Hazard Alert

NJHealth New Jersey Department of Health

Worker Health and Safety:
Mixing Bleach with Other Cleaning Products Can Be Deadly.

Mixing bleach and common cleaning products can cause serious injury or even death. It is important safe work practices are implemented for workers who are using cleaning products.



Case #1:

An asthmatic restaurant employee opened a dishwasher and was overcome by strong fumes, later passing away. The fumes came from a dangerous mix of Lime-A-Way and bleach inside the machine. Mixing these chemicals, an acid and a hypochlorite, caused the release of chlorine gas.



Case #2:

A plumber, while clearing a clogged drain at a customer's residence and noticed a bleach odor. To clear the clog, the plumber poured in a drain solvent called Zep, which contains sulfuric acid. Mixing it with bleach released toxic chlorine gas. The plumber inhaled the fumes and was taken to the emergency department with respiratory distress, coughing, and wheezing.

Do NOT MIX Cleaning Products!



N**ever mix cleaning products**, especially anything containing bleach. Mixing bleach with other cleaning products like drain openers, ammonia, or products with acids (such as lime, calcium, or rust removers and some dishwasher detergents) can release toxic gases.

Mixing bleach with ammonia creates chloramine gases which can cause coughing, shortness of breath, chest pain, wheezing, nausea, watery eyes, irritation of the throat, nose, and eyes. In serious cases, it can lead to pneumonia and fluid in the lungs.

When chlorine bleach is mixed with an acid, chlorine gas is produced. Even low levels of chlorine gas for short periods can irritate your eyes, nose, and throat, and cause coughing and breathing problems. Higher levels can lead to chest pain, severe breathing trouble, vomiting, and lung damage. Very high levels can be fatal.

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DANGEROUS CHEMICAL COMBINATIONS - DO NOT MIX

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BLEACH WITH OTHER COMMON PRODUCTS:

- **Ammonia** – Creates toxic gases that can damage the lungs and burn the throat.
- **Vinegar** – Produces harmful vapors, including chlorine and chloramine, which can burn the eyes and lungs.
- **Rubbing alcohol (Isopropyl alcohol)** – Forms chloroform, which can cause dizziness, nausea, headaches, and even loss of consciousness.
- **Mildew stain removers** – Can release chlorine gas and irritate the eyes, nose, throat, and lungs.
- **Toilet bowl cleaners** – May give off toxic fumes that can burn the throat and lungs.
- **Oven cleaner** – Can produce chlorine gas and cause irritation to the eyes, nose, and respiratory system.
- **Lemon juice** – Its natural acids can react with bleach to release chlorine gas.
- **Drain cleaner** – Can create toxic chlorine gas and may lead to long-term health issues.

OTHER HAZARDOUS MIXES:

- Different brands of drain cleaners – Can react dangerously when combined. Never mix them.
- Hydrogen peroxide and vinegar – Together they form peracetic acid, which can irritate the eyes, skin, and lungs.

Ensure safe work practices for workers using cleaning products:



- Train workers BEFORE they use the chemicals in accordance with the **OSHA Hazard Communication standard (29 CFR 1910.1200)**. This includes proper reading of chemical labels and Safety Data Sheets, to understand how to use, store, and dispose of products safely and what to do in case of spills and hazardous exposures.
- Keep chemicals in their original containers and make sure all containers are clearly labeled.
- Provide proper personal protective equipment (PPE) such as gloves, safety glasses, and respirators.
- Work in a well-ventilated area.Take fresh air breaks and make sure there is enough airflow to prevent dangerous fumes from building up.

Additional Resources:

OSHA/NIOSH InfoSheet: Protecting Workers Who Use Cleaning Chemicals
EPA Safer Choice List of Certified Products

If a chemical exposure occurs and you need immediate assistance, contact the **NJ Poison Center Help Line: 1-800-222-1222**

1-800-222-1222 New Jersey Poison Center

NJDOH Environmental & Occupational Health Surveillance Program
Consumer, Environmental, and Occupational Health Service
nj.gov/health/workplacehealthandsafety/occupational-health-surveillance