

Indoor Skating Arenas and Air Quality

Air quality at indoor skating arenas can be a health concern under certain conditions.

Why can the air in skating arenas be harmful?

Machines and equipment operating at indoor arenas produce exhaust gases and combustion products. These include carbon monoxide (CO) and nitrogen dioxide (NO₂), among others. Inadequate ventilation may allow exhaust gases to collect indoors; it is possible for skaters to become ill.

Skating or being near ice level for a long time creates the greatest risk. Exhaust gases from ice-resurfacing machines tend to stay at ice level. Skaters are more likely to get sick because they are breathing this air deeply and rapidly. A child's body uses oxygen faster than an adult's, so children are at greater risk of becoming ill from inhaling exhaust gases. People with existing respiratory problems such as asthma also have a higher risk of becoming ill.

What are CO and NO₂?

CO, NO₂ and other airborne compounds result from the incomplete burning of fuels such as gasoline, diesel fuel, kerosene, propane and wood.

CO is a colourless, odourless, tasteless gas that prevents blood from carrying oxygen throughout the body. You can become ill and may eventually die if you continue to breathe enough CO.

NO₂ irritates the lungs, air passages and nose. Depending on the level of exposure, NO₂ may cause inflammation of the lungs and in some cases, death.

What are the symptoms of CO and NO₂ poisoning?

You may be suffering from CO and NO₂ poisoning if you:

- feel dizzy, light-headed, have a headache or lose consciousness
- have trouble thinking clearly or making decisions
- cough a great deal
- find it hard to breathe
- feel sick to your stomach and vomit
- have irritation of eyes and throat

With NO₂ poisoning, symptoms may develop over a 24-hour period after exposure to indoor arena air.

What should you do if you suspect there's a problem?

If someone has symptoms of CO and NO₂ poisoning:

- **Clear the ice, notify the arena operator, and improve ventilation in the arena.**
- **Immediately take the ill person to the closest hospital emergency department; describe the symptoms and explain that you were in an arena.**
- **Contact your Medical Officer of Health, local public health office or the 24-hour Medical Officer of Health line at 204-788-8666.**

How can you find out more information?

Ask the owner or operator of your local arena about preventative measures being taken to address air quality concerns.