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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 | Enthalpy of Combustion |
| *Date of assessment* | 7th December 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* |
| Ethanol is highly flammable | Technician while decanting ethanol.Pupils & Teachers during the experiment | Keep away from all sources of ignition.Ensure the burners are of a sort where if knocked over spillage will be minimalEnsure the burners are stable and cannot easily be knocked over in error |  |  |  |
| Burner flame is hot | Pupil during experiment | While not as hot (or large) as a Bunsen burner flame, ethanol burners still burn at several hundred degrees so pose similar hazard as Bunsen burners. Keep hair tied back, avoid loose clothing, watch out for hot items – such as the calorimeter. |  |  |  |
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| **Description of activity:**Ethanol is put into a small burner and the flame from this is used to heat a known volume of water in a calorimeter. From the mass and the temperature rise, the enthalpy of combustion can be calculated. |

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| **Additional comments:**Disposal – there is nothing significant to dispose. Water can go down the sink. The ethanol can be kept for the next time. Once properly cooled it can be poured out of the burners into a bottle of ethanol kept for this purpose – to avoid contaminating the stock. |