

Struvite formation is driven by hydroxide formation at the cathode. This is a nonspontaneous process and if the power source is stopped, the hydroxide ions will be consumed and the reaction will stop. Magnesium dissolution is also required to drive the reaction and this will stop without power.

Due to the use of a power source without a short circuit safety, sparks and fires can occur. For this situation, a dry powder fire extinguisher for class D and electrical equipment should be kept on hand for the duration of the experiment. Dry powder fire extinguishers are safe for use up to 1000 V and no more than 3V are expected to be used to carry out the experiment. In the event of a fire, the power source will be turned off if safe to do so. Then to use the fire extinguisher, pull the pin to break the seal. Aim the nozzle at the base of the flame and squeeze the handle to discharge the powder. Sweep the nozzle side to side until the fire is extinguished.

The reactor will be placed inside of a large plastic container so that in the case that there is a loss of containment in the reactor, the contents of the reactor will collect in the large container.