Dear Alice,

I have been reading on the internet that mixing certain household cleaners can be deadly because doing so may release chlorine gas. When I am cleaning the house, how can I tell if I may have been accidentally exposed to chlorine gas, and whether or not I require medical evaluation?

Mr. Clean

Answer

Dear Mr. Clean,

Cleaning with chemicals should come with a warning label! Chlorine is a toxic, yellow-green gas that is one of today’s most heavily used chemical agents. Many household cleaners contain chlorine, including automatic dishwashing detergents, some laundry detergents, chlorine bleach, chlorinated disinfectant cleaners, mildew removers and toilet bowl cleaners. However, some product labels indicate the alias names of "sodium hypochlorite" or "hypochlorite," rather than stating that they contain plain old chlorine.

Household cleaning products are dangerous when inhaled, particularly for those who suffer from heart conditions or chronic respiratory problems (such as asthma or emphysema). In addition, mixing household cleaning products can be quite dangerous, particularly the combinations of:

- **Bleach and ammonia**: Ammonia may be found in some glass and window cleaners, urine (be careful if you clean cat litter boxes or use a diaper pail), and some interior and exterior paints. Mixing bleach and ammonia can cause toxic gases (called chloramines) to be produced. This can result in upper respiratory symptoms and irritation to the throat, nose, and eyes.
- **Bleach and acids**: Products containing acids include vinegar, as well as some types of glass and window cleaners, automatic dishwasher detergents and rinses, toilet bowl cleaners, drain cleaners, lime, calcium and rust removal products, and brick and concrete cleaners. Mixing bleach and acids can result in the production of chlorine gas. At low levels, this can lead to irritation of the upper respiratory tract, eyes, and skin. At higher levels, exposure to chlorine gas could be fatal.
- **Two drain cleaners**, one after the other. This could lead to a deadly mix of chemicals.

Product safety is critical in the prevention of illness and injury. Aside from never mixing
cleaning products, it is recommended to:

- Avoid using cleaning products that contain chlorine.
- Read the label and follow the directions.
- Use the least toxic product you can find. Try to buy safer, more environmentally-friendly cleaning products.
- Limit the amount of time you are using products that give off fumes.
- Wear gloves and protective clothing to protect your skin, as well as goggles to shield your eyes from splashes and fumes.
- Never wear contact lenses when working with solvents.
- Use chemicals outdoors for proper ventilation. If you have to stay inside, turn on a fan and/or open the windows while cleaning.
- Never smoke when using flammable products.
- Use no more than you need to do a job. More isn't always better!
- Thoroughly clean any area after using anything that may be poisonous.
- Be sure that the nozzle is pointed away from you before you spray.
- Tightly close containers after use to prevent release of fumes.
- Keep all household products in their original labeled containers. Never reuse product containers for anything else.
- Never sniff containers to figure out what is inside.

Stop using a cleaning product if you become dizzy, sick to your stomach, and/or develop a headache. In addition, seek help if you experience:

- Trouble breathing (this often happens right after breathing a chemical, but it can also happen hours later)
- Chest pain/burning
- Dry throat or hoarseness
- Sneezing or a runny nose
- Sore throat
- Coughing or wheezing (having an asthma attack)

If you suspect that you have been poisoned or injured due to exposure to a household chemical, it is extremely important that you get help right away. Contact your local Poison Control Center (click here to find a center near you) or call the national hotline at (800) 222-1222. Stay clean but stay safe!