



Indoor Air Quality

An Introduction

by Ron Huggins, MS, MPH, PhD, CIH, CIAQP

This will serve as an introduction to the science of indoor air quality, more commonly referred to as IAQ. There are many aspects relative to understanding the magnitude of this discipline. Subject areas, such as the human response to IAQ insults, chemicals found in the indoor environment, assessment of these issues, the role of air monitoring, building materials and their contribution to the quality of the indoor air, IAQ issues relative to remodeling your home, building out your attic space, green buildings, professional certification and what they mean, are just a few of the topics that are of concern relative to confronting IAQ issues.

The Human Response

The human response to environmental stressors relative to the indoor quality of people's homes, the automobile they drive (IAQ of your automobile), the office building they work in or manage, is generally categorized according to the type and degree of responses and the time frame in which they occur. These categories are also part of their family's life, such as the schools their children attend and the church the family attends or the hotel they use during vacation. All of these different environments have different issues relative to indoor air quality, and they have many issues that are

similar. As the concern for the quality of air that we breathe increases, the attention we all pay to the environment around us has increased.

We can categorize these different types of responses as:

- Acute effects are those that occur immediately (e.g., within 24 hours) after exposure. Chemicals released from building materials may cause headaches, or mold spores may result in itchy eyes and runny noses in sensitive individuals shortly after exposure.
- Chronic effects are long-lasting responses to long-term or frequently repeated exposures. Long-term exposures to even low concentrations of some chemicals may induce chronic effects.
- Discomfort is typically associated with climactic

conditions but building contaminants may also be implicated. People complain of being too hot or too cold or experience eye, nose, or throat irritation because of low humidity.

- Performance effects are significant measurable changes in people's ability to concentrate or perform mental or physical tasks that have been shown to result from modest changes in temperature and relative humidity.

Indoor air quality illnesses can also be associated with occupant complaints which have led to terms which describe illnesses or effects particularly associated with commercial buildings. These are:

- *Sick Building Syndrome (SBS)*—a catch-all term that refers to a series of acute complaints for which there is no obvious cause and where medical tests reveal no particular abnormalities.
- *Building-Related Illness (BRI)*—refers to a defined illness with a known causative agent resulting from exposure to the building air. While the causative agent can be chemical (e.g., formaldehyde), it is often biological.
- *Multiple Chemical Sensitivity (MCS)*—is recognized as a sensitivity of some people; it is generally recognized that some persons can be sensitive to particular agents at levels which do not have an observable affect in the general population.

As can be seen, there are many different types of human response to IAQ stressors and not all people are affected the same way, i.e. allergies due to pet dander.

Ron Huggins serves as senior consultant for SabCo, Inc. in Palm Beach Gardens, FL. For more information, visit www.sabco.us. ■



Give Your Condo The Protection It Deserves.

ARE YOU EXPERIENCING:

- Splitting or cracked caulk around windows and doors?
- Peeling paint?
- Rust spots?
- Exposed rebar?
- Deteriorated balconies?

Coastal offers top quality waterproofing and concrete repair products, including premium silicone sealants with 20-year warranties and silicone coatings with 10-year warranties.

Contact Martin Harrell at **800-226-7171** to set up a free building inspection and consultation.

COASTAL
CONSTRUCTION PRODUCTS, INC.
Providing Solutions, Not Just Products
www.coastal-fla.com

DOW CORNING