# SSERC logo

**SSERC Risk Assessment** (revised version March 2018)

(based on HSE’s INDG 163 ‘Risk assessment - A brief guide to controlling risks in the workplace’)

2 Pitreavie Court, South Pitreavie Business Park, Dunfermline KY11 8UU

tel : 01383 626070 e-mail : [enquiries@sserc.org.uk](mailto:enquiries@sserc.org.uk) web : [www.sserc.org.uk](http://www.sserc.org.uk)

# 

|  |  |
| --- | --- |
| Activity assessed | Screaming Jelly baby |
| *Date of assessment* | 30th June 2020 |
| *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* |
| Potassium chlorate(V) is oxidizing, dangerous for the environment and harmful. | Technician, teacher by inhalation | Avoid breathing any dust. |  |  | |  | |
| Oxidising the Jelly Baby | Teacher | Wear face shield  Wear heat resistant gloves if possible, though they make it hard to handle apparatus.  Use clean tongs to handle the jelly baby.  Do not place hands (or any other part of the body) in line with the open end of the test tube. |  |  | |  | |
|  |  |  |  |  | |  | |

|  |
| --- |
| **Description of activity:**  A spectacular demonstration of the power of potassium chlorate as an oxidising agent and the energy stored in foodstuffs.  Potassium chlorate is placed in a test tube (held at about a 60° angle in a clamp) and heated with a Bunsen burner until it is completely melted.  A jelly baby is then dropped in and it spontaneously ignites with a whooshing sound producing a lilac flame and clouds of smoke and vapour. |
| **Additional comments:**  If you plan to deviate from the details given in the instructions contact SSERC for advice.  Only use **potassium** chlorate(V).  In this demonstration you must not use Gummy bears as these thought to cause explosions due to the addition of citric and tartaric acids.  Ensure measures are in place to avoid theft of any of these chemicals.  Carry out experiment in a well ventilated lab to avoid any fume cupboard pre filters from catching fire. Ensure there are no smoke detectors in the immediate vicinity of the lab. (or in the corridor if the door is opened to disperse the fumes)  Ensure the demonstrator is wearing face shield and heat resistant gloves.  Ensure there are enough heat proof mats to cover the whole area occupied by the apparatus incase any ejected particles should land on the surroundings.  Ensure the all the apparatus is surrounded by safety screens.  Ensure the audience is safety goggles and standing several metres away from the safety screens.  Only use brand new Pyrex or borosilicate boiling tubes.  Ensure the tongs are clean.  After the reaction should any of the mats or safety screens been splattered with ejected particles they can be washed with copious quantities of water and run off down the drain. |