

Pool Chemicals and Work-Related Asthma Information for Workers



Pool chemicals protect swimmers from germs, but breathing in pool chemicals can cause asthma or make it worse. Even people who never had asthma before can get it by breathing in these chemicals.

Examples of pool chemicals that can cause asthma are bleach (sodium hypochlorite), chlorine gas, and muriatic acid (hydrochloric acid). These chemicals are also used in hot tubs and water parks. Many chemicals form when pool chlorine mixes with swimmers' sweat, urine, and other waste. At least one of these chemicals,

trichloramine, can cause asthma. Pool chemicals can also trigger asthma symptoms in people who already have asthma. You can get asthma by:

- Breathing in chemicals that are spilled or accidentally released
- Breathing in the gases that form when the wrong chemicals are mixed
- Breathing in chemical vapors in poorly ventilated pool areas

What is asthma?

Asthma is a lung disease. People who have asthma sometimes have a hard time breathing. They may have wheezing, chest tightness, shortness of breath, and cough. It is important to avoid getting asthma because it can last your whole life.

When is asthma work-related?

Asthma is considered work-related when it is caused or made worse by something at work. You may get asthma symptoms right after you breathe in a substance or you may feel symptoms hours after leaving work. You can suddenly get work-related asthma from chemicals you have worked around for years.

Case Report — One big exposure can lead to life-long asthma

A maintenance worker was adding muriatic acid to a batch of water for a swimming pool when a cloud of yellow gas formed. He inhaled the gas, and had trouble breathing right away. He began to cough and wheeze. He was put in the hospital and told he had asthma. He now has constant and very bad asthma attacks and has been put in the hospital many times.

Case Report — Poor air flow in pool area makes lifeguard's asthma worse

A lifeguard with asthma was exposed to pool chemicals in the air at an indoor pool. One day when the pool area had poor air flow, she had an asthma attack and had to go to the emergency room. Since then, she has had to use her asthma medicine every day. Before this, she used it only once in a while.

Work-related asthma in California

The Work-Related Asthma Prevention Program (WRAPP) helps workers avoid getting asthma from their job. WRAPP has found that workers in many different jobs have asthma from exposure to pool chemicals. These jobs include lifeguard, swim teacher, maintenance worker, pool supply sales person, janitor, and others working in pool areas.

What should I do if I think I have work-related asthma?

See a doctor if you are wheezing, coughing, have a tight chest, or trouble breathing. If you think something at work is causing your asthma or making it worse, let your supervisor know. Your supervisor may send you to a doctor who treats work-related health problems. Before you go to the doctor, write down the names of products used at work. If you can, ask your supervisor for the information that comes with chemical products, called Safety Data Sheets (SDS). The SDS lists what is in the product and how it can affect health. Show these SDSs and this fact sheet to the doctor, and tell the doctor when you started having breathing problems.

How to prevent asthma from pool chemicals

Good practices can protect you:

- If you handle chemicals, your employer must train you on how to safely use them, including how to follow the label and use personal protective equipment (PPE), like safety goggles, gloves, boots, and aprons. You might also need to use a respirator. You should get training even if you are hired only for a few weeks or months a year.
- Always follow safe work practices. If you are not sure what to do, tell your supervisor that you need more information and training.
- **DON'T** clean up spills unless you have had proper training and wear the right PPE.
- **NEVER** mix pool chemicals together before putting them in the pool.
- Help enforce pool rules that keep the water clean, like requiring swimmers to shower before entering the pool and promoting bathroom use before swimming lessons.
- Your employer should ensure that indoor pool, chemical storage, and pump room areas have good air flow.
- Your workplace should test the water regularly to make sure that the correct amounts of pool chemicals are used and that contaminants are not building up. The pool area should not have a strong chlorine smell.
- Your employer should maintain maximum fresh (outdoor) air flow in indoor pools during and after "shock" chemicals have been added and should keep workers out of the area.

For more information, call the Work-Related Asthma Prevention Program in California: 1-800-970-6680 (toll-free to California callers) or [WRAPP's website](http://www.cdph.ca.gov/wrapp/asthma) (www.cdph.ca.gov/wrapp/asthma). California Relay Service: 711. To get a copy of this fact sheet in another format, please call (510) 620-5757. Allow at least 10 days.

Additional Resources

[CDC web page on Chloramines:](http://www.cdc.gov/healthywater/swimming/pools/irritants-indoor-pool-air-quality.html)

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