

Generate Concern

CHEM-TOX COMMENTS: Over the past 50 years there has been a steady rise in the incidence of children developing cancer and asthma. Logic and common sense would suggest that such a trend would be the result of changes in environmental factors that are now affecting our children that were not present previously. During this same 50 year period, consumer product manufacturers have found production costs can be substantially cut if natural materials are replaced with petroleum based alternatives made from synthetic chemicals. Although, this change has occurred in nearly every aspect of human life from home construction to food production to cosmetic ingredients, we need to first research factors that are in closest proximity to the child if investigating child related diseases. One such product would be the bedding materials used by a child. For example, some crib mattresses are constructed of polyurethane foam enclosed in vinyl covers.

These plastic products are made by combining highly toxic chemicals together to form the final material. During the sleep process, the child's every breath pulls in air that is literally inches away from the petroleum chemical materials used in the manufacturing of the bed itself. This process begins at birth and continues day after day during the child's critical development periods. With each breath, these chemical molecules are pulled across the child's airways and then transferred to the blood from deep within the lungs. This process is repeated with each breath 365 nights a year. Now that it is widely accepted that child cancer and asthma can be caused or worsened by some petroleum chemical products, it is important to identify to what extent various chemical emitting products in bedding materials could be affecting a child's health.

The paragraph below is the direct abstract of a report addressing this issue and published in the journal - Archives of Environmental Health, Jan/Feb, 2000.

Respiratory Toxicity of Mattress Emissions in Mice

SOURCE: Archives of Environmental Health, 55(1):38-43, 2000

"Groups of male Swiss-Webster mice breathed emissions of several brands of crib mattresses for two 1-hr periods. The authors used a computerized version of ASTM-E-981 test method to monitor respiratory frequency, pattern, and airflow velocity and to diagnose abnormalities when statistically significant changes appeared. The emissions of four mattresses caused various combinations of upper-airways irritation (i.e., sensory irritation, lower-airways irritation (pulmonary irritation), and decreases in mid-expiratory airflow velocity. At the peak effect, a traditional mattress (wire springs with fiber padding) caused sensory irritation in 57% of breaths, pulmonary irritation in 23% of breaths, and airflow decrease in 11% of breaths. All mattresses caused pulmonary irritation, as shown by 17-23% of breaths at peak. The largest airflow

decrease (i.e., affecting 26% of the breaths occurred with a polyurethane foam pad covered with vinyl. Sham exposures produced less than 6% sensory irritation, pulmonary irritation, or airflow limitation. Organic cotton padding caused very different effects, evidenced by increases in both respiratory rate and tidal volume. The authors used gas chromatography/mass spectrometry to identify respiratory irritants (e.g. styrene, isopropylbenzene, limonene) in the emissions of one of the polyurethane foam mattresses. Some mattresses emitted mixtures of volatile chemicals that had the potential to cause respiratory-tract irritation and decrease airflow velocity in mice.

Bed Mattress Toxicology Report Page

Reports of health problems linked to chemicals in new mattresses?

Unlike mattresses of 40+ years ago, mattresses today are manufactured with increased amounts of petroleum based chemicals, foams, plastics and controversial flame retardants. Research and personal accounts suggest people can in fact, be made ill by the repeated and continuous exposure to these low level chemicals during the sleep process. This is especially true for people who have lower levels of liver detoxification enzymes known as cytochrome P-450 (thereby allowing chemicals to build up in their blood to higher than normal levels). Since research is now available showing these chemicals are in fact evaporating from the materials used to make modern day mattresses (vinyl, plastics, foams, fungicides, pesticides) and that some are carcinogenic and mutagenic compounds, the next important step is to make public any personal accounts of illnesses developing after mattress use. Health effects caused by petroleum chemical exposure can weaken or damage the immune and nervous system. Interestingly, autoimmune disorders have also been linked with exposure to petroleum-based chemicals (known as "xenobiotics" in the medical research community) and have been found to be the underlying etiology of many common health problems today (soft tissue damage, arthritis, etc). If you suspect your mattress is causing problems - please tell your story below. This is not an uncommon problem and certainly needs to receive more media attention. After clicking the "ADD COMMENTS" link you can then write your story and it will be posted to our Mattress Health listings below. There is currently at least one group of citizens in the process of organizing a class action lawsuit. In the form below you can choose to either identify yourself or remain anonymous, although we hope you will choose to list your name and email address so that others with similar problems can contact you or ask questions.

Thank You ! - Chem-Tox