Milk of magnesia extemporaneous preparation
Teacher and technician sheet

Health and safety note
Make sure that students wear eye protection at all times and that they know how to safely handle hot apparatus.

Step 1: Preparing magnesium sulfate-7-water

Equipment and materials
Each student or pair of student will require
- 25 cm³ measuring cylinder
- Tripod and gauze
- Bunsen burner
- Stirring rod
- 250 cm³ beaker
- Evaporating basin
- Balance
- 1 mol dm⁻³ sulfuric acid – Irritant
- Magnesium oxide

Calculating percentage yield

\[ \text{MgO(s) + H}_2\text{SO}_4(aq) \rightarrow \text{MgSO}_4(aq) + \text{H}_2\text{O(l)} \]

Number of moles of sulfuric acid used \(\frac{(20 \times 1)}{1000} = 0.02\)

Theoretical yield of MgSO₄.7H₂O (rmm 246) = 0.02 x 246 = 4.92 g

Percentage yield = \(\frac{\text{actual yield}}{\text{theoretical yield}}\) x 100%

Step 2: Preparing magnesium hydroxide mixture

If students are not familiar with risk assessments, explain what is needed. Remember that a student’s risk assessment is not sufficient. **It must be checked, modified if necessary and agreed by a qualified person.**

DO NOT USE chloroform in the preparation – omit it from the formulation.

Step 3: Magnesium hydroxide mixture assay

Method
Again, if students are not familiar with risk assessments, explain what is needed. Remember that a student’s risk assessment is not sufficient. **It must be checked, modified if necessary and agreed by a qualified person.**