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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 | Methane Bubbles |
| *Date of assessment* | 10th January 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* |
| Methane bubbles are highly flammable and there is a danger of burn back | Demonstrator / Audience | Turn off gas supply before igniting methane foam.  Appropriate eye protection should be worn. |  |  |  |
| Burning methane bubbles can burn skin and set light to hair or clothing. | Demonstrator / audience | Demonstrator should make sure hands are wetted and that bubbles are, as far as possible, removed from beneath the hand(s).    Demonstrator should hold hand(s) out at arm’s length with the hands flat and parallel to the ground.    Any loose clothing or hair should be tied back or otherwise secure to remove the possibility of it contacting the flame. |  |  |  |
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| **Description of activity:**  Methane is bubbled through a soap solution.  The bubbles of methane are scooped up onto the demonstrator’s hand and then ignited.  The methane burns quickly and this, along with the fact that it is less dense than air and the heat from the flames rises means that if done carefully there will barely be any feeling of heat in the hands, let alone burns. |

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| **Additional comments:**  There will be a great temptation for teachers to allow pupils to do this experiment. In general, SSERC would recommend that this is not done. There are too many possibilities for even competent and well-behaved students to make mistakes that could result in injury. That said, the risk assessment is the teacher’s responsibility.  A more suitable way of getting pupils involved might be to get them to ignite the bubbles on a mat or on the teacher’s hands.  With the exception of hydrogen, using gases other than methane for this demonstration can be more dangerous. Anyone contemplating doing so should contact SSERC first. |