






Sodium hydroxide

also applies to Soda lime and Potassium hydroxide

Substance	Hazard	Comment
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.	 CORROSIVE  HARMFUL	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.
Sodium or potassium hydroxide solution <i>(Sodium hydroxide if 0.5 M or more; potassium hydroxide if 0.4 M or more)</i>	 CORROSIVE  HARMFUL	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.
Dilute sodium or potassium hydroxide solution <i>(Sodium hydroxide if less than 0.5 M but 0.125 M or more; potassium hydroxide if less than 0.4 M but 0.1 M or more)</i>	 IRRITANT	WARNING: irritating to the eyes and skin.
Very dilute sodium or potassium hydroxide solution <i>(Sodium hydroxide if less than 0.125 M; potassium hydroxide if less than 0.1 M).</i>	LOW HAZARD	It may still cause harm in the eyes or in a cut.

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. Goggles (or a face shield) rather than safety spectacles will be necessary if the chemical is classed as CORROSIVE at the concentration used.
- Wear protective gloves if the concentrated solution is handled in more than tiny amounts.
- 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?**
NB 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 the eye** Flood the eye with gently-running tap water for at least 20 minutes. Consult a medic. If it is necessary to go to hospital, continue washing the eye during the journey in an ambulance.
- **Swallowed** Do no more than wash out the mouth with drinking water. Do **not** induce vomiting.. Consult a medic.
- **Spilt on the skin or clothing** Remove contaminated clothing. Then drench the skin with plenty of water. If a large area is affected or blistering occurs, consult a medic .
- **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.