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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 | Carbon dioxide (including Dry ice) in indicator |
| *Date of assessment* | 24th March 2014 |
| *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* |
| Dry ice is extremely cold – cryogenic hazard. | Demonstrator handling the dry ice for the demonstration. | Wear thick gloves to handle the solid. |  |  |  |
| Carbon dioxide is an asphyxiant. | Demonstrator, technician or audience by asphyxiation. | Not a risk if there are only small amounts (eg as prepared by a snopack).  If there is a larger box it should be stored in a well-ventilated place |  |  |  |
| Universal indicator is flammable | Demonstrator preparing solution. | Keep away from sources of ignition. |  |  |  |
| Possible ingestion of solution – if blowing in to see the effect of CO2 in breath. | Demonstrator / pupils | The solution is of low hazard (though ingesting anything in a chemistry laboratory is not a good idea).  Avoid if possible by using a one way valve. |  |  |  |

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| **Description of activity:**  Hot water is placed in a large flask or beaker, some universal indicator is added and then some lumps of dry ice are dropped in.  These bubble producing clouds of heavy white ‘smoke’.  At the same time the indicator will change from green to yellow signifying a weak acid.  Alternatively, demonstrator or pupil can just blow through a straw (or similar tube) into the indicator solution. |

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| **Additional comments:** |