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**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 | Anodising Titanium |
| *Date of assessment* | 16th July 2018 |
| *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* |
| Cuts from metal edges | Pupils carrying out experiment | Simply being careful and filing down any obvious jags will be sufficient. |  |  |  |
| Electric shock | Pupils carrying out experiment | Do not use higher voltages than those described. |  |  |  |

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| **Description of activity:**  The titanium is used as the anode of an electrochemical circuit. Oxygen from the acidic electrolyte is produced at the anode and this can react with the metal to thicken the metal oxide layer. The higher the voltage, the thicker the oxide layer can become.  Thicker layers scatter light differently so it is possible to get different colours depending on the voltage used. |

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| **Additional comments:**  Using higher voltages, it is possible to get a wider range of colours. This should not be carried out by pupils though. |