# 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 $cm^3$ measuring cylinder
- Tripod and gauze
- Bunsen burner
- Stirring rod
- 250 $cm^3$ beaker
- Evaporating basin
- Balance
- 1 mol $dm^{-3}$ sulfuric acid − Irritant
- Magnesium oxide

### Calculating percentage yield

$$MgO(s) + H_2SO_4(aq) \rightarrow MgSO_4(aq) + H_2O(l)$$

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

$$\text{Theoretical yield of } MgSO_4.7H_2O \text{ (rmm 246)} = 0.02 \text{ x } 246 = 4.92 \text{ g}$$

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

### 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.**