



## Common Cleaning Products Can Be Dangerous When Mixed

Mixing common household cleaning products can cause serious injuries. Be sure to always read the product labels before using household or institutional cleaning supplies.

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**Do not mix bleach and ammonia.**

**Do not mix bleach and acids.**

**Do not use two drain cleaners together, or one right after the other.**

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### What is chlorine bleach?

Sodium hypochlorite is the active ingredient in chlorine bleach. It is found in household bleach and many other disinfectants. Sodium hypochlorite reacts with ammonia, drain cleaners, and other acids. Many household products state that they contain bleach on the label. Pool chemicals frequently containing calcium hypochlorite or sodium hypochlorite, should not be mixed with household cleaners, and used carefully.

### Where are ammonia and acids found in the home?

#### **Ammonia:**

In addition to ammonia purchased as a cleaning product, ammonia may be found in the following:

- Some glass and window cleaners
- Urine (be careful if you are cleaning diaper pails, or in cleaning cat litter boxes)
- Some interior and exterior paints

#### **Acids:**

Products containing acids include:

- Vinegar
- Some glass and window cleaners
- Some automatic dishwasher detergents and rinses
- Some toilet bowl cleaners
- Some drain cleaners
- Some lime, calcium and rust removal products
- Certain types of brick and concrete cleaners

## What are the dangers of mixing these common cleaning products?

### **Mixing bleach and ammonia:**

When bleach is mixed with ammonia, toxic gases called chloramines are produced.

Exposure to chloramine gas can cause:

- Coughing
- Shortness of Breath
- Chest Pain
- Wheezing
- Nausea
- Watery Eyes
- Irritation to the throat, nose and eyes
- Pneumonia and fluid in the lungs

### **Mixing bleach and acids:**

When chlorine bleach is mixed with an acid, chlorine gas is produced. Chlorine gas and water combine to make hydrochloric or hypochlorous acids.

Chlorine gas exposure, even at low levels, almost always irritates the mucous membranes (eyes, throat and nose), and causes coughing and breathing problems, burning and watery eyes, and a runny nose. Higher levels of exposure can cause chest pain, more severe breathing difficulties, vomiting, pneumonia, and fluid in the lungs. Very high levels can cause death.

Chlorine can be absorbed through the skin, resulting in pain, inflammation, swelling and blistering. Hydrochloric acid also causes burns to the skin, eyes, nose, throat, mouth, and lungs.

### **Mixing bleach and other cleaning products:**

Bleach also reacts with some oven cleaners, hydrogen peroxide, and some insecticides.

## Where can I get more information on bleach or on specific products?

The Chlorine Institute website provides consumers with much information on bleach and other chlorine products. Also helpful is the Sodium Hypochlorite Chart.

<http://www.cl2.com/>

[http://www.cl2.com/whats\\_new/NaOClCompatChart.pdf](http://www.cl2.com/whats_new/NaOClCompatChart.pdf) (incompatibility Chart)



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