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**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 | Effect of Concentration Change on Reaction Rate |
| *Date of assessment* | 7th December 2021 |
| *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* |
| Hydrogen peroxide (100 vol / 30%) is corrosive. | Technician while preparing dilute solutions. | Wear goggles (BS EN166 3) and gloves (H2O2 really stings on the skin!) |  |  |  |
| 3 vol hydrogen peroxide is of no significant hazard |  |  |  |  |  |
| Sulphuric acid is oxidising and extremely corrosive to skin and eyes | Technician while preparing dilute solutions. | Wear a face shield or goggles (BS EN166 3) and gloves. Never add water to acid, always acid to water. |  |  |  |
| 0.05 mol l-1 sulphuric acid is of no significant hazard. |  |  |  |  |  |
| Starch, potassium iodide and sodium thiosulphate are on no significant hazard. |  |  |  |  |  |
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| **Description of activity:**This is an Iodine clock reaction and is the activity set as PPA 1 for Unit one of the old Higher Chemistry.A series of flasks is prepared containing equal amounts of sulphuric acid, sodium thiosulphate and starch solutions and different amounts of potassium iodide and water – so only the concentration of potassium iodide changes.Hydrogen peroxide is added to each flask and the time taken for the blue black colour to appear is recorded and the reciprocal of this is plotted against time. |

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| **Additional comments:**Disposal – add some sodium thiosulphate to clear the iodine complex and then roughly neutralise with sodium hydroxide (or carbonate). The resulting mixture can be washed to waste with plenty of cold running water. |