# SSERC logo

**SSERC Risk Assessment** (revised version March 2018)

(based on HSE’s INDG 163 ‘Risk assessment - A brief guide to controlling risks in the workplace’)

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| Activity assessed | Salt and Battery |
| *Date of assessment* | 30th June 2020 |
| *Date of review (****Step 5****)* |  |
| *School* |  |
| *Department* |  |

| Step 1 | Step 2 | Step 3 | Step 4 | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *List Significant hazards here:* | *Who might be harmed and how?* | *What are you already doing?*  *What further action is needed?* | *Actions* | | | | |
| *by whom?* | | *Due date* | | *Done* |
| Use of Lead strip as one electrodes. (Only an extension in Expt 1) | Technician, Pupil – almost negligible risk of lead poisoning | Make sure technicians and pupils handle lead strip as little as possible  (Perhaps even leave out lead if you are particularly worried!) |  |  | |  | |
| Potassium chloride and sodium chloride are of no significant hazard |  |  |  |  | |  | |
| Cuts from metal strips | Teacher/Technician, pupils | Most likely while cutting strips from metal sheet.  Teacher/Technician should check edges and smooth if needed before issuing to pupils. |  |  | |  | |

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| **Description of activity:**  A suite of 4 experiments related to electrochemistry:  1 – voltages generated by different pairs of metals  2 – Using tic-tac boxes (or beakers) to investigate the effect of electrolyte concentration  3 - Using tic-tac boxes (or beakers) to investigate the effect of joining cells in series (or parallel).  4 - Using tic-tac boxes (or beakers) and semi-permeable membranes to investigate concentration cells |
| **Additional comments:**  Electrodes can be dried and kept for use next time and the electrolyte solutions can be kept too or simply poured down the sink.  Previous versions of this experiment used 1 mol l-1 potassium nitrate rather than potassium chloride. At this concentration KNO3 is (barely) an eye irritant. Either wear eye protection or, more sensibly, reduce the concentration to about 0.9 mol l-1 or below whereupon it becomes low hazard. |