# 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 | Vinegar Cheats |
| *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* |
| Sodium hydroxide is corrosive.  0.4 M Sodium hydroxide is irritant. | Technician and teacher by inhalation and splashes.  Technician, teacher and pupils by splashes. | Avoid raising dust. Wear pvc gloves and indirect vent goggles. (BS EN 1663)  Wear eye protection. Is split on skin wash off with copious quantities of water. |  |  | |  | |
| Malt vinegar (ethanoic acid) has no significant hazard. |  |  |  |  | |  | |
| Indicators (phenolphthalein and thymol blue) are harmful if inhaled | Technician and teacher by inhalation while preparing solution. | Avoid raising dust. |  |  | |  | |
| Phenolphthalein is flammable | Technician, teacher and pupil by fire | Avoid sources of ignition. |  |  | |  | |
| Calcium carbonate has no significant hazard |  |  |  |  | |  | |

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| **Description of activity:**  **Experiment 1**  Pupils are adding 0.4 M sodium hydroxide drop wise to a vinegar sample taken from a fast food outlets. Titre until all the vinegar (acid) has been neutralized. The end point is identified by using an indicator (thymol blue, phenolphthalein or possibly one prepared from red cabbage). The samples of vinegar have been watered down (diluted) thus will need different quantities of sodium hydroxide to neutralise them.  **Experiment 2**  Pupils are adding a known mass (2g) of powdered chalk (calcium carbonate) to a weighed beaker containing a known volume (10 cm3) of vinegar. The reactions are allowed to go to completion and the apparatus is re-weighed. The mass lost during the reaction can be found by subtraction of the two mass readings. The samples of vinegar are the same as used in experiment 1. |
| **Additional comments:**  The washings from the experiments can be disposed of down the drain with copious quantities of water. |