



Disinfection

Disinfection is a process in which so many microorganisms are neutralized that unwanted growth is prevented.

In this context, microorganisms can be bacteria, viruses or (mould) fungi.

This article is about:

- Disinfection during mould remediation
- Disinfection in case of flood

Disinfection during mould remediation

Mould remediation always starts with a disinfection where you clean away and kill the mould.

Product selection

It is important that the disinfection is carried out with an effective product that does not leave hazardous chemicals in the indoor environment or damage the material. There are many methods and products on the market. However, it is important to be critical of these as not everyone is equally environmentally friendly and neutral or gentle on the material.

Chlorine-containing products

The well-known “chlorine” products that contain hypochlorite as an active substance should generally be avoided as hypochlorite is on the environmental administration’s list of hazardous substances. Hypochlorite is harmful to the environment and when used forms a wide range of harmful chlorinated by-products, many of which are carcinogenic.

Products with ammonium compounds

Many disinfectants have been prepared from quaternary ammonium compounds. They can be bought anywhere and are often cheap. Unfortunately, relatively high concentrations must be used to kill mould and the quaternary ammonium compounds are absorbed by the substrate and do not disappear again. These active substances are often harmful to the environment and a study from the National Research Centre for the Working Environment (Denmark) documents that the most used of the quaternary compounds cause pneumonia in experimental animals.



Steam cleaning

Steam cleaning is often described as an environmentally friendly and gentle disinfection method, which is a truth with modification. The process itself leaves no chemicals, but if it is used on a wooden surface, the wooden surface is exposed to a violent treatment with up to 175 degrees hot steam. It is a “quick boil” of the surface that makes the wood’s nutrients more readily available (as when cooking a potato). This is a factor that increases the risk of mould growth returning.

Prottox recommends products with chlorine dioxide

The best general method for disinfecting mould-infested surfaces is the use of chlorine dioxide - the active substance in Prottox Hysan. Prottox Hysan can be used in both activated and inactivated form.

The use of chlorine dioxide as an active substance can be recommended, as chlorine dioxide is very reactive and very short-lived (a lifespan of a few hours), and is degraded by light. The degradation products are acid and common table salt (Sodium Chloride, NaCl). Therefore, no hazardous chemicals are left in the indoor environment and no by-products are formed during use.

Disinfection during Floods

During floods - where surface water (salt or fresh water) has penetrated a building, or where wastewater has been forced up through sewers - the water can be contaminated with bacteria and viruses.

Leptospira bacteria

Leptospira bacteria are feared in this context because they can infect people with Leptospirosis - also known as Weil’s disease. The bacterium is found in mice and rats and ends up in the water via their urine.

In Denmark, 10-30 cases occur in humans every year and since it is a disease with a mortality rate of 5-15%, it should be taken seriously.

After the flood

The first task during such floods is to pump the penetrating water out of the building. When the building has been drained of water, the interior walls must be demolished along with wet insulation, wet and destroyed movables, etc. must be removed before dehumidification begins.



Initial disinfection

The risk of infection with *Leptospira* is greatest in the phase where the wet building materials and the wet movables are to be handled. It is therefore often best to carry out an initial disinfection at this time in order to reduce the risk of infection to those who are to tear it down and carry it out.

Such an initial disinfection can advantageously be performed with activated Protox Hysan. Use of activated Protox Hysan requires respiratory protection (B2 filter) and installation of ventilation.

Dehumidification and further treatment

After the preventive disinfection there is less risk of handling the wet building materials and it can be prepared for dehumidification. If the dehumidification cannot be carried out within a relatively short time (i.e. a few days), then a preventive treatment of continued damp (but not soaked) wall and wood surfaces with Protox Protect can be carried out, which will also prevent mould growth in the drying phase.

If there is mould growth in the drying phase, then it is disinfection with Protox Hysan that will solve the problem.