



DUST MITE DETERMINATION

Dust mites are natural inhabitants of our surrounding environment. The presence of mites and other small invertebrates does not indicate a lack of cleanliness, although they do live in dust and feed on its various particles, especially on the flakes from human or animal skin contained within the dust. Dust mites do not pose a problem for most people, but certainly do for those allergic to them.

The average adult human loses up to 1.5 grammes of skin particles per day and this is enough to nourish dust mites and indeed tide them over times when the rooms are not occupied for extended periods. In addition to this food, they also take in material of other origin, such as pieces of fibre and feathers.

The development and propagation of dust mites is dependent upon relative humidity and temperature. They thrive at temperatures between 20-30°C and a relative humidity of 65-80%. Relative humidities of above 90% and below 33% are harmful to dust mites. They tend to inhabit fibrous and textile type materials such as carpets, rugs and furniture fabrics.

Dust mite allergies are rarely caused by the mites themselves but rather by their faeces. What makes matters worse, the excrement and the allergens contained therein are present all year long as opposed to other allergens which tend to be seasonal. Constant exposure to dust mite allergens can lead to chronic (long-term) illnesses.

The finely grained excrement breaks down to an extremely fine powder, which sticks to the surrounding materials. This can then become airborne when disturbed, perhaps by people walking over a carpet or sitting on furniture. The excrement problem can only be resolved by minimising the numbers of dust mites within the building.

As a maximum permissible level of dust mites in the internal environment we would suggest that the levels recommended in the Norwegian Public Health Directorate Report 5/90 IK-2322 titled "Recommendations for Indoor Air Quality" be considered. These recommend that a maximum level of approximately 5,000 mites per 100 grammes of indoor dust be set.

Where levels above this are encountered, and as a matter of frequent good housekeeping, methods to eradicate the mites must be taken. This can include simply wet cleaning or, if very high levels are found, the application of liquid nitrogen vacuuming techniques.

Sampling can be undertaken by HBI Technicians followed by laboratory analysis using the Thind and Wallace (1984) method with procedural modifications at the pre-extraction stage to improve recovery.

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