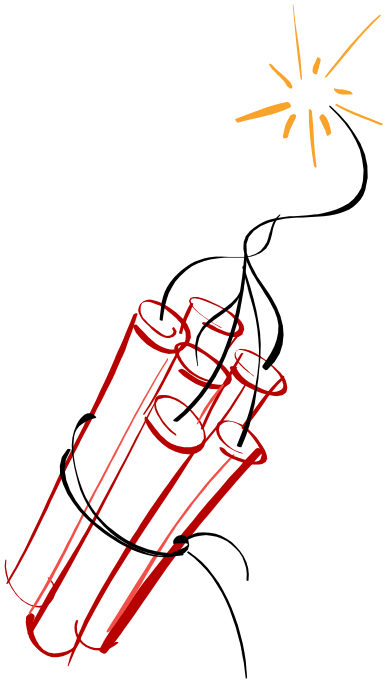


Chemical Demonstrations

Dynamite Soap

This reaction can be applied to curriculum for excellence.

Through experimentation, I can identify indicators of chemical reactions having occurred. ...

SCN 3-19a

N4 Nature's Chemistry

- *Fuels*

N5 Nature's Chemistry

- *Energy from Fuels*

Revised Higher - Principles to Production

- *3b Enthalpies of combustion*

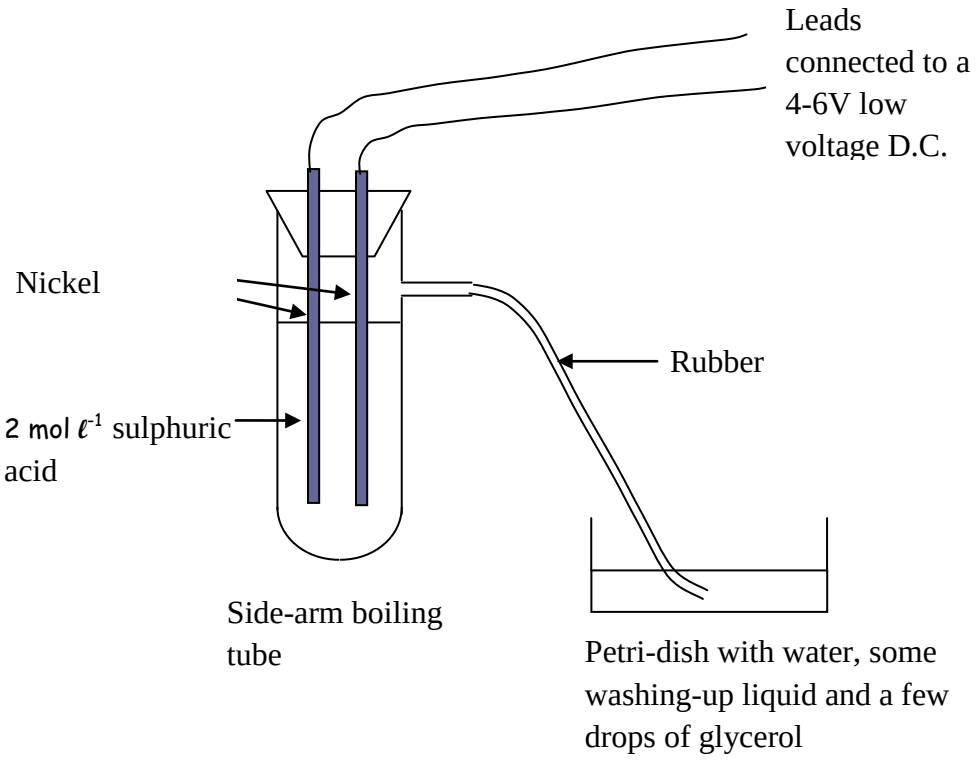
The following demonstration is worth doing to show the effect of a mixture of hydrogen and oxygen being ignited.

What you will need

- A bottle of glycerol
- A pipette dropper
- A bottle of good quality washing-up liquid
- A small crystallising dish
- A low voltage power supply and two leads
- A side-arm boiling tube fitted with a length of rubber tubing
- A 2 hole stopper to fit boiling tube and fitted with 2 nickel electrodes (the electrodes can be made from cut down old nickel spatulas)
- A bottle of 2 mol l^{-1} sulphuric acid **(corrosive)**
- A clamp stand to hold the boiling tube
- Ear defenders.
- A meter stick with a wax taper attached to the end.

What you do

1. Set up the apparatus as shown below



2. Turn on the electricity and allow the gases produced to escape for a few minutes. This flushes any air out of the apparatus as this will reduce the effect on igniting the gases.

3. Now put the delivery tube in the washing-up liquid and wait until a bubble 'raft' has been made. The glycerol helps to maintain the bubbles and prevent them bursting.

4. Turn off the electricity and remove the apparatus away from where you will ignite the bubbles.

5. Wear ear defenders and tell pupils to put their fingers in their ears.

6. Light the taper on the meter stick and apply to the bubble 'raft'.

Hint

If done properly there will be a very loud 'crack'. This can lead on to a discussion on Alternative Fuels with hydrogen being produced from the electrolysis of water. A Fuel Cell car is a good tool to use at this stage as is a free video from BMW from
http://www.bmweducation.co.uk/cleanenergy/default.asp

Pupil worksheets can also be downloaded for free from this site.

Safety

Wear indirect vent goggles 

Care with acid – Corrosive 

No naked flames while carrying out the electrolysis

-flammable, explosive mixture of gases.

It is the responsibility of the teachers doing this demonstration to carry out an approriate risk assessment