# 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 | The Real Reactivity of Aluminium |
| *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* |
| Mercury II chloride is Toxic (Cat 2) if swallowed, a Specific Target Organ toxin to brain, kidney and lungs and a mutagen and reproductive toxin. It is also corrosive | Teacher/Technician preparing 1M solution.  Teacher, using solution | Wear nitrile gloves and goggles.  Avoid raising dust when handling solid. |  |  | |  | |
| The demonstration produces a lot of heat. | All - by potential to start a fire | Place treated aluminium foil on a non-flammable surface.  Ensure the aluminium foil has fully cooled before disposing of it. |  |  | |  | |

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| **Description of activity:**  Aluminium foil is dipped in mercury II chloride solution for 30s.  It is then removed, dried with paper towel, and placed on a non-flammable surface.  Within a few minutes the aluminium, stripped of its protective oxide layer, reacts with the air, producing heat and crumbling into a fine powder. |
| **Additional comments:**  If the foil has been patted dry, it **CAN** be placed on the hand to feel the heat – but it is preferable to hold a hand over the foil instead to feel the head given off.  The foil and oxide powder can be put in the bin. Any paper towel used to dry the foil is contaminated with mercury and should be kept for uplift. |