

## Chemicals and Materials

# Bleach (Household chlorine) - Working Safely

### On this page

[What is household/chlorine bleach?](#)

[Why should I be careful when working with bleach?](#)

[Why is bleach useful?](#)

[What are some steps to take to work safely with bleach?](#)

[What do I do if I splash bleach in my eyes or on my skin?](#)

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### What is household/chlorine bleach?

Bleach is a chemical that is diluted and sold for household use. It is a mixture of water and the chemical sodium hypochlorite. For uses in the home and many workplaces, it is usually sold with concentrations of sodium hypochlorite present at a range from about 3 to 9 percent.

**Note** that industrial uses can use concentrations of sodium hypochlorite at 30% or higher. This document does not cover the safe use and handling of bleach at high concentrations.

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### Why should I be careful when working with bleach?

Bleach is corrosive, which means the liquid can irritate or burn your skin or eyes. It can also corrode (“eat”) metals. The vapours may also cause irritation or damage to the throat (esophagus) and lungs. When mixed with certain other chemicals or cleaners, it can produce toxic gases, which can damage your lungs or be deadly. Always use caution and care when working with this product.

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### Why is bleach useful?

Bleach can disinfect, which means it effectively kills most bacteria, fungi and viruses. It is also used to whiten fabric and other items.

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### What are some steps to take to work safely with bleach?

- Use safer alternative products where possible (use another less hazardous product to work with).
- Use soap and water to clean dirty surfaces first. Bleach is a disinfectant that should only be used when needed to kill bacteria, fungi, or viruses.
- Always follow the manufacturer's instructions for the safe use of bleach or any cleaning product. Instructions will be on the label and the Safety Data Sheet (SDS).
- Always label containers clearly. Do not use a container if it is not labelled or if you cannot read the label.
- Know when and how to dilute the product correctly (e.g., always pour the concentrate/acid into the water, never the other way around). To disinfect for viruses and bacteria, use a bleach solution (dilution) at a ratio of 75 ml of bleach in 4.5 litres of water (1/3 cup per gallon).
- **Never** mix with other products, especially other cleaners that contain ammonia. Toxic gases can be produced, which are very irritating or corrosive to the eyes and lungs.
- Make sure the area you are working in is well-ventilated. The vapours from bleach are irritating to the eyes and respiratory system. Use fans or open windows and doors. Wear respirators when recommended.
- Wear goggles or a face shield to protect your eyes and face from splashes.
- Wear gloves made of household rubber or neoprene (or other types as recommended by the manufacturer). Not all gloves will protect you under every situation, so read the directions or the SDS carefully for the manufacturer's recommendation.
- Wear clothing that will cover your skin in the case of a spill, including a long-sleeved shirt, pants, socks, and closed-toed shoes. Protective chemical aprons or suits will provide more protection.
- Follow the directions on the bottle for safe use.
- If using in a workplace, make sure that workers know how to use and store the product and how to react in an emergency. Provide training in safe work and handling procedures and how to use any emergency spill kit or emergency eyewash/shower unit.
- If using as a disinfectant, leave the diluted solution on the surface for at least one minute before removing or wiping. The surface should be visibly wet during this contact time.
- Make a new diluted bleach solution each day. Bleach solutions will not be as effective when mixed with water for more than 24 hours.
- Store bleach in a safe, cool, dry place. Keep away from direct sunlight and heat. Close the cap tightly after each use. If using it in the home, keep it away from children.
- Keep away from metals.
- Wash your hands with soap and water after using the product.

- Do not drink or gargle bleach. Do not eat, drink, or smoke when using the product.
  - Do not use it with other products such as other disinfectants, toilet bowl cleaners, rust removers, acids (including vinegar), and products containing ammonia.
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## What do I do if I splash bleach in my eyes or on my skin?

- **Eyes:** Hold the eye open and rinse slowly and gently with water for 15 to 20 minutes or for the time the manufacturer recommends. Remove contact lenses, if present, and continue rinsing the eye. Call a poison control center, emergency services, or a doctor.
- **Skin:** Remove the contaminated clothing. Rinse the skin immediately with plenty of water for 15 to 20 minutes or for the time the manufacturer recommends.
- **Inhaled/breathed in:** Move the person to fresh air. Call a poison control center, emergency services, or doctor if breathing is affected.
- **Swallowed:** Call a poison control center, emergency services, or doctor. Do not try to get the person to vomit unless told to do so, specifically by a medical professional. Do not give anything by mouth to an unconscious person.

When providing first aid or helping another person, be careful not to come into contact with the bleach yourself. Use protective clothing when necessary.

Individuals with a compromised respiratory system (e.g., those who suffer from asthma, allergies, or chronic obstructive pulmonary disease (COPD)) may react to even small amounts in the air. Serious discomfort or distress may need medical assistance.

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