

SAMPLE RISK ASSESSMENT (inc COSHH)



Bottle Rocket – For Demonstration Only

Specific

Generic

Please tick

Date: 02/04/15

Attach additional sheets if required at any section.

Substances Involved and Hazards Identified: e.g. Biological*; Radioactive*; Toxic, Explosive, Inflammable, Carcinogenic

Substance	Hazard
Hydrogen and oxygen in plastic bottle	Highly flammable/explosive. Can cause asphyxiation.
Palladium on carbon	Can cause combustion of organic liquids

Equipment used & Hazards Identified (Please Tick)

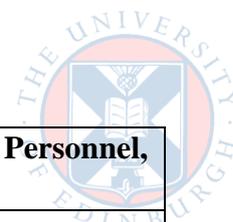
Apparatus	Cryogenic	Electrical
✓		

Scheme of Work/Procedure

Plastic bottles are wrapped in tape so that they will not break into pieces. They are then filled with hydrogen and oxygen gases (~250 ml of each) and the cap firmly replaced.

For the performance the bottle is secured so that it will not topple over (ideally with a clamp and stand) 2-3 m from the audience and out of the way of entrances/exits/low roofs/general rubbish. A very small amount of the Pd catalyst is measured out (end of a small spatula) and placed on a thin piece of plastic (eg a cut-down 3 ml plastic pipette so that it can be quickly introduced into the bottle. At the appropriate time, the lid of bottle is quickly removed and the catalyst quickly pushed inside. The demonstrator moves away and waits for the **BANG**.

If no reaction occurs, the bottle should be left for as long as possible before the demonstrator returns to it. The bottle should then be slowly and carefully filled with water from a plastic wash bottle so that all the gas is removed.



Particular Control/Safety Measures to be Adopted: Both Engineering and Personnel, e.g. Fume Cupboard, Gloves, Blast screen

Safety goggles, lab coat

EMERGENCY PROCEDURES (a) Spillage (b) Fire (c) Other
a) Extinguish all flames and allow gases to vent of safely. Open all windows.
b) Move bottle away and extinguish fire with equipment appropriate to the nature.

First Aid Treatment

Get medical aid immediately.

Waste Disposal Procedures

Bottle should be washed out thoroughly and discarded as soon as possible so that **there is no chance of a bottle being reused.**

Information Sources

Material Safety Data Sheets

Name of Assessor

Signature