



## HEALTH AND SAFETY **FACT SHEET**

# Indoor air quality (IAQ)

### What is Indoor Air Quality?

Poor indoor air quality (IAQ) is a hazard that affects CUPE members' health. Indoor air quality is a term that describes the physical, chemical and biological state of indoor air. It usually refers to the air in non-industrial workplaces such as: universities, schools, day care centres, hospitals and office buildings.

### What are the problems?

Cutbacks and employer inaction and ignorance about indoor air quality hamper the fight for clean indoor air. Energy conservation measures have led to reduced outdoor air intake due to the airtight construction of buildings. Less outdoor air intake contributes to the accumulation of contaminants. The combination of less outdoor air and inadequate maintenance of heating, ventilating and air conditioning (HVAC) systems, creates polluted indoor air. Poor indoor air quality often leads to CUPE members experiencing fatigue, headaches and irritation of the eyes, nose and throat.

Sometimes indoor air quality can cause Sick Building Syndrome (SBS) or Multiple Chemical Sensitivity (MCS). SBS is

caused by tightly sealed and energy efficient buildings that lack proper ventilation.

These buildings trap contaminants inside and stop the entry of fresh outdoor air.

SBS symptoms include dryness of the skin, eyes, nose and throat, headaches, fatigue, nausea and a susceptibility to colds and flu. The symptoms of SBS are less severe upon leaving the workplace. MCS can be caused by exposure to one chemical or a combination of chemicals. The best way to understand MCS is to think of it as a chemical immune-deficiency disease. Those who have MCS become hypersensitive to certain chemicals. MCS symptoms include skin rashes, irregular breathing, convulsions, central nervous system problems and eye, nose and throat irritation.

Some or all of the following health effects characterize poor indoor air quality:

- Sick Building Syndrome (SBS) and Multiple Chemical Sensitivity (MCS).
- Headaches, blurred vision and common irritations of the eyes, nose and throat.
- Difficulty concentrating, fatigue and nausea.

- Shortness of breath, wheezing, sinus congestion and occupational allergies.

### **What are the hazards?**

Poor indoor air quality affects the physical and psychological health of CUPE members. Negative physical effects contribute to workplace stress. This stress can be compounded when members face undue pressure from employers who sometimes accuse them of complaining and dismiss reports about poor indoor air quality as minor. When members complain employers tell them they are “imagining things” or “don’t be hysterical”. But indoor air quality hazards are serious and need employers’ immediate attention.

Indoor air quality hazards fall into three basic categories: physical, chemical and biological.

Physical indoor air quality hazards include:

- Improper temperature and humidity levels.
- No HVAC maintenance workers or maintenance program in place due to cutbacks.
- Lack of worker-controlled HVAC systems.
- Workplace overcrowding due to cutbacks.
- Placement of workspace partitions, furniture and equipment preventing proper ventilation.
- Renovations that alter workplace layout without adjustments to HVAC system capacity.
- HVAC systems that begin to operate after workers have arrived or shut down before the end of the workday.

- Outdoor air intakes close to loading bays and busy streets.
- Windows that don’t open.
- Excessive noise and poor lighting.

Chemical indoor air quality hazards include:

- Asbestos for example, in ceiling tiles, pipe and duct insulation, old wallboard and plaster.
- Volatile organic compounds (VOCs) formaldehyde, organochlorines, phenols emitted from furniture, building materials, carpets and plastics.
- Carbon dioxide exhaled from building occupants.
- Carbon monoxide from gas burners and furnaces inside workplaces; vehicle exhaust and tobacco smoke outside workplaces.
- Pesticides in plant sprays and insect and rodent control products.
- Solvents such as benzene and toluene in cleaning products, copier toners and paints.
- Hazardous dusts, fibres and odours from building materials and occupants.
- Ozone from photocopiers, electric motors and electrostatic air cleaners.
- Radon from naturally occurring radioactivity in minerals and soil around workplace foundations.

Biological indoor air quality hazards include:

- Toxic moulds that grow on wood, drywall, upholstery, ceiling tiles, carpet and other building materials where enough moisture has accumulated.
- Bacterial diseases like Legionnaire’s disease, Pontiac fever and Humidifier

fever that originate in poorly maintained HVAC systems.

- Dust mites that can cause allergic reactions.
- Pollens and biological aerosols that don't get filtered out of indoor air due to poor HVAC maintenance.

## **Identify the problem**

A first step is recognizing that poor indoor air quality is a health and safety hazard in your workplace. Surveys and mapping techniques are excellent tools to identify indoor air quality hazards. An indoor air quality survey can be done in co-operation with the employer, in which case the union approves the survey and is involved in collecting and assessing the information generated by the survey. The union should conduct its own indoor air quality survey if the employer resists the idea or denies that poor indoor air quality is a problem. Surveys are an important tool in uncovering indoor air quality hazards. When and where CUPE members get sick are key factors in identifying and resolving poor indoor air quality. Body mapping, hazard mapping and your world mapping techniques can be used, in addition to surveys, to identify indoor air quality hazards. Workplace inspections by CUPE members are an important tool in uncovering and identifying indoor air quality hazards, and should be carried out regularly.

## **Actions**

Indoor air quality hazards largely centre on issues of control, cutbacks and employer neglect. Taking action on poor indoor air quality involves members exercising control at work.

The following actions can help combat poor indoor air quality:

- Refuse unsafe working conditions caused by poor indoor air quality.
- Report indoor air quality hazards.
- Conduct regular workplace inspections to uncover indoor air quality hazards.
- Put indoor air quality issues on the health and safety committee agenda.
- Demand employers take action on testing for indoor air quality hazards.
- Demand employers take action to fix indoor air quality hazards.
- Insist employers increase the ventilation rate of outdoor air.

## **Strategies for change**

The strategies outlined below complement the actions listed above. Poor indoor air quality can be eliminated by the following:

- Keep indoor air quality issues on the health and safety committee agenda until they are resolved.
- Monitor and test indoor air for contaminants.
- Demand regularly scheduled maintenance and cleaning procedures on HVAC systems.
- Give workers control by allowing them to adjust humidity, temperature and ventilation rates.
- Demand employers obey health and safety laws and regulations pertaining to indoor air quality hazards.
- Where legislation does not provide for specific indoor air quality controls, monitoring, or access to information about indoor air quality, the union can negotiate contract

language that reflects the protection of members.

- Put the issue of poor indoor air quality on the bargaining table.
- Sponsor CUPE education around the issue of poor indoor air quality and its effects.
- Create an indoor air quality policy for CUPE workplaces starting with a statement acknowledging that poor indoor air quality is a health and safety hazard, and that all steps should be taken to prevent the hazard. Collective job action around the issue of poor indoor air quality.

Employers have the responsibility to provide a healthy and safe workplace. This responsibility is known as the general duty clause. Clean indoor air is an important part of a healthy workplace. Ending poor indoor air quality requires the participation of our membership. Through education and activism, poor indoor air quality can be eliminated from CUPE workplaces. This fact sheet provides some information to address poor indoor air quality. Related information can be found in the CUPE Health and Safety Guidelines *Breathing Easy: Ventilation in the Workplace* and the CUPE *Ventilation Fact Sheet*.

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