Typical Formaldehyde Exposures Do Not Cause Asthma

In children or adults, asthma is a chronic disease of the lower respiratory tract and lungs.

Based on a robust scientific review, the World Health Organization (WHO) has set protective indoor air guidelines for formaldehyde at 80 ppb [0.125 mg/m³] to prevent sensory irritation and other health effects in the general population. These symptoms, like eye, nose and throat irritation, are transient and do not cause lasting health effects, such as asthma. Both the Agency for Toxic Substances and Disease Registry (ATSDR) and the WHO have concluded that there is no scientific evidence that children are more or less susceptible to formaldehyde exposures than adults.

Since typical indoor air concentrations of formaldehyde are far below the levels that could cause sensory irritation, it is not plausible that everyday exposures to formaldehyde would cause asthmatic symptoms.

Further, in order for household exposure to formaldehyde to cause or exacerbate asthma, it must reach the lower respiratory tract and lungs. However, protective mechanisms in the body prevent everyday exposures to inhaled formaldehyde from reaching the lungs.

Highly-efficient protective mechanisms in the upper respiratory tract prevent, everyday exposures to inhaled formaldehyde from reaching the lungs.

Inhaled formaldehyde is highly water soluble and is instantly absorbed at the site of first contact, in the nose and upper respiratory tract.

Inhaled formaldehyde is rapidly metabolized and ultimately converted to carbon dioxide and exhaled.

Formaldehyde does not accumulate in the body.

WHO Guidelines for Indoor Air Quality for formaldehyde – protective against sensory irritation

Typical (average) indoor formaldehyde levels

16-32 ppb

80 ppb

What is a Part Per Billion (ppb)?

Less than 1 teaspoon in an Olympic-sized swimming pool.

Common established household asthma triggers

Dust mites, Pets, Molds, Pests

1 http://www.euro.who.int/__data/assets/pdf_file/0009/128165/49325.pdf