul>
<b>Mould removal</b>	The following steps are essential for effective elimination of mould: <i>In cases involving severe contamination:</i> <ul style="list-style-type: none"><li>• assessment of the microbiological burden from the industrial health and safety aspect;</li><li>• sealing of the infested area;</li><li>• drying to stabilise the infestation</li></ul>

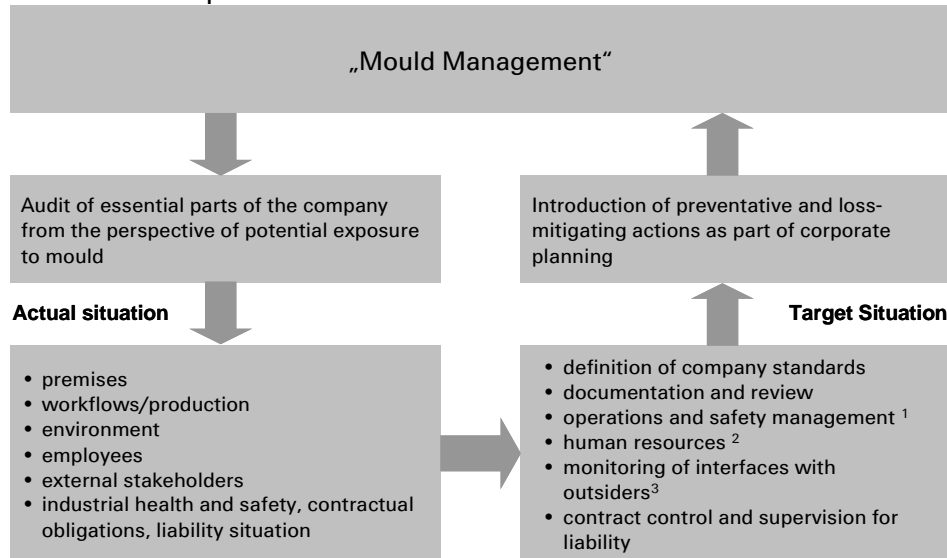
*Actions to be taken to combat normal contamination:*

- thorough investigation of the causes
- removal of the mould by means of an approved cleaning method
- if necessary, replacement or demolition of infested parts
- repair and acceptance inspection

These steps must be carried out in accordance with a defined quality assurance system.

**Risk management**

The hazard can be mitigated by adopting a dynamic risk management process: "mould as a corporate risk"



<sup>1</sup> Detailed specification down to water and damp management, including monitoring and documentation of the introduction of all water and moisture and definition of a recorded plan of action

<sup>2</sup> Planning and organisation of medical examinations and prophylactic care, classification of employees into hazard categories (depending on jobsite exposure and susceptibility to mould), employee education and training with regard to mould.

<sup>3</sup> Exposure of the company due to mould entrained by and/or affecting outsiders

**Information for the underwriter**

In 2002 alone, mould cost the insurance industry in North America over USD 2bn in claims. In Europe, the exposure would appear to be considerably lower, thanks to the wordings used and liability exclusions. Constellations in which the insurer would be obliged to indemnify are conceivable only as a consequence of an insured event, such as flooding or the effects of fire-fighting water after an insured fire. However, these are few and far between. Nevertheless, some uncertainty remains, because the basis for today's court decisions and insurance situation could shift in the policyholder's favour as a result of political, legal and medical developments. These could include eg new diagnostic methods that might make it possible to prove a causal relationship between a health impairment and a specific case of mould infestation, or the setting of new limits and thresholds.

**Contact**

AssTech GmbH  
 Postfach 1211  
 85766 Unterföhring bei München  
 Telephone + 49 89 3844-1585  
 Telefax + 49 89 3844-1586  
 info@asstech.com  
 www.asstech.com