# 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 | Red, White and Blue |
| *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* |
| Copper sulphate is harmful by swallowing, is a skin/respiratory irritant and causes serious eye damage0.5 mol l-1 Copper sulphate solution causes serious eye damage. | Technicians preparing solutions.Demonstrator/audience by splashes. | Avoid raising dust.Wear goggles (EN 166 3)Wash off skin with copious amounts of water.Wear goggles (EN 166 3) |  |  |  |
| Lead nitrate is toxic by inhalation or swallowing.Lead nitrate solution is toxic if swallowed/ | Technicians preparing solutions.Demonstrator/audience by splashes. | Avoid raising dust.Wear goggles (EN166 3).Wash off skin with copious amounts of water.Avoid splashes. Wash off skin with copious amounts of water. |  |  |  |
| Ammonia is corrosive and the gas is toxic and corrosive1 mol l-1 Ammonia solution is an irritant. | Technicians preparing solution.Demonstrator/audience by splashes. | Prepare in a fume cupboard. Wear goggles (EN166 3) and gloves.Avoid splashes. Wear eye protection if appropriate. Wash off skin with copious amounts of water. |  |  |  |
| Nitric acid is corrosive and produces toxic fumes.2 mol l-1 Nitric acid solution is corrosive. | Technicians preparing solution.Demonstrator/audience by splashes. | Work in a fume cupboard or a well-ventilated area if the quantity is small. Wear goggles (EN166 3) and gloves.Avoid splashes. Wear goggles (EN166 3). |  |  |  |
| Phenolphthalein is a mutagen, carcinogen and reproductive toxin.Phenolphthalein solution is flammable. | Technicians preparing solution.Demonstrator/audience | Avoid raising dust. Wear goggles (EN166 3) and gloves.Remove sources of ignition when using. |  |  |  |

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| **Description of activity:**A solution of ammonia is poured into each of three beakers which contain (unknown to the audience) a little phenolphthalein, a little lead nitrate solution and a little copper sulphate solution respectively. The beakers’ contents turn red, milky white and deep blue respectively. Pouring the contents of the beaker into acid reverses the changes to give a colourless solution. |
| **Additional comments:**Copper sulphate and lead nitrate are harmful to the environment.Solutions should not be poured down the sink but kept for disposal by a licensed contractor. |