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Paint Linked to Allergy Risks in Pre-School Age Children

A new study has found that children who sleep in bedrooms containing fumes from water-based paints and solvents are two to four times more likely to suffer allergies or asthma.

The study, published in the journal of the Public Library of Science, PLoS ONE, analyzed chemical compounds - propylene glycol and glycol ethers, known as PGEs - in the bedroom air of 400 toddlers and preschoolers. Researchers found that higher concentrations of these chemicals were linked with substantially higher rates of asthma, stuffy noses and eczema.

The research was a collaboration between scientists at Harvard University and Sweden's Kalstad University. The study followed 198 children in Varmland, Sweden, between the ages of 1 and 5 who had asthma or at least two symptoms or wheezing or rhinitis (nasal allergies) without a cold or eczema in the previous year, as well as 202 children with no symptoms.

The children with nasal allergies tended to have a PGE concentration in their bedrooms that was twice as high as the concentration found in rooms of the children with no symptoms. The higher the dose, the more likely the children were to suffer from rhinitis, asthma, or eczema, even when concentrations were low.

Children in bedrooms with the highest concentrations were 4.2 times more likely to have rhinitis, twice as likely to have asthma and 2.5 times more likely to have eczema, compared with children with the lowest concentrations in their rooms

A history of repainting at least one room in the house pre- or post-natal to the birth of the child was associated with a 63% increase in mean PGEs compared to those who never repainted. Thus, repainting might have provided a sustained exposure since the gestational period or shortly following the birth.

Propylene glycol and glycol ethers are a diverse group of compounds with superior solvent and coalescent properties. Due to their lower volatility and higher degree of solvency, they are widely used in water-based paint.

“We urge pregnant women and parents with young children to check the GreenPainters web-site for suitable products prior to painting, or to seek advice from a trained GreenPainter. Accredited GreenPainters are qualified to offer advice to consumers on sustainable, healthier paints and coatings”, says GreenPainters Managing Director Daniel Wurm

If you would like more information about this topic or you would like to arrange an interview, please contact Daniel Wurm on 0402 312234, or email admin@greenpainters.org.au

GreenPainters is the non-profit program established to provide advice, knowledge and skills to help the painting industry go green. The web-site www.greenpainters.org.au provides objective

summaries of sustainable paints and coatings, and information to help builders and renovators achieve the look they want while being environmentally sensitive and health-conscious. Painters that complete the training may be listed on the web-site.