#

**SSERC Risk Assessment** (revised version March 2018)

(based on HSE’s INDG 163 ‘Risk assessment - A brief guide to controlling risks in the workplace’)

2 Pitreavie Court, South Pitreavie Business Park, Dunfermline KY11 8UU

tel : 01383 626070 e-mail : enquiries@sserc.org.uk web : [www.sserc.org.uk](http://www.sserc.org.uk)

#

|  |  |
| --- | --- |
| Activity assessed | Cation Tests |
| *Date of assessment* | October 2021 |
| *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 | Technician preparing dilute solutions by splashes. | Wear nitrile gloves and goggles (BS EN166 3). |  |  |  |
| 0.4 mol l-1 sodium hydroxide is a skin/eye irritant | Teacher/pupils carrying out experiment by splashes. | Wear eye protection. |  |  |  |
| Concentrated (.880) ammonia is corrosive to skin, eyes and respiratory system and produces corrosive and toxic fumes | Technician preparing dilute solutions by splashes. | Work in a fume cupboard (or a well ventilated room if the quantities are small and exposure brief). Wear nitrile gloves and goggles (BS EN166 3). |  |  |  |
| 0.4 mol l-1 ammonia is a skin/eye irritant | Teacher/pupils carrying out experiment by splashes. | Wear eye protection. |  |  |  |
| Alizarin S is a skin, eye and respiratory irritant.(if prepared in propanone, it is flammable as well) | Technician preparing solutions by splashes or inhaling dust. | Avoid raising dust. Wear eye protection. Wash off if spilled on skin or consider wearing gloves.(Keep away from sources of ignition) |  |  |  |
| Potassium hexacyanoferrate III is a skin/eye irritantThe solution is of no significant hazard. | Technician preparing solutions by splashes. | Wear eye protection. |  |  |  |
| Potassium thiocyanate is harmful if ingested, inhaled or in contact with the skin. | Technician preparing solutions by splashes, spillage or inhaling dust. | Avoid raising dust. Wear eye protection. Wash off if spilled on skin or consider wearing gloves. |  |  |  |
| Potassium iodide is an eye irritant. | Technician preparing solutions by splashes or spillage. | Wear eye protection. |  |  |  |
| Dilute (working) solutions of Alizarin S, potassium hexacyanoferrate III, potassium thiocyanate and potassium iodide are of no significant hazard. |  |  |  |  |  |
| Solutions or solids being tested | There are too many possibilities to describe here. The use of these reagents should be risk-assessed before the experiment is carried out. |  |  |  |

|  |
| --- |
| **Description of activity:**Solutions on unknown cations are tested by the addition of first sodium hydroxide and then various other of the listed reagents to determine which one is present |

|  |
| --- |
| **Additional comments:****Disposal**: Any ammonia-containing solutions should be emptied into dilute hydrochloric acid to neutralize (and reduce the fumes)Lead, Zinc, and copper (as well as cobalt and chromium) residues should be kept for disposal unless the quantities are very small – drop scale. |