# 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 | Rainbow reaction |
| *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* |
| Hydrochloric acid is corrosive and produces irritating fumes.The 0.1 M solution is of no significant hazard | Technician by splashes when preparing solutions. | Work in a fume cupbnoard or a well-ventilated area. Wear gloves and goggles (EN166 3)If spilled on skin, wash off immediately with copious amounts of water. |  |  |  |
| Sodium carbonate and the saturated solution are skin/eye irritants. | Demonstrator / audience vy splashes during demonstration. | Wear eye protection. If spilled on skin, wash off immediately with copious amounts of water. |  |  |  |
| Universal indicator is flammable. | Demonstrator / audience by fire during demonstration. | Keep away from sources of ignition. |  |  |  |

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| **Description of activity:**A large measuring cylinder is filled with a 50:50 mixture of 0.1M hydrochloric acid and distilled water. Universal indicator is added to give a red colour. (Adding the indicator first makes mixing much easier)A saturated solution of sodium carbonate is carefully poured down the side of the tilted cylinder. Being denser than the acid solution, it settles to the bottom and creates a density gradient which is also a pH gradient – giving a lovely rainbow which will be stable for an hour or more. |
| **Additional comments:** |