

allergens in decorative paint

If you think that these days there is a greater prevalence of allergies and asthma then you are right! Several studies¹ have shown that there has been a significant increase in these conditions since the Second World War.

As such a change has been far too rapid to be accounted for by a change in the gene pool, interest has focused on what environmental changes have occurred to trigger such an increase.

One of the more interesting suggestions, known as the 'hygiene hypothesis', is that we are simply too clean these days. One of the sayings that I was brought up on in my childhood was "You'll eat a bushel of muck before you die". Taking the possible metaphysical aspects out of it, the advice was to not get too precious over a little dirt being around.

The 'hygiene hypothesis' suggests that in highly sterile environments, infants' immune systems are insufficiently challenged, which then hinders the development of said immune systems.

As interesting as this hypothesis is, it remains a hypothesis as it has not been proven, with the indication being that, while it may make a contribution to the problem, it is not likely to be the full story. Other researchers explore other areas, including indoor and outdoor air quality, along with exposure to airborne chemicals.

As part of a larger study entitled 'Dampness in Buildings and Health', a study was done to examine whether exposure to VOCs could influence allergic airway disease.² The study covered the use of several VOCs (including most of the VOCs found in waterborne paints and household cleaning materials) in the bedrooms of 400 pre-school Swedish children.

Only one class of solvents seemed to show any significant association with enhanced allergic response and they

were a group of solvents called propylene glycol ethers (PGEs). This group of quite bland materials are commonly used in hard surface cleaners and as film-forming aids in some waterborne paint formulations.

Interestingly, PGEs have no significant allergenic properties in themselves and are generally regarded as being unable to cause allergic sensitisation.³ The thinking is that PGEs may have adjuvant-like properties and reduce the immune system's ability to handle the real threat.

Current thinking is that more research is needed to elucidate whether PGEs are indeed a risk factor and what the mechanism might be.⁴ Nonetheless, we here at Resene feel that it is prudent to bring this to our customers' attention.

Typically PGEs leave a paint film relatively quickly. Further, painting is generally a 'once in 10 year job' so, unlike products such as household cleaners that are used regularly, paints do not contribute to an ongoing indoor air quality issue. Nonetheless, we do reinforce the need for all rooms (and especially children's bedrooms) to be well ventilated during painting and for 24 hours post-painting.

For parents with further concerns, we will add specific PGE data onto the current VOC data given on the website.

References:

1. Burney et al 1990; Anderson et al, 2004; Latvala et al; 2005.
2. Choi et al (2010b).
3. Basketter et al, 1998; Lesmann et al, 2005; Anzai et al, 2010.
4. Kimber & Pieters 2013.



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