# 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 | Microscale Enthalpy of Neutralisation |
| *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* |
| Hydrochloric acid is corrosive and produces corrosive vapour | Technician preparing 2 mol l-1 solution by splashes and/or inhalation. | Wear goggles (EN 166 3 or a face shield and work in a fume cupboard or a well-ventilated lab. |  |  | |  | |
| 2 mol l-1 Hydrochloric acid is of no significant hazard. |  |  |  |  | |  | |
| Sodium hydroxide is corrosive | Technician preparing 2 mol l-1 solution by splashing. | Wear goggles (EN166 3) and gloves. Be careful of heat evolved during the dissolving. |  |  | |  | |
| 2 mol l-1 sodium hydroxide is corrosive | Pupil/Teacher by splashing. | The very small quantities make a significant spill unlikely but eye protection should be worn while dispensing the sodium hydroxide |  |  | |  | |

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| **Description of activity:**  Varying volumes of 2 mol l-1 hydrochloric acid and sodium hydroxide are added to a bijou insulated in cotton wool.  The rise in temperature for each ratio is recorded and plotted on a graph.  The information is used to calculate the enthalpy of neutralisation. |
| **Additional comments:**  The resulting solutions are of low hazard and can be safely washed to waste. |