

By Michael A. Pinto, CSP, CMP

## An Environmental “Mash-Up,” Part 4: A Link Between Asthma and Fungus in the Lungs – World Health Organization Sets New Guidelines

**A**s noted in the third part of this series, there is quite a bit of uncertainty in the area of exposures to various environmental hazards. Fortunately, there are credible groups that have been looking at adjusting indoor chemical exposure limits. These are designed to significantly reduce health risks. For example, the World Health Organization (WHO) recently released revised guidelines for exposure levels inside buildings for the following nine chemicals:

**Benzene** – Benzene is a genotoxic carcinogen in humans and no safe level of exposure can be recommended.

**Carbon monoxide** – A new guideline value of 7 mg/m<sup>3</sup> is defined for a 24-hour mean carbon monoxide concentration to prevent the effects of chronic exposure.

**Formaldehyde** – A 30-minute guideline of 0.1 mg/m<sup>3</sup> is recommended to prevent sensory irritation in the general population to prevent the effects of long-term exposures on lung function or on the risk of nasopharyngeal cancer and myeloid leukemia.

**Naphthalene** – A guideline value of 0.01 mg/m<sup>3</sup> was established as an annual average to prevent respiratory tract lesions.

**Nitrogen dioxide** – An annual average indoor nitrogen dioxide guideline of 40 µg/m<sup>3</sup> is recommended to reduce the risk of a broad range of respiratory symptoms.

**Polycyclic aromatic hydrocarbons (PAHs)** – No safe level of exposure

can be recommended as lung cancer is the most serious health risk from exposure to PAHs in indoor air.

**Radon** – Residential epidemiological studies show evidence of the lung cancer risk from radon, with no safe exposure level.

**Trichloroethylene** – This is another chemical with no safe exposure limit because of the plausibility of a human cancer.

**Tetrachloroethylene** – The recommended guideline for year-long exposure is 0.25 mg/m<sup>3</sup>.

Contractors need to be aware of these new levels and adjust their safety policies appropriately to provide their workers with the best levels of protection possible.

### ACOEM Revises Mold Policy Without Public Input

Over the past few years, the position paper

interest by the authors were never disclosed to the membership that voted to make it an official ACOEM document.

Given that history, nearly 100 professionals in the mold treatment/control industries requested an opportunity to preview the revised policy and offer comments before its general release. That request was rebuffed as the occupational physicians prepared to release their document to the membership and the public. As such, an explanation of the revised policy will have to wait for a future issue of *Cleaning & Restoration*. Regardless of what the ACOEM says, the mold remediation industry has advanced to the point where any contractor who deals




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regarding mold and health effects put out by the American College of Occupational and Environmental Medicine (ACOEM) has come under intense scrutiny. Exposed by members of the medical and restoration industries showed that the “objective” position paper was written primarily by individuals who served as defense experts in mold litigation cases. Serious questions were raised regarding the validity of the science used to support the paper, as well as the fact that potential conflicts of

with mold without appropriate training, engineering controls, and personal protective equipment is courting disaster.

### Mold Growing in the Lungs of Asthmatics

As if to put an exclamation point on that statement, a new report was released from British researchers in December that links fungal lung infections with increased asthmatic problems. Researchers

at the University of Leicester made the discovery during research into the impact on asthmatics of the mold, *Aspergillus fumigatus*, usually found in soil and compost heaps:

“Our study showed that six out of 10 people with asthma who were allergic to *A. fumigatus* grew the mold from their sputum. We also found that if you were allergic to *A. fumigatus*, you had more narrowing of the airways than if you were not allergic, and this was worse in patients from whom *A. fumigatus* was grown,” said Professor Andy Wardlaw, who helped conduct the research. “Treating individuals from whom *A. fumigatus* is detected with antibiotics against the mold may prevent permanent narrowing of the airways,” Wardlaw said.

The study is just another piece of evidence showing that cleaning and restoration contractors cannot be too careful when dealing with potential environmental contaminants.

### Chinese Report Childhood Indoor Air Pollution Deaths

In a somewhat startling revelation for a communist country, the Chinese government recently reported that more than two million Chinese youths die each year from health problems related to indoor air pollution, with nearly half of them under 5 years of age. In a statement eerily similar to U.S. EPA estimates, a study released by the China Centre for Disease Control and Prevention said indoor pollution levels can often be five to 10 times higher than those measured in the nation’s notoriously bad outdoor air.

Even though copies of the full report are not yet available, the China News Service said that indoor pollution causes respiratory and other conditions that kill 2.2 million youths each year, one million of whom are under the age of 5. The study said dangerous indoor pollutants include formaldehyde, benzene,

ammonia, and radon.

### A Growing Environmental Awareness Worldwide

As noted at the beginning of this series of articles, a “mash-up” connects items that at first may seem unrelated. The story about Chinese indoor air quality problems shows that the items of most concern in regards to occupant health in that nation are many of the same items recently evaluated by the WHO for revised exposure guidelines. This is just another example of the growing global awareness of environmental concerns that we face on a daily basis.

Cleaning and restoration contractors have a lot of skills to bring to the table in helping to resolve these problems. Nevertheless, we have to be good stewards of our own resources first, especially the health of all of the individuals in our

organizations. As such, it is critical that we keep our focus on new data and the best practices that we can use to protect our clients and our workers while we help them clean and restore valuable properties. With this in mind, perhaps the best way to end this series of articles on environmental mash-ups is to repeat the words made famous by the sergeant on the television series *Hill Street Blues*: “Let’s be careful out there.” ■

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