# D2: Howling Jelly Baby

**● Preparation and demonstration time 30 minutes**

***Important note***
***This is NOT covered by the model (general) risk assessments adopted by most education employers. Before conducting this experiment you should go through whatever procedure your employer has laid down for obtaining a special risk assessment.***

## Requirements

weighing balance
spatula
access to a fume cupboard
2 safety screens
clamp and stand
fire resistant surface
fire extinguisher

Pyrex boiling tube
15 g potassium chlorate(V), $KClO_3$, (reagent grade)
one jelly baby

full face shield for teacher
eye protection for pupils

## Method

1. Put 15 g potassium chlorate(V) into a test tube. Clamp the test tube loosely at a slight angle from vertical (approx. 60°) and set it up in a fume cupboard or an outdoor area.
2. Surround the tube assembly with safety screens and heat the potassium chlorate(V) until it melts.
3. Wearing heat resistant gloves and using tongs drop a jelly baby into the molten potassium chlorate(V) and stand back with a fire extinguisher for dramatic effect.
4. The jelly baby will ignite and burn furiously with a high pitched roar.

Teachers may like to video this activity to be shown in areas not equipped for demonstrations.

## Safety advice

Take extreme care. Potassium chlorate(V) can explode unpredictably.
Ensure that the boiling tube is scrupulously clean - any trace of oxidisable material can cause a violent reaction.
The apparatus should be completely surrounded by safety screens.
Pupils must wear eye protection and observe from several metres away.
Wash away any spattered product with plenty of water.
Do not let the pupils handle the potassium chlorate(V) bottle.

## Chemical background

The carbohydrate in the jelly baby is oxidised by the molten potassium chlorate(V). This demonstration is a very effective and memorable way of showing that food stuffs provide energy.
Motivation for the class could be the promise of making a jelly baby howl if all work is completed (or some other task).


**see important note at start**


**eye protection must be worn**


**HARMFUL**
**potassium chlorate(V)**


**OXIDISING**
**potassium chlorate(V)**


**the demonstration must be carried out over a fire resistant surface because $KClO_3$ sometimes flies over the edge**


**do not use sugar as this may cause an explosion**