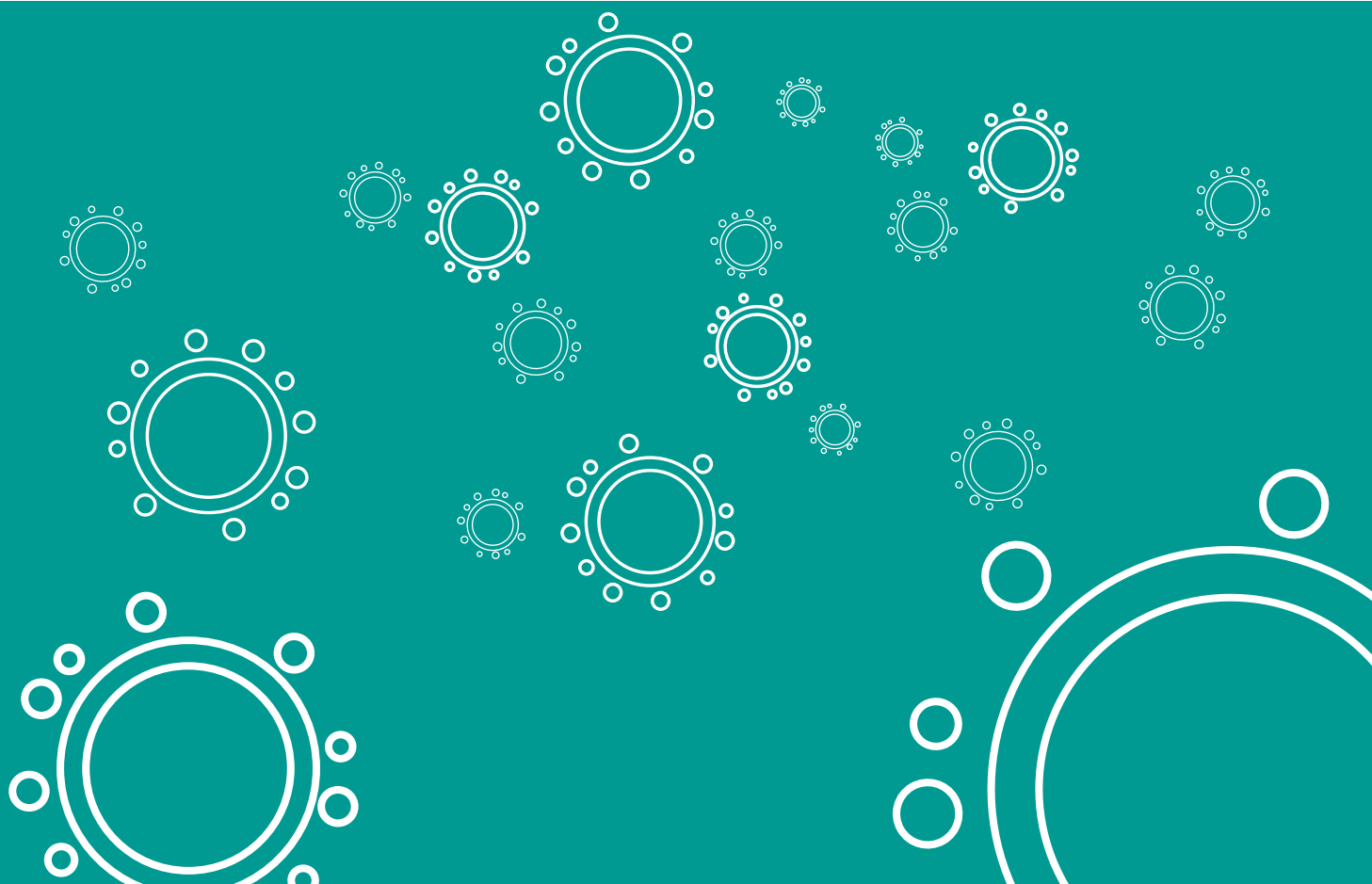


Mould in living accommodation

Information for occupants, tenants and landlords

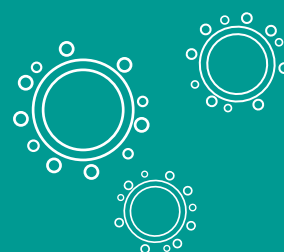


Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Home Affairs FDHA
Federal Office of Public Health FOPH





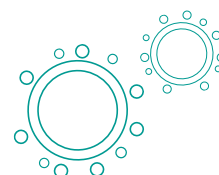
Imprint

Text: Claudia Vassella Brantschen, Dr. phil.

Photos: 1–2, 4–11: Belfor (Suisse) AG, Photo 3: T. Ammann, Photo 12: B. Habegger

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This brochure reflects the latest international understanding of these issues. It is also in line with the demands by the WHO, the World Health Organization.

Widespread

Perhaps this is something that affects you too? Dampness problems and mould occur in one out of every four to five households, making them anything but uncommon.

Going together

If materials are left in damp condition for several days, there is every likelihood that mould will grow on them. Conversely, no mould only grows unless the conditions are damp.

Unhealthy damp conditions

The more extensive the mould, the greater the health risks. In addition to frequent irritation of the eyes, skin and airways, allergies also sometimes occur. Over time, irritation of the airways can develop into chronic bronchitis (coughing) and asthma. Because of its pungent smell mould can also have a detrimental effect on the individual's wellbeing. Last but not least mould is suspected of being a precursor to colds.

Unfortunately, for people with specific existing illnesses mould represents additional risks: for example, suffer-

ers of severe, chronic asthma or cystic fibrosis (CF) are at increased risk of developing the dangerous allergic lung disease ABPA (allergic bronchopulmonary aspergillosis). Moreover, patients with a weakened immune system such as transplant patients, AIDS patients and cancer patients can also contract life threatening mould and bacterial infections. For healthy persons, however, infections of the internal organs are not a problem at all.


What now? – The right course of action, made easy

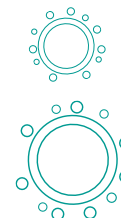
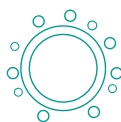
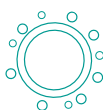
What should you do as a tenant, an owner or manager of residential premises where mould is growing? Is this a minor or a serious problem? The tables below will help you to take the right decisions.

The tables correspond to various mould categories. Which category could apply to your situation? Compare the pictures in the tables with your situation. Then read about the characteristics of the damage and decide which category applies. If the smell of mould is the only indication of mould, your situation is likely to be described in the fourth table.

Presence of mould in living areas and rooms in common use

(including bathrooms, kitchens and corridors)

Cat.	Characteristics of the damage	Rough assessment of structural damage and risk to health	Recommendations for tenants
0	<p>Traces of surface mould extending up to 100 cm² (i. e. 10x10 cm) in one place, only in one room.</p> <p>There are no indications suggesting a more extensive problem.</p>	<p>Presents no problem for health or to the fabric of the building</p>	<p>No reason for concern</p> <ul style="list-style-type: none"> – Report the damp and mould problem to the landlord. – You can easily remove the traces of mould without any health concerns, using water and a standard household cleaner. If necessary the area can then be disinfected using diluted bleach (a diluted solution of sodium hypochlorite) or 70–80 % ethyl alcohol. – If the traces of mould are not removed they should be monitored and reassessed at a later date. – There is no link between any health problems and small surface areas of mould. Nevertheless you should consult a doctor over any health problems.
			<p>Recommendations for landlords / owners</p>
			<p>In order to eliminate the traces of mould on a long-term basis, the cause of the increased damp can be investigated and rectified (for info on investigating damage, see under Addresses).</p>
 <p>Photos 1–4</p>			





Cat.	Characteristics of the damage	Rough assessment of structural damage and risk to health	Recommendations for tenants
1	<p>Surface mould or stains in one place, just in one room:</p> <ul style="list-style-type: none">– with individual growth up to 0.5 m² (i. e. 70x70 cm)– for dense growth up to 100 cm² (i. e. 10x10 cm) <p>There are no indications suggesting a more extensive problem.</p>	<p>The situation is unacceptable from the healthcare viewpoint.</p> <p>The situation poses minimal problems in relation to the fabric of the building, but the situation can deteriorate.</p>	<ul style="list-style-type: none">– Immediately report the damp and mould problem to your landlord or property manager, otherwise you could be held liable for consequential losses. We recommend that you describe or photograph the damage and send the letter by registered post. The landlord or property manager is responsible for further investigations.– Do not use dehumidifiers under any circumstances before the mould is eliminated.– Ventilate the area frequently.– Persons at risk* should contact their doctor with regard to the mould and the imminent corrective work. <p>Recommendations for landlords / owners</p> <p><i>Ensure that corrective work is carried out professionally. This includes:</i></p> <ul style="list-style-type: none">– Investigating and rectifying the cause of the increased damp or taking measures which at least improve the situation (for info on investigating damage, see under Addresses).– Eliminating the mould completely and drying out damp materials. <p><i>In this context you should pay attention to the following:</i></p> <ul style="list-style-type: none">– Do not carry out corrective work yourself when persons at risk* are in the building. Instead, arrange for the corrective work to be carried out professionally (for info, see Addresses).– Otherwise, eliminate the mould yourself either in accordance with the brochure entitled “Warning, mould” or arrange for it to be completely and professionally eliminated by a specialist decorating company (for info on corrective work, see under Addresses).– Do not use dehumidifiers under any circumstances before the mould is eliminated. <p>* Persons at risk: patients with cystic fibrosis (CF) and severe allergic asthma, including in particular patients with a weakened immune system such as transplant patients, AIDS patients and cancer patients</p>



Photos 5–8

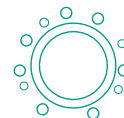
Presence of mould in living areas and rooms in common use

(including bathrooms, kitchens and corridors)

Cat.	Characteristics of the damage	Rough assessment of structural damage and risk to health	Recommendations for tenants
2	<ul style="list-style-type: none"> – Individual mould growth or individual stains over an area in excess of 0.5 m² (i. e. 70x70 cm) or: – Dense, extensive mould growth over an area in excess of 100 cm² (i. e. 10x10 cm) or: – Deeper layers of mould growth or: – Mould growth or stains in multiple places in the same room or different rooms 	<p>The situation is unacceptable from the healthcare viewpoint.</p> <p>The situation frequently poses problems in relation to the fabric of the building, and the situation can deteriorate.</p>	<ul style="list-style-type: none"> – Immediately report the damp and mould problem to your landlord or property manager, otherwise you could be held liable for consequential losses. We recommend that you describe or photograph the damage and send the letter by registered post. The landlord or property manager is responsible for further investigations. – For any health problems you should consult a doctor. Persons at risk* should contact their doctor as soon as possible in view of the high risk. – Rooms with significant mould growth should be closed off from other rooms and, as a precaution, should not be used. In this context we recommend particular caution for bedrooms and children’s rooms. – Ventilate the building frequently. – Do not use dehumidifiers under any circumstances before the mould is eliminated. <p>* Persons at risk: patients with cystic fibrosis (CF) and severe allergic asthma, including in particular patients with a weakened immune system such as transplant patients, AIDS patients and cancer patients</p>

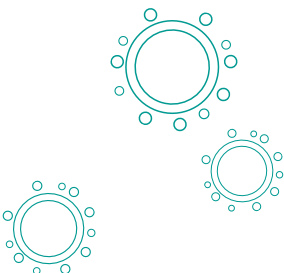
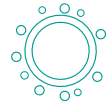
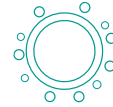
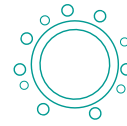


Photos 9–12



Recommendations for landlords / owners

- Immediately arrange for the extent and cause of the damage to be investigated by a specialist in building damage and structural physics. These investigations can also be carried out by the company that you wish to employ for the corrective work. Experience in extensive corrective work and a professional approach should be a prerequisite (for info on corrective work, see Adresses). Do not carry out the corrective work yourself! The causes for the high level of damp must be permanently eliminated.
- *Do not use dehumidifiers under any circumstances* before the mould is eliminated.
- After work has been carried out to eliminate the mould, we recommend that the occupants be provided with factual information on appropriate preventive behaviour, without apportioning blame (see below: “Prevent mould growth”).



Smell of mould, with no visible sign of mould

Feature	Information on structural damage and risk to health	Recommendations for tenants
<p>Clearly discernible smell of mould</p>	<p>Clearly discernible smell of mould without any visible mould is an indication of hidden mould growth.</p> <p>The situation must be investigated from the healthcare viewpoint.</p> <p>We also recommend an investigation to prevent consequential structural damage.</p>	<ul style="list-style-type: none"> – Inform your landlord or manager that there are irritating odours that suggest the presence of mould growth; otherwise you could be held liable for consequential losses. We recommend that you describe the location and type of odours and that you send the letter by registered post. The landlord or manager is responsible for further investigations. – Persons at risk* should consult their doctor about the forthcoming investigations and corrective work. <p>* Persons at risk: patients with cystic fibrosis (CF) and severe allergic asthma, including in particular patients with a weakened immune system such as transplant, AIDS and cancer patients</p> <hr/> <p>Recommendations for landlords</p> <ul style="list-style-type: none"> – Perception of odours can vary significantly from individual to individual. The first task is therefore to obtain confirmation about the irritating odour forming the subject of the complaint: can other people clearly detect the smell of mould? – If there are individuals with sensitivity problems or even persons at risk living in the apartment, you must not carry out any investigations yourself, and in particular you must not remove parts of the building's structure. In this case you must immediately instruct a specialist in building damage and building physics to search for the suspected damage and investigate its cause. This person must be informed that there are persons with sensitivity problems living in the property. If mould growth is found you should arrange for the corrective work, including the work of eliminating the causes, to be carried out professionally. Do not carry out the corrective work yourself! (For info on investigating damage and corrective work, see under Addresses.) – If the persons in the property are healthy, as the owner you can carry out your own search for the suspected damage caused by damp. However, if there are indications of extensive mould growth you should not remove any structural items. In this case the investigations should be left to professionals. They also have non-destructive methods at their disposal to search for damage caused by damp. If damage is found, the cause must be investigated and eliminated. You can rectify Cat. 1 damage yourself in accordance with the brochure entitled "Watch out for mould"; Cat. 2 damage should be dealt with <i>professionally</i> and in full by a specialist company with experience in this field (for info, see under Addresses). – Testing for microbial volatile organic compounds (MVOC) in the ambient air as part of the investigation is normally of no help in locating damage: it is unreliable and not suitable for this purpose.

EXAMPLES



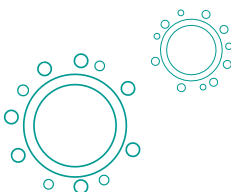
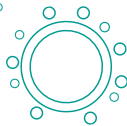
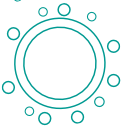
In the house which Doris and her husband have rented, some of the walls are damp and mould is growing on them. "I would like to have the air in the house tested and get a report on the condition of the walls. Who can I contact for this?" she says in a letter to FOPH.

First of all Doris and her husband must contact the landlord and report the damp and mould problem to her. All that's needed is a written description or a photograph of the damage. Responsibility for the corrective work then lies with the landlord. There is no need for reports or testing of the ambient air in this case. The readings would only confirm to Doris what she can already see: mould growth which should be removed for health reasons.



Ralf and the landlord of his building cannot agree why mould is growing in the two corners of a room. Ralf contacts the FOPH in order to break the stand-off.

Ralf's landlord should instruct a specialist in building damage and building physics to investigate the cause of the problem, as he needs to have an understanding of the problem before he can properly eliminate it. If Ralf and his landlord are unable to reach agreement even after the cause has been properly investigated, they can refer the dispute to the mediation authorities. The procedure is free. Prior to this Ralf can obtain advice from the Tenants' Association and his landlord can do the same by contacting the Home-owners' Association. However, the FOPH cannot provide Ralf with any specific help.



Understanding the causes

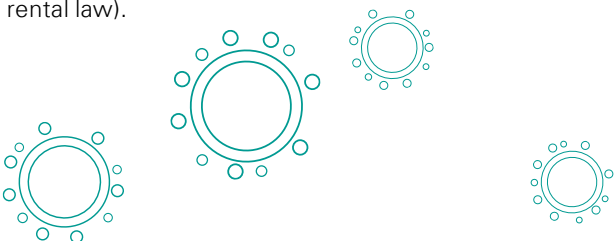
No amount of corrective work can create a satisfactory outcome if the cause of the high level of damp has not been investigated and eliminated or at least alleviated. Poorly insulated external walls are a frequent cause of the problem. During the colder seasons of the year the walls get cold and consequently too damp. This leads to mould growth in external wall cladding and on external walls. A low room temperature can aggravate this adverse situation.

However, even under optimum conditions, taking showers, cooking and humidifying can also create excessive damp. If this is unable to dissipate over a longer period, mould will develop on areas which are slightly cooler such as windows, window frames and external walls. It is not always simply a case of the occupant failing to provide adequate ventilation in the rooms: defective air extraction systems, dirty cooker head extractors, very small windows or tilt-only windows (as opposed to wider-opening ones) can be the reason for insufficient ventilation.

In rarer cases, water can penetrate the building from outside: driving rain, cracks, defective roof coverings, insufficient drainage, pipe leakages or rising damp can frequently lead to serious damage.

Free legal advice for tenants and landlords

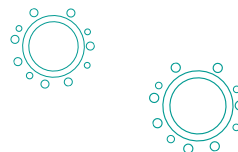
If the causes have been investigated by an independent specialist a dispute can often be avoided. If necessary, the mediation authorities (Mietämter, Schlichtungsstellen), tenants' or owners' associations offer free advice (for members). It is better to take up this offer than to risk a good tenant-landlord relationship as a result of assumptions being made (see List of addresses/Questions of rental law).



Removal: only professional corrective work is appropriate

If mould is not removed promptly the costs for removal can increase significantly. However, it's not just a case of removing mould. The work itself also represents an acute situation, because the extent of the mould contamination can increase 1,000 to 10,000 fold during the course of removal. Dust and chemical substances can also have a detrimental effect on health. In order to prevent either the occupants or the staff of the company carrying out the removal work from being put at risk, mould removal should be carried out in accordance with the information and datasheets of the Suva and SMGV (Association of Swiss Decorating and Plastering Companies). Depending upon the anticipated extent of the contamination, it may be sufficient for the staff of the company undertaking the removal work to wear protective clothing, protective gloves, face masks and protective glasses. In other cases it will be necessary for the area from which the mould is being removed to be sectioned off from other rooms, or even to ensure that the area is provided with a supply of fresh air and negative pressure. The elements of mould should always be removed completely, damp areas properly dried out and the causes of the excess dampness rectified or alleviated.

The FOPH and the associations SMGV (Association of Swiss Decorating and Plastering Companies) and VSLF (Association of Swiss Paint and Dye Manufacturers) recommend not using biocide interior paints and plaster in living areas and rooms in common use as it is difficult to gauge the long term risks for the occupants. DIY enthusiasts who nevertheless use anti-mould agents should follow the instructions on the containers and protect themselves by wearing protective glasses, a face mask and long-sleeve protective clothing. Anti-mould agents are no replacement for corrective work to remove the mould.



Prevent mould growth

If you are interested in learning more, the brochure entitled "Watch out for mould" has a whole chapter on the subject of how to prevent mould growth. The recommendations below are taken from this brochure:

FOPH recommendation on room humidity

As a rule of thumb the FOPH recommends a relative room humidity of 30 to 50 % during the period when the room is being heated. On very cold days, this figure should not exceed 40 %. Air humidity can be reduced by airing the rooms more frequently and reducing the level of humidity created.

In housing which is susceptible to mould, take care to ensure that humidity levels are kept to the minimum

Avoid drying laundry or using humidifiers in living areas with humidity problems.

Ventilate properly

The following applies as a rule of thumb: ventilate rooms with through-flowing air at least three times a day by opening all windows and doors for 5 to 10 minutes. If you are not at home during the day, this can be done in the morning, when you arrive home and before you go to bed. In older buildings with new windows and poor heat insulation, rooms should be ventilated more frequently where possible. The same applies to residential buildings which house a large number of people in a confined space as well as to new buildings or buildings which have been extensively renovated. Permanent ventilation through opened tilt and turn windows should be avoided during the period when the room is being heated.

If a lot of steam is created for example when cooking, taking showers, baths and ironing, the extractor fans should be switched on or rooms ventilated. Defective extractor systems must be quickly repaired and steam extractors in the kitchen regularly cleaned. Misted windows are a clear sign of excessive humidity.



Etienne has been the proud owner of an older apartment for a year. A few months ago the wall in the children's room started to become increasingly mottled. Over the last two weeks visible signs of mould have appeared over an area covering half a square metre. Etienne is aware of a previous damp problem and fears that the damp wall has simply been painted over.

We recommend that Etienne reports the damage to the Manager of the Apartment Owners' Association. A specialist in building damage and building physics should then investigate the extent and cause of the damage. Based on this, the rules of the Apartment Owners' Association will be applied to reach a decision as to whether Etienne or the Association is responsible for rectifying the damage and eliminating the causes. At such a point, it makes sense to carry out a full repair of the building façade, particularly in older, poorly insulated buildings with a recurring mould problem. The fact that the damage caused by damp was simply painted over beforehand using an anti-mould paint is not evidence of specialist corrective work. Instead, the cause of the increased damp should be investigated and rectified. The mould should then be completely removed in accordance with the Suva info sheet, the wall dried out properly and then repaired.



EXAMPLE



In Manuela's rented apartment there is mould on the seals on the windows in every room. That's why the landlord wants to replace the seals on the windows. "Does this pose a risk to our health?" That's what Manuela wants to know from the FOPH.

Manuela has no cause for concern: providing the mould is restricted to the sealant on the windows, it is limited to a small area and poses no problem. There is also no problem in replacing the sealant material. However, the landlord should be concerned about the fact that it's not just the bathroom but every room which is affected. We recommend that the landlord should consult a specialist in building damage and building physics in order to investigate the cause of this mould growth. If the windows are too cold then consideration should be given to replacing the windows instead of just the sealant material. On the other hand, if there is excessive damp in the whole building then this should be reduced. In this context it is important to examine not only the question as to whether the tenants could reduce the level of humidity they create and increase the ventilation. A check should also be carried out to determine whether the existing ventilation options meet the relevant standards (SIA 180, SIA 382/1, see also SIA 2023).

Heat properly

Older, more cheaply constructed buildings from the 60s and 70s (with cold, poorly insulated walls) are a particular problem. In these buildings the times for switching on the heating should not be delayed and the room temperature should be regulated to around 20°C. By contrast, in well insulated and ventilated buildings reducing the room temperature, e.g. to 18°C in bedrooms, does not pose a problem.

Install proper furnishings

Curtains and furniture can restrict air circulation and provide favourable conditions for mould growth. We therefore recommend that a gap of 10 centimetres should be maintained between furniture and external walls. In addition, it is recommended that large items of furniture such as cupboards and wall cabinets should not be placed against cold external walls or in cool corners of external walls. It is recommended that curtains should not be fitted to cool window frames.

Proper and prompt repair

Before *replacing windows* or carrying out any other sealing measures, it is recommended that the situation be assessed by a specialist in building damage and structural physics or ventilation planning. As part of this an appraisal should be carried out to assess the risk of damage to parts of the building (thermal bridges) and to examine the ventilation systems. Existing extraction systems must also be assessed to ascertain whether there is an adequate flow of replacement air. This is the only way to ensure that mould growth does not occur one to two years later.

Seals on plumbing joins should be replaced promptly: After a few years the sealant material loses elasticity and shrinks. As a result it comes away from the edge of baths and showers, allowing water to penetrate deeper.



Further information

The brochure "Watch out for mould" has been jointly produced by the FOPH, HEV, MV and SVIT. In addition to more detailed information on the topics addressed in the present brochure it also contains detailed instructions on how to carry out your own corrective work.

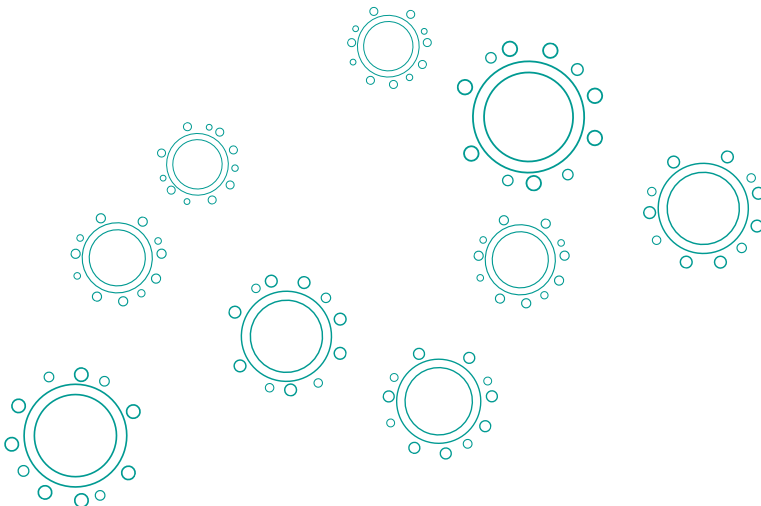
- Download: www.wohngifte.admin.ch
 > *gesund wohnen*
 > *Feuchtigkeitsprobleme und Schimmel*

Info sheets from the Suva and SMGV on how to eliminate mould can be found by going to www.suva.ch/waswo or www.malergipser.com



Maria is a happy and positive person. Although she has suffered from serious allergic asthma since childhood, she has learnt to cope with it. A few months ago she became seriously ill and was diagnosed with severe ABPA: this means that Maria suffers from an allergic lung disease caused by the mould *Aspergillus fumigatus*. Maria's doctor has impressed upon her that the ability to avoid this fungus will be a crucial factor in determining the future course of her disease. Maria contacted the FOPH and asked how this could be achieved.

We recommended that Maria read the brochure "Watch out for mould". She must learn about the properties of mould and in particular of *A. fumigatus* in order to understand where she can expect it to occur. It is vital for her apartment to be dry. Maria cannot under any circumstances live in an apartment which has mould growth and certainly not in an apartment which is currently undergoing corrective work to eliminate mould. Maria should also dispense with any indoor plants and avoid raking up leaves, mowing the lawn or undertaking other gardening work. Maria should also not go for walks through fallen leaves. She should not do any composting in her garden nor under any circumstances store any organic waste in her apartment.



Other addresses

Questions relating to tenancy law

Swiss Tenants' Association (MV/ASLOCA/ASI)

Section German-speaking region of Switzerland, www.mieterverband.ch
Tel.: 043 243 40 40 or MV Hotline for advice on tenancy law: 0900 900 800 (CHF 3.70 per minute, fixed line network). Free legal advice for members. Advice on defects in rental apartments is also offered, a fee will be charged.

Association of Swiss Homeowners (HEV/APF)

<http://hev-schweiz.ch/2929.0.htm>. For the telephone numbers of the regional sections, please consult the telephone directory or the HEV homepage. Free legal advice for members.

Homeowners' Association of Switzerland (HVS)

www.hausverein.ch, Tel. 031 311 50 55.
Free legal advice for members.

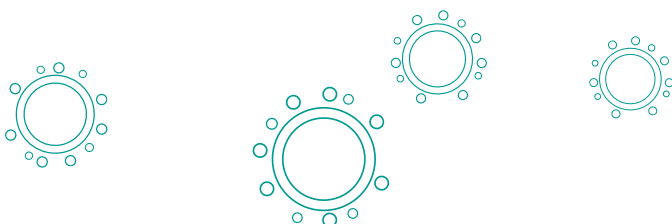
Mediation authorities/tenancy offices

These regional agencies provide free advice on rental matters for tenants and landlords and conduct mediation proceedings in the event of disputes.
Address: Contact your municipal administration or the HEV or MV regional section (see above).

Advice for real estate companies

Swiss Real Estate Association (SVIT)

www.svit.ch, Tel. 044 434 78 88



Damage investigation

Specialists in building damage and building physics

You will find the addresses in the sector directory or telephone directory. Specialist companies licensed to undertake corrective work also have experts in building damage and building physics (see below).
The regional sections of the HEV and HVS offer their members the facility for a specialist assessment of their building in return for payment of a fee (address see above).

Decorating and plastering companies

Companies who employ personnel with expertise in building physics can carry out damage claims investigations themselves.

Swiss Thermal Imaging Association (theCH)

Thermal imaging cameras are used to show poorly insulated surfaces and thermal bridges (thermography).
Service providers at www.thech.ch

Mould removal

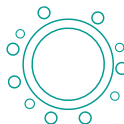
Professional mould removal is carried out in accordance with the Suva info sheet "Mould cleaning in internal rooms" or in accordance with the SMGV info sheet. The standards in these info sheets also provide protection for the occupants.

Specialist companies for corrective work

For serious cases of mould we recommend using specialist companies with know-how in building physics and experience in extensive mould removal.
Addresses: Sector directory or telephone directory, key words repairing water damage, building physics

Decorating and plastering companies

Addresses: Homepage <http://malergipser.com>,
Sector directory or telephone directory



Mould removal and energy efficient building repair

If more extensive corrective work is being carried out, energy-saving and radon safety measures can be undertaken at the same time, at minimal cost. Information on the advice available for energy efficient building repairs is provided by cantonal and regional specialist energy and energy advice agencies.

Addresses: Internet site: www.bfe.admin.ch/Dienstleistungen > *Dienstleistungen in meinem Kanton*
Go to www.ch-radon.ch for information on radon

Lifestyle and health

Cantonal specialist chemicals agencies

These agencies are responsible for enforcing the Chemicals Law and can also provide citizens with advice on problems involving pollutants in interior rooms.

Addresses: www.chemsuisse.ch

Federal Office of Public Health (FOPH), Indoor Pollutants Unit

This agency is devoted to improving framework conditions in connection with healthy living and provides information on hazards caused by pollutants indoors.

It is not responsible for questions relating to tenancy law.

Internet: www.wohngifte.admin.ch

E-Mail: bag-chem@bag.admin.ch, Tel. 031 322 96 40

