

# School Indoor Air Quality Best Management Practices Manual

The [original paper](#) contains 307 sections, with 10 passages identified by our machine learning algorithms as central to this paper.

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## Paper Summary

### SUMMARY PASSAGE 1

## Recommended Strategies For Good Indoor Air Quality (Chapter 4)

Manage contaminants at the source Use local exhaust for problem areas Use outdoor air to dilute and replace contaminated air Control exposure by managing time, amount, and location of products used Filter the air Educate everyone on IAQ Designate an indoor air quality coordinator for siting, design, construction, and operation

### SUMMARY PASSAGE 2

## A. Introduction

Of course, many factors influence indoor air pollution levels. These include: activities of building occupants (including maintenance activities); the types of building materials; furnishings and equipment; the levels of outdoor contamination; the season; indoor humidity and temperature; and ventilation rates. Not only are we potentially exposed to a greater level of contamination indoors than outdoors, most of us are exposed to indoor air for a longer period of time, on average.

#### SUMMARY PASSAGE 3

### **G. Pollutant Pathways**

An indoor air quality problem may exist when there are sources of pollution indoors, outdoors, or within the mechanical ventilation system. These sources are connected to building occupants through a pathway, with a driving force to move pollutants along the pathway. As an example, many of the sources of indoor air pollution described in this chapter of the Manual may be removed or distributed by the heating, ventilation and air-conditioning (HVAC) system, which serves as a pathway and driving force to reach building occupants.

#### SUMMARY PASSAGE 4

### **K. Air Flow Patterns In Buildings**

Multi-story schools are more affected than single-story schools. As heated air escapes from upper levels, indoor air moves from lower to upper levels, and outdoor air is drawn into the lower levels to replace escaped air. Stack effect can transport contaminants between floors by way of stairwells, elevator shafts, utility chases, and other openings.

#### SUMMARY PASSAGE 5

### **D. Analyze Nearby Air Quality And Emission Sources**

It is important to determine the quality of the outdoor air since this air ultimately will be used for ventilation. Such information may determine whether a site is acceptable and, if so, what air cleaning and filtration may be required.

#### SUMMARY PASSAGE 6

### **D. Adhere To All Iaq Codes And Standards**

Occupational limits, on the other hand, are intended to protect a relatively healthy adult workforce in settings where exposure is assumed to be voluntary. One summary of the recommended guidelines and standards for human exposure to various air contaminants may be found in Appendix C of ASHRAE Standard 62, Ventilation for Acceptable Indoor Air Quality. 31

#### SUMMARY PASSAGE 7

### **O. Integrate Iaq Measures With Energy Management**

Thermostats were turned down to reduce energy demand. In addition, ventilation systems usually provided less outdoor air per occupant, with greater recirculation of indoor air. This required less energy to heat or cool than outside air.

SUMMARY PASSAGE 8

## H. Flush Air Before And After Occupancy

Ventilation with 100 percent outdoor air should be provided at normal operating temperatures prior to occupancy in order to reduce or flush out indoor air contaminants. This will help remove VOCs, and improve the quality of the air the occupants receive once they arrive at the building.

SUMMARY PASSAGE 9

## B. Develop An Asthma Management Plan

Asthma triggers found in schools can include animal allergens, cockroaches, mold, dust mites and Volatile Organic Compounds (VOCs). Maintaining proper ventilation and moisture levels can improve indoor air quality and help reduce the amount of asthma triggers found in schools. It should be noted that children with pet allergies may react to animal allergens brought to school on the clothing of staff and other students.

SUMMARY PASSAGE 10

## D. Provide Training And Education

Building maintenance staff and supervisors should have specialized training addressing indoor air quality issues. Such training should include proper building maintenance procedures as it relates to indoor air quality, HVAC system operation and maintenance, hazard communication standards, safety procedures for use of hazardous substances, and emergency procedures.