# 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 | Turning Copper coins to Silver and Gold |
| *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 and the 6M solution are both corrosive | Technicians, demonstrator and audience by splashes. | Wear goggles (EN166 3) and nitrile gloves.  If spilled on skin, wash off immediately with copious amounts of water. |  |  | |  | |
| Zinc powder is highly flammable | Technicians, demonstrator and audience. | Keep containers tightly closed and dry.  Remove sources of ignition. |  |  | |  | |

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| **Description of activity:**  Sodium zincate is prepared by dissolving zinc in sodium hydroxide and then a copper coin is held in the hot solution, zinc-plating it (silver)]  The coin is then heated causing copper and zinc to combine into brass (gold) |
| **Additional comments:**  There is a much safer version of this that doesn not use concentrated sodium hydroxide – see microscale zinc plating |