

What everyone should know about house dust mites

Many people with year-round allergy and respiratory symptoms are allergic to allergens found in the home - "indoor" allergens. These allergens are present in house dust and most often come from house dust mites. Cat and dog allergens and allergens from cockroaches, moulds and fungi, can also accumulate in house dust. Allergic reactions to indoor allergens can cause nasal and lung symptoms, including rhinitis (a blocked or runny nose), wheezing and asthma. House dust mites are one of the most important causes of allergy and asthma. Allergies run in families - if you or your partner

are allergic or have asthma, it is likely that one or more of your children will also develop allergies.

Mites are tiny creatures (about 1/3mm in length), related to ticks and spiders and invisible to the naked eye. They feed off skin scales shed by humans and thrive in warm, humid conditions. Mites live in bedding, carpets and upholstered furniture. Dust mites are only a problem for people who are allergic to them - they do not bite or transmit diseases. Reducing exposure to house dust mites is recommended for allergy sufferers.

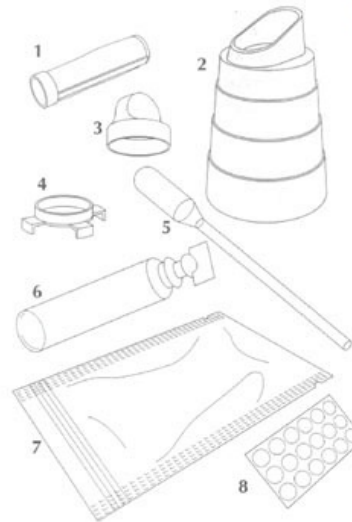
Now - a Rapid Test for Dust Mites!

INDOOR Biotechnologies Ltd has produced a simple screening test which enables you to check whether you have dust mites in your home. All you need to do is take a dust sample from bedding or carpet, using the collector provided, and apply the sample to the test. Results are obtained within 10 minutes and indicate Low, Medium or High allergen levels. Now you can check for dust mites wherever and whenever you want! This is

particularly important if you know that a member of your family is allergic to dust mites.

This kit contains everything needed to test for mite allergens in two locations. All you need is a vacuum cleaner to which you can attach the dust collector nozzle contained in the kit. We recommend that you sample the bed mattress, carpet or sofa.

Instructions for use

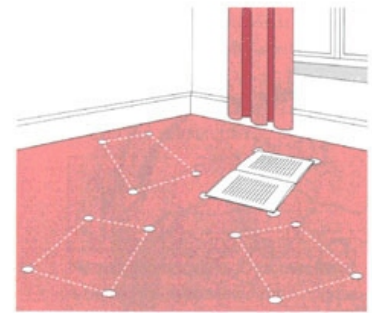


1 Identify all parts of the test kit and read through this booklet before you begin. Do not break open the foil wrapper containing the test cassette until you are ready to use the test.

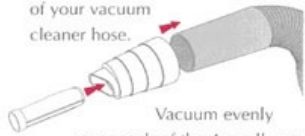
Instruction booklet and guide for sample area, and

1. Filter tube
2. Dust collector
3. Top cap
4. Bottom cap
5. Dropper
6. Test cassette in foil wrapper
7. Test cassette
8. Stickers

2 Choose the area to be tested. In total, this should be equal to an area 4 x the size of this booklet when opened. For example, you may choose to test 4 sections of one bed mattress. The result will then indicate the level of mite allergen in that bed. Mark out the 4 areas selected, using this booklet and the stickers provided as a guide.



3 Insert a filter tube into the dust collector. Push the dust collector firmly onto the sweeping end of your vacuum cleaner hose. Vacuum evenly over each of the 4 small areas you have marked out for 30 seconds, a total time of 2 minutes altogether.



4 Remove the dust collector from the vacuum cleaner. Insert the bottom cap firmly into the base of the collector.



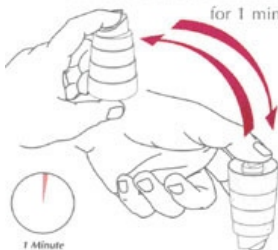
5 Twist open the top of one vial of testing solution and carefully pour the liquid into the collector.



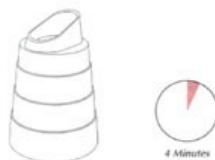
6 Push the top cap firmly into the top of the collector.



7 Gently shake the collector to mix the collected dust and the solution for 1 minute.



8 Leave to stand for 4 minutes. Remove the rapid test cassette from the foil wrapper and place on a flat surface.



9 Remove the top cap from the collector.



10 Using a dropper, suck up dust solution from near the top of the collector.



11 Transfer 5 drops into the small round sample well on the test cassette. Discard dropper.



12 Wait 10 minutes for the test line to develop. If mite allergens are present, a red or pink line will appear at the "T" mark. Compare the intensity of the line with the three coloured indicator lines already printed on the test at the "C" mark.



What do the results mean?

Compare the colour intensity of the test line with the three indicator lines shown on the test cassette.



The test line is dark red and is closest in intensity to the HIGH line on the colour chart.



The test line is a pink/red colour, closest in intensity to the MEDIUM line on the colour chart.



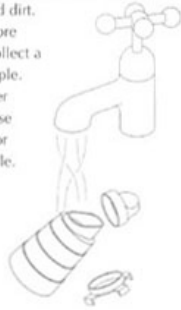
The test line is light pink, closest in intensity to the LOW line on the colour chart.



No test line is visible. Dust mite level is below the detectable limit.

For a second test

Remove the bottom cap and inner filter tube from the collector. Discard the used filter tube, and rinse the dust collector and both caps under running water to remove all traces of dust and dirt. Allow to dry before using again to collect a second dust sample. Insert a new inner filter tube, and use a new dropper for the second sample.



What action should I take?

If NO test line is visible, or the dust sample gives a LOW reading, the mite allergen content of the sample is low or undetectable. This level of exposure is unlikely to be significant. No action is necessary, but you may wish to test a different location in your home, or to repeat the test periodically.

If the result of the test indicates a MEDIUM or HIGH level of mite allergen, and you or someone in your family is allergic to dust mites, you should consult your doctor or allergy specialist. You may wish to test other potential locations in your home for mite allergen to confirm your result. This test kit provides a simple screening test suitable for home use and the results correlate with laboratory-style tests. Precise measurement of allergen levels can, however, only be obtained using laboratory techniques. If you wish to have your dust samples analysed for mite and

other indoor allergens in our Laboratory, please contact INDOOR Biotechnologies Ltd.

Exposure to high levels of mite allergen can cause allergic sensitisation and make allergy and asthma symptoms worse. Reducing allergen exposure is recommended as part of the treatment of allergic diseases caused by indoor allergens. The following measures may be effective in reducing allergen levels in the home:

- Reducing humidity in the home
- Covering bed mattresses, pillows and duvets in dust mite impermeable encasings
- Washing bedding in hot water (55°C, 130°F) at least once every week
- Removing carpets (especially in bedrooms) and using wood or vinyl floors

Consult your doctor about these procedures and whether they could help you. Advice on allergens and asthma can also be obtained from the local asthma clinic, and organisations such as the National Asthma Campaign www.asthma.org.uk; the British Allergy Foundation www.allergyfoundation.com, or the American Academy of Allergy, Asthma and Immunology www.aaaai.org.

Frequently asked questions

- Q.** The dust collector will not fit on my vacuum cleaner.
- A.** The collector has been designed to fit all popular makes of vacuum cleaner, but it is possible that it will not fit all cleaners. Ask if you can borrow a different vacuum cleaner from a friend or neighbour.

Q. The filter tube is so full of carpet fluff that I can't pour the solution in.

A. Lightly brush the surface to be sampled before vacuuming, to reduce the volume of fluff and similar material. Do not worry if you cannot use more than half the contents of the vial; this will not significantly affect the test result.

Q. The dropper gets blocked when I try to take out the dust solution from the collector.

A. You are sucking up dirt from the bottom of the collector. Use the dropper to transfer dust solution from near the top of the collector.

Q. Does it matter if the dust solution I transfer to the test cassette contains a lot of dirt or debris, or is cloudy?

A. No. Expect the dust sample to have a light brown colour. Debris will stay in the sample well and will not interfere with the test.

Q. Does it matter if the solution remains in the dust collector for longer than 5 minutes? Do I have to perform the test immediately?

A. No. If there is an interruption (eg the telephone rings!) before you have time to do the test, you can leave the dust solution in the collector for longer than 5 minutes, but not longer than 30-60 minutes.

Technical notes

The tests supplied in this kit have been designed to detect the Group 2 allergens of common house dust mites (*Dermatophagoides pteronyssinus* and *D. farinae*). These allergens cause sensitisation in ~90% of mite allergic

individuals. A HIGH test line corresponds to exposure to approximately 1 microgram or greater of Group 2 allergen per gram of dust. A MEDIUM test line corresponds to 0.2 - 1.0 micrograms, and a LOW test line to less than 0.2 micrograms per gram of dust.

Useful addresses

Further information on allergy, including the reduction of allergen exposure as part of the treatment for allergic diseases, can be obtained from the following organisations:

In the United States:

National Allergy Bureau
American Academy of Allergy, Asthma and Immunology
611 East Wells Street
Milwaukee, WI 53202-3889
Tel: 1-877-9-ACHOO (in the USA)
1-414-272-6071
Website: www.aaaai.org

In the United Kingdom:

National Asthma Campaign
Providence House
Providence Place
London N1 0NT
Helpline Tel: 0845 701 0203
Website: www.asthma.org.uk

British Allergy Foundation
Deeplene House
30 Bellegrove Road
Welling, Kent DA16 3PY
Helpline Tel: 020 8303 8583
Website: www.allergyfoundation.com