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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 | Ethanol Oxidation |
| *Date of assessment* | 22/10/2021 |
| *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* |
| Industrial denatured alcohol (IDA) is highly flammable | Technician, Demonstrator by burns | Wear eye protectionKeep container well away from any sources of ignition. |  |  |  |
| Ethanal fumes are irritating to the eyes and respiratory system and it is a suspected carcinogen | Demonstrator (or pupils) smelling the vapour | Vapour should be smelled only briefly and using appropriate wafting technique. |  |  |  |
| The coin will remain very hot for the duration of the activity | Demonstrator, pupils, technician by burns from handling the coin. | Allow to cool at the end of the wire (or drop in cold water) before handling. |  |  |  |

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| **Description of activity:**Vapours of IDA (methylated spirits) is oxidised to ethanal (acetaldehyde) by the copper oxide on a hot copper coin. |

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| **Additional comments:**Do NOT use methanol. As well as being much more flammable and likely to catch fire, methanol fumes themselves are toxic and the methanal (formaldehyde) that is produced is also toxic and possibly carcinogenic. |