

Sodium hydroxide

also applies to soda lime and potassium hydroxide

Substance	Hazard	Comment
<p>Sodium or potassium hydroxide <i>Solid</i> Also known as caustic soda and caustic potash. Soda lime contains about 5% sodium hydroxide, 1% potassium hydroxide, 0.2% silicon dioxide, 14 – 19% water and the remainder calcium hydroxide (it is used to absorb carbon dioxide). Carbosorb in addition contains an indicator.</p>	 CORROSIVE  HARMFUL	<p>DANGER: causes severe skin burns and eye damage. Potassium hydroxide is also harmful if swallowed. It gives out heat when added to water which can cause boiling or create a choking mist. It is used in the home for clearing drains.</p>
<p>Sodium or potassium hydroxide solution <i>(if 0.5 M or more sodium hydroxide; 0.4 M or more potassium hydroxide)</i></p>	 CORROSIVE  HARMFUL	<p>DANGER: causes severe skin burns and eye damage. Potassium hydroxide is also harmful if swallowed if 3 M or more. Fehling's solution contains sodium hydroxide of this concentration. It is used in the home as an oven cleaner.</p>
<p>Dilute sodium or potassium hydroxide solution <i>(if less than 0.5 M but 0.125 M or more sodium hydroxide; if less than 0.4 M but 0.1 M or more potassium hydroxide)</i></p>	 IRRITANT	<p>WARNING: irritating to the eyes and skin.</p>
<p>Very dilute sodium or potassium hydroxide solution <i>(if less than 0.125 M sodium hydroxide; if less than 0.1 M potassium hydroxide)</i></p>	<p>Currently not classified as hazardous</p>	<p>It may still cause harm in the eyes or in a cut.</p>

Typical control measures to reduce risk

- Use the lowest concentration possible; avoid using the solid if possible.
- Use the smallest amount possible.
- **Wear eye protection**, including when making or disposing of solutions. Protect the face when transferring/dispensing large quantities of corrosive substance.
- If possible, use a safer alternative, eg, sodium carbonate when making salts or Benedict's solution rather than Fehling's solution for food tests.

Assessing the risks

- What are the details of the activity to be undertaken? What are the hazards?
- What is the chance of something going wrong?
eg solution spurting out of test tubes when being heated.
- How serious would it be if something did go wrong?
Note – alkali in the eye causes more damage than acid of equivalent concentration.
- How can the risk(s) be controlled for this activity?
eg can it be done safely? Does the procedure need to be altered? Should goggles or safety spectacles be worn?

Emergency action

In all emergency situations, alert the responsible adult immediately. Be aware that actions may include the following:

- In the eye
Irrigate the eye with gently-running tap water for at least 20 minutes. Call 999/111. If it is necessary to go to hospital, continue washing the eye during the journey in an ambulance.
- In the mouth/swallowed
Do no more than rinse and spit with drinking water. Do **not** induce vomiting. Call 999/111.
- Spilt on the skin or clothing
Remove contaminated clothing. Quickly use a dry cloth or paper towel to wipe as much liquid off the skin as possible. Irrigate the affected area with gently-running tap water for at least 20 minutes. If a large area is affected or symptoms occur, call 999/111. Rinse clothing.
- Spilt on the floor, bench, etc
Wipe up small amounts with a damp cloth and rinse it well. For larger amounts, and especially for (moderately) concentrated solutions, cover with mineral absorbent (eg cat litter) and scoop into a bucket. Neutralise with citric acid. Rinse with plenty of water.