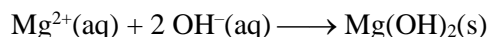
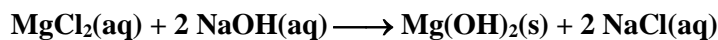


## Preparation of magnesium hydroxide

Magnesium hydroxide is a white substance, almost insoluble in water ( $pK_s = 11,75$ ). In nature it exists as a mineral *brucite*. Heated over 350 °C magnesium hydroxide decomposes to magnesium oxide and water. In the laboratory it may be prepared easily by the precipitation reaction of magnesium chloride with sodium hydroxide solution.



### Work

Prepare 3.0 g of magnesium hydroxide.

### Chemicals

- magnesium chloride hexahydrate, white crystalline substance,
- sodium hydroxide, white solid substance.

### Procedure

Dissolve calculated amount of magnesium chloride hexahydrate in minimum volume of water. Do the same with calculated amount of sodium hydroxide. Heat both solutions almost to their boiling points. Under continuous stirring at higher temperature add slowly the sodium hydroxide solution to the magnesium chloride solution. Filter out the precipitated white magnesium hydroxide on a Büchner funnel using a dense filter paper. Wash the precipitate on the filter to remove last traces of sodium chloride formed. Dry the precipitate in air flow on the filter and subsequently in an oven at 100 °C.

### Safety instructions

#### Magnesium chloride hexahydrate – $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$

–

#### Sodium hydroxide – NaOH

- R34** Causes burns.  
**S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**S28** After contact with skin, wash immediately with plenty of (to be specified by the manufacturer).  
**S45** In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).  
**S36/37/39** Wear suitable protective clothing, gloves and eye/face protection.

#### Sodium chloride – NaCl

- R36/37/38** Irritating to eyes, respiratory system and skin.  
**S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**S36** Wear suitable protective clothing.

#### Magnesium hydroxide – $\text{Mg}(\text{OH})_2$

- R36/37/38** Irritating to eyes, respiratory system and skin.  
**S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**S36** Wear suitable protective clothing.