# 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 | Sulphur Dioxide - Microscale |
| *Date of assessment* | 30th June 2022 |
| *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* |
| Potassium manganate VII is harmful if swallowed and oxidising.  The solution is of no significant hazard | Technician/teacher while preparing solution | Observe normal laboratory hygiene and keep KMnO4 away from potentially flammable substances |  |  | |  | |
| Potassium iodide is an eye irritant.  The solution is of no significant hazard. | Technician/teacher while preparing solution | Observe normal laboratory hygiene. Wear eye protection. |  |  | |  | |
| Potassium iodate V is an oxidiser, harmful if swallowed and is a skin/eye/respiratory irritant.  The solution is of no significant hazard. | Technician/teacher while preparing solution | Observe normal laboratory hygiene. Wear eye protection. Keep solid away from combustible material. |  |  | |  | |
| Ammonium vanadate V is toxic if swallowed, fatal if inhaled, and is a skin/eye/respiratory irritant.  The solution is toxic if inhaled. | Technician/teacher while preparing solution | Observe normal laboratory hygiene. Wear eye protection and gloves. Do not raise dust.  The solution is safe unless an aerosol is likely to be produced – which will not happen in this experiment. |  |  | |  | |
| Hydrogen peroxide is corrosive to skin and eyes.  A 20 vol solution is an eye irritant. | Technician/teacher by splashing while preparing solution  Pipil/teacher by splashing while carrying out experiment | Wear goggles (EN 166 3) and gloves.  Pupil, wear eye protection. |  |  | |  | |
| Sulphur dioxide is toxic if inhaled. | Technician/teacher while preparing solution  Pupil/teacher while carrying out the experiment | Do not remove the lid from the Petri dish. |  |  | |  | |
| Sodium sulphite is corrosive to skin and eyes – the same hazard applies to the solution. | Technician/teacher by splashes while preparing solution  Pupil/teacher by splashes while carrying out the experiment | Wear goggles (EN 166 3) and gloves.  Pupil, wear eye protection. |  |  | |  | |
| Universal indicator is not hazardous per se but is usually dissolved in ethanol which makes it flammable.  No issues with indicator paper. | Pupil/teacher by fire | Keep away from sources of ignition. |  |  | |  | |
| Iodine is harmful if inhaled or in contact with the skin.  0.01 mol l-1 solution is of no significant hazard. | Technician/teacher by splashes or inhalation while preparing solution | Work in a fume cupboard or a well ventilated laboratory if quantities are small. Wear eye protection and consider gloves. |  |  | |  | |
| Hydrochloric acid is corrosive and releases choking fumes.  1 mol l-1 hydrochloric acid is of no significant hazard. | Technician/teacher by splashes or inhalation while preparing solution | Work in a fume cupboard or a well ventilated laboratory if quantities are small. Wear goggles (EN 166 3) and gloves. |  |  | |  | |
| Food colouring is of no significant hazard. |  |  |  |  | |  | |

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| **Description of activity:**  Various solutions are placed in drops round the perimeter of a Petri dish.  Sulphur dioxide is generated by adding drops of acid to some sodium sulphite.  The lid is replaced immediately, and the changes are observed. |
| **Additional comments:**  When the reaction is over, only open the Petri dish in a fume cupboard or in a well-ventilated area. |