

## Beware of Dangerous Chemical Reactions at Home

**C**hemical hazards are not limited to chemical processing or other manufacturing facilities; they can also be found in our homes. Some common household cleaners can be dangerous when mixed, and can even cause fatal injuries. Many cleaning products contain aqueous ammonia or bleach (an aqueous solution of hypochlorite). Glass, oven, and toilet-bowl cleaners often contain ammonia, and bleach is sometimes added to laundry or used as a component in disinfecting cleaners.

When mixed, ammonia and hypochlorite produce chloramine gas. Exposure to chloramine gas can cause coughing; shortness

of breath; chest pain; wheezing; nausea; watery eyes; irritation of the eyes, nose, and throat; and the buildup of fluid in the lungs. If inhaled at low concentrations, chloramine gas typically causes mild respiratory tract irritation, but at higher concentrations, it can cause serious injuries or death. Reports of injuries and fatalities related to mixing ammonia and bleach or other familiar household chemicals can be found on the internet.

Potential hazards that result from mixing incompatible chemicals can be communicated with a chemical interaction matrix, which are discussed in next month's Beacon.



## What can you do?

- Read warning labels on household products, and follow the precautions for use and storage, including wearing the recommended protective equipment, such as gloves or a mask, when using the product.
- When working with hazardous materials in the home, ensure your work area is well ventilated so that hazardous vapors can disperse.

- Take your process safety knowledge home. Because you work with hazardous materials and processes, you have special experience and training that is valuable beyond the workplace. Set a good example for friends and family, and remind them to follow safety measures as you would at work when they handle hazardous materials.
- Share this Beacon with your friends and family.

**Take your safety knowledge home!**

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