

THE THERMAL DECOMPOSITION OF COPPER (II) CARBONATE

Apparatus

Comboplate®
Silicone tubing
Microstand arm®
Ignition tube
Microburner®
Lid 2
Microspatula®



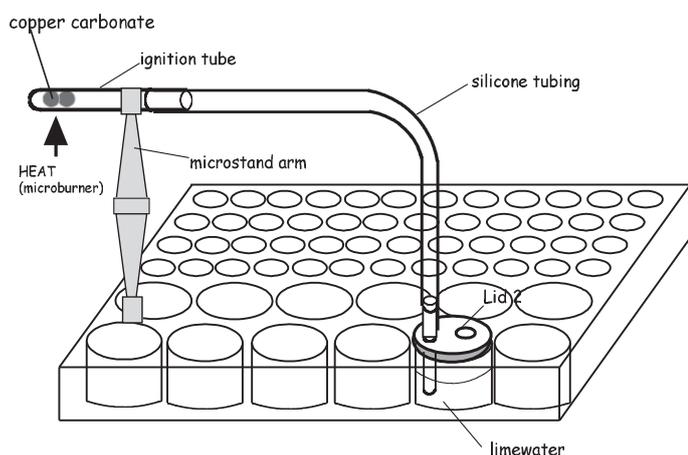
Eye
protection
must be worn
in this area

Chemicals

Fresh limewater ☒
Copper carbonate ☒
Purple meths 🔥

Method

1. Take the Comboplate and connect the Microstand to the Comboplate® by placing it on its side and clipping it to the rim between two wells (C11 and D11) as shown in the diagram opposite.
2. Using the thin end of the Microspatula fill the ignition tube one-third full with the copper carbonate ☒
3. Connect a 10 cm length of silicone tubing to the open end of the ignition tube.
4. Secure the ignition tube in the open end of the microstand arm.
5. Fill well F2 one-third full with limewater and place lid type-2 in the neck of the well.
6. Connect the silicone tubing to the chimney of the lid.
7. Fill the microburner two-thirds full with meths 🔥 and light it.
8. Heat the copper carbonate in the ignition tube and note any changes that take place in the tube and in the limewater ☒ in the well.
9. At the end of the experiment allow the ▲ hot apparatus to cool down before dismantling it.



Results

| Appearance of solid before heating | Appearance of solid after heating | Appearance of liquid in F2 at beginning | Appearance of liquid in F2 at end of experiment |
|------------------------------------|-----------------------------------|---|---|
| | | | |

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Conclusions

1. Give three pieces of evidence to show that the changes taking place were chemical changes rather than physical changes.

I _____

II _____

2. a) Name the gas formed in the reaction. _____
b) Name the solid formed in the reaction. _____

3. a) Give the word equation for the reaction _____
b) Give the balanced symbol equation for the reaction. _____

4. Explain why this type of reaction is described as thermal decomposition.

