

## **MAJOR PROGRAM POINTS**

### **"IMPROVING INDOOR AIR QUALITY"**

**Education to Help Identify, Correct and Prevent  
Indoor Air Quality Problems**

**"Quality Safety and Health Products, for Today...and Tomorrow"**

# Outline of Major Points Covered in the "Indoor Air Quality" Course

The following outline summarizes the major points of information presented in the Course on Indoor Air Quality. The outline can be used to survey the Course before taking it on a computer, as well as to review the Course when a computer is not available.

- **Air is all around us. We breathe it every day to stay alive. "There is nothing like a breath of fresh air."**
  - But how fresh is the air we breathe?
- **Air contains things you may know about, such as:**
  - Oxygen.
  - Hydrogen.
  - Nitrogen.
- **But there can also be things in the air that you may not know about, such as:**
  - Dust.
  - Mites.
  - Spores.
  - Hazardous fumes.
  - Bacteria.
- **All of these can cause health problems, and can be bad news to anyone who breathes them.**
- **The short-term effects of exposure to air pollution can include irritation of the:**
  - Eyes.
  - Nose.
  - Throat.
- **Bad air can also cause:**
  - Headaches.
  - Dizziness.
  - Fatigue.

- **Long-term exposure to air contaminants can lead to serious illness, such as:**
  - Asthma.
  - Emphysema.
- **Air pollution isn't just an outdoor problem.**
  - **Inside a building, contaminated air causes major problems for the people who breathe it.**
- **Indoor Air Quality has been enough of a concern that the Environmental Protection Agency (EPA) and the National Institute for Occupational Safety and Health (NIOSH) have created an "Indoor Air Quality Guide."**
  - One purpose of the guide is to make everyone aware of the potentially harmful effects of poor air quality.
- **The guide also helps facilities with the following indoor air quality issues:**
  - Preventing the pollution of the air.
  - Identifying air quality problems.
  - Correcting any problems that have been discovered.
- **Everyone can do something to help monitor and improve air quality both at work and at home.**
- **In the workplace, there are three main factors that affect air quality:**
  - Sources of contamination.
  - Building occupants.
  - Pollutant pathways.
- **Sources of contamination can be found:**
  - Inside a building.
  - Outside a building.
- **Outside, there are natural contaminants such as:**
  - Pollen.
  - Dust.
  - Fungi.

- **Man-made contaminants that are found outdoors include:**
  - Industrial pollutants.
  - Chemical emissions.
  - Pesticides.
  - Vehicle exhaust.
  
- **These contaminants can enter your workplace through:**
  - Open doors and windows.
  - Air intake vents in the ventilation system.
  
- **But not all contamination comes from outside. Some sources are inside your building, including:**
  - Cleaning products.
  - Adhesives.
  - Ammonia.
  - Solvents
  - Dust.
  
- **Another source of indoor air contamination can be common household plants.**
  - Living, green and flowering plants can remove toxic chemicals from the air.
  - But dead or dying plants can release harmful pollutants into the air.
  - Throw out any plants that are suspect.
  
- **Water can also cause problems with the air you breathe. Look for signs of leaky pipes or standing water, such as damage to:**
  - Carpets.
  - Floors.
  - Ceiling tiles.
  - Walls.
  
- **Standing water can be especially troublesome. It can occur:**
  - On rooftops and other surfaces after rainfalls.
  - In crawlspaces due to excess moisture.

- **These pools of water can be breeding grounds for bacteria.**
  - If they are near a ventilation system, the contaminants can travel directly into the work area.
  - If you see any signs of water damage, notify your supervisor.
  
- **Another contaminant that can be found in buildings is the cancer-causing material Asbestos.**
  - Damaged Asbestos releases dangerous fibers into the air where they can be inhaled.
  - These fibers can remain in your body for years, and potentially cause cancer.
  
- **Carbon Monoxide is also a fairly common contaminant. It is:**
  - Colorless.
  - Odorless.
  - Fatal if inhaled.
  
- **Furnaces or flues with cracks can leak Carbon Monoxide into the workplace.**
  - These areas should be checked regularly to prevent any contamination.
  
- **Vehicle exhaust also contains Carbon Monoxide, and can be a hazard if it is drawn into an air intake vent.**
  - So be on the lookout for improperly parked vehicles.
  
- **Building occupants are the second main factor that affects indoor air quality.**
  - This is the most easily controlled source of pollution in the workplace.
  
- **The food that we eat can often be a source of trouble. Don't let it sit around.**
  - Bacteria, mold and fungus can grow and create a hazard.
  - Store food that you want to save in a refrigerator.
  - Throw away anything you don't want.
  - Clean up any crumbs or food residue.

- **Cleanup includes more than the food itself.**
  - Wash or dispose of containers or utensils that come into immediate contact with your food.
  - Dispose of wrappers, empty cans and bottles in the appropriate containers.
  
- **Liquids can also be a problem if they are left out for a few days. This includes:**
  - Soft drinks.
  - Coffee.
  - Milk.
  - Even water.
  
- **These liquids invite the growth of micro-organisms, which can be released into the air where anyone can inhale them.**
  - When you are finished drinking, pour any remaining liquid down the drain.
  - Wash and dry your container.
  - If the container is disposable, make sure to throw it out.
  
- **Trash should be removed from your area every day.**
  - Bacteria can build up in trash and be released into the air.
  - If trash is not being removed on a regular basis, notify your supervisor.
  
- **The way we handle certain materials can also affect the quality of the air around us. Be careful when using:**
  - Cleaning products.
  - Solvents.
  - Other chemicals.
  
- **For some materials, respiratory protection is needed.**
  
- **Housekeeping can also be important.**
  - If containers are left open or not put away properly, harmful fumes can escape and pollute the air.
  - Clean up any spills or leaks.
  - Put containers back in their proper place.
  - If you don't know where materials should be stored, ask your supervisor.

- **We all know that cigarette smoke is hazardous to smokers.**
  - Secondhand smoke is also harmful to everyone in the area.
  - Smoking indoors without proper ventilation increases the pollutants in any workplace.
  
- **Because of the dangers of secondhand smoke, the EPA recommends that every facility have a smoking policy that "... protects non-smokers from involuntary exposure to tobacco smoke."**
  - Many facilities have created a smoking room or outdoor smoking area.
  - If you smoke, consult with your supervisor about your facility's smoking policy.
  
- **Some people find that humidifiers help them breathe more easily.**
  - By adding moisture to the air, they can help improve air quality.
  - But humidifiers can also hurt air quality by being a breeding ground for bacteria.
  
- **These bacteria have the potential for causing several illnesses, including:**
  - Hypersensitivity pneumonia.
  - Humidifier fever.
  
- **If you would like to use a personal humidifier, check with your supervisor. You need to make sure that the humidifier won't:**
  - Harm the quality of the air.
  - Damage nearby equipment and other materials.
  
- **Humidifiers should be cleaned according to the manufacturer's instructions to decrease bacterial growth.**
  - Refill them with fresh water every day.
  - Evaporation trays in air conditioners, dehumidifiers and refrigerators should also be cleaned frequently.

- **Sometimes people will use "Portable Air Cleaners" to help improve the air quality around them.**
  - Air cleaners can be effective in filtering or removing pollutants, but only if they are used correctly.
  - They require frequent cleaning and filter replacement to function properly.
  - Otherwise, they can spread the collected pollutants back into your work area.
  
- **Always follow the manufacturer's operating instructions to assure that the cleaner works properly.**
  - Remember, before using a cleaner check with your supervisor.
  
- **Even something as simple as dusting can cause air quality problems.**
  - Dust particles can easily be stirred up into the air where they can be inhaled.
  - Using a damp cloth can keep the particle release to a minimum.
  
- **Check with your supervisor about wearing a filter mask if:**
  - Dusting or cleaning is part of your job.
  - You work in an area with heavy dust concentrations.
  
- **Dust can accumulate on some materials. To prevent "residual" air contamination, regularly clean:**
  - Carpeting.
  - Curtains.
  - Textured surfaces.
  
- **"Pollutant Pathways" are the third main factor which affects air quality. They act as links from a source of contamination to a work area, and include:**
  - Air ducts.
  - Crawlspace.
  
- **The heating, ventilation and air conditioning in your building make up the HVAC system.**
  - This system circulates air throughout the workplace.
  - It must be properly maintained to insure good indoor air quality.

- **Flaws in the design or operation of an HVAC system can affect the quality of the air everyone breathes.**
  - Some problems can cause a system to become polluted (such as when water leaks and accumulates in the ductwork).
  - If this happens, contaminants can be spread throughout a building.
- **If the equipment is not filtering correctly, or the filters become dirty or clogged, the HVAC system can spread existing pollutants throughout the building.**
  - Regular inspections of the HVAC system should be made to ensure proper operation.
- **Personal comfort can also turn into an air quality issue.**
  - The air around you should be maintained at a "comfortable" temperature.
  - If your area becomes too hot, cold or humid, do not take matters into your own hands.
  - Unauthorized adjustments to the HVAC system may disrupt the air flow or reduce the air quality in your work area as well as in others.
- **Also, never block the air vents in your area.**
  - This might solve a problem for you, but could cause trouble for someone else.
  - If you have any trouble with your air circulation, notify your supervisor.
- **It is important to know what can happen if air quality problems in a building are not corrected.**
  - Poor air quality can affect people in a number of ways.
- **The groups who are most affected by pollutants in the air include people with:**
  - Allergies.
  - Asthma.
  - Respiratory diseases.
  - And those who wear contact lenses.

- **In some situations, a number of workers... with different sensitivities... can experience symptoms at the same time.**
  - "Sick Building Syndrome" (SBS) is when a large group of people in the same building experiences health problems.
  - The problems are relieved only when the workers leave the building.
- **By definition, with SBS even a professional investigation can't identify a specific illness that is causing the workers' symptoms.**
  - Suggestions can be made to improve air quality, but there are no guarantees that the symptoms will end.
- **Fortunately, most building-wide air quality problems do have identifiable causes.**
  - When a group of people have health problems that are directly linked to the building's air, it is called "Building Related Illness."
  - There are a number of steps that can be taken to correct this type of situation.
- **First, we need to be aware of the signs of air contamination. Watch out for:**
  - Irritated eyes, nose or skin.
  - Headache.
  - Nausea.
  - Coughing.
  - Dizziness.
- **But you shouldn't panic over every little cough or sneeze.**
  - If you have a concern about the air quality in your building, contact your supervisor.
  - Effective communication can help solve many problems.
- **If there is an air quality problem that a supervisor can't correct, a professional may be called. They might be an:**
  - Occupational Physician.
  - Industrial Hygienist.
  - Mechanical Engineer.

- **When these professionals enter your facility, everyone needs to keep clear and let them work.**
- **A formal investigation may be held. Cooperating with an investigation is very important. You could be asked to:**
  - Fill out a questionnaire identifying any symptoms of "bad air".
  - Show the professionals the location of air-handling equipment.
- **By working together we really can improve the quality of the air we all breathe.**
  - Remember, the goal is to prevent, identify and correct air pollution in our workplace.
- **A summary of the major points of the Course:**
  - Be on the lookout for symptoms of indoor air pollution.
  - Keep your own work area clean and tidy.
  - Make sure that the materials you work with, and how you use them, aren't causing air quality problems.
  - If there is a problem, don't take matters into your own hands (you could do more harm than good).
  - Talk with your supervisor if you have any questions about the air quality in your work area.
- **When it comes to indoor air quality, you can make a difference. So follow these simple guidelines to take care of the air around you... and it will take care of you!**