

## RED EVENT – risk assessment form (EXAMPLE)



### Event details

<b>Event title</b>	Classroom lesson and demonstration		<b>Event dates</b>	23/02/2016
<b>Venue/host</b>	School A	<b>Organiser</b>	School A	
<b>Presenter/demonstrator</b>	Karen Smith	<b>Audience</b> Age profile and numbers	Secondary school students Approximately 30	
<b>Event description</b> Provide summary of activities	Turning copper coins into 'silver' and 'gold'. See Learn Chemistry experiment <a href="http://www.rsc.org/learn-chemistry/resource/res00000839/turning-copper-coins-into-silver-and-gold">http://www.rsc.org/learn-chemistry/resource/res00000839/turning-copper-coins-into-silver-and-gold</a>			

### Hazards and control measures

<b>Hazards</b>	<b>Control measures</b>
Description of hazard (chemicals, activity and potential harm, e.g. burns, inhalation of fumes, noise)	State measures, other than the minimum safety requirements detailed below
Flammable dusts (zinc powder). Finely divided zinc dispersed as a dust cloud, in contact with an energetic source of ignition such as a hot flame or incandescence spark, can ignite with explosive violence. Dust cloud concentration, particle size, and ignition source are critical parameters.	Careful handling of powder to avoid spills that could form a dust cloud. Limit quantities used. Perform transfer operations away from hot Bunsen flames, sparking electrical equipment.
Corrosive material (sodium hydroxide pellets). Contact with skin or eyes, or ingestion of solid or strong solutions of caustic soda will cause severe burns.	Appropriate PPE to be worn by demonstrator (eye protection, impermeable gloves) and audience (eye protection). Careful dispensing and handling, immediate clearing and disposal of spillages by dilution with water or collection of solid into a container. Dissolution of caustic soda is exothermic. It should always be added to water in small quantities.
Chemical reactions 1. zinc powder and sodium hydroxide solution. The reaction generates hydrogen which causes frothing of the reaction mixture. Ignition of released gas could result in loud 'pop' and very pale flame. 2. sodium zincate solution, zinc, and copper based coin. This results in colour changes to the coin only with no significant hazard.	Reaction 1. Add zinc slowly to hot caustic solution. Carry out addition in a well-ventilated area to allow dispersion of generated hydrogen. Reform addition away from potential sources of ignition such as naked lights.
Fire	Light Bunsen burner at low gas flow rate and with a 'yellow' (candle) flame. Use away from readily combustible materials. Don't leave a lit Bunsen unattended, particularly in areas where there may be strong draughts that could blow out flame and release unburned gas to ignite (possibly with explosive violence) elsewhere.

Cuts and burns (from broken glassware and hot surfaces)	Return uncontaminated chemicals to store. Dispose of others in an approved manner, for example unused zinc can be dissolved in dilute sulphuric acid (but note hydrogen will be evolved - see hazard 3 control measures and poured down a sink with water)
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The minimum safety requirements for demonstrations/activities are:

- Minimum quantities of hazardous substances used and present at the demonstration/activity
- Maximum dilutions (minimum concentration) of substances
- Appropriate PPE to be worn by presenter and assistants at all times
- PPE to be in good condition and of the correct specification for the hazard, appropriately CE marked
- Appropriate fire extinguishing equipment, according to the materials present (over and above the equipment provided by the venue), including fire blankets.
- Appropriate ventilation, whether local or general
- Appropriate hygiene facilities are present/available
- Appropriate inhibitors/neutralisers present and available (incl. eyewash bottles if necessary)

## Signature

<b>Print name &amp; signature</b>	Karen Smith	<b>Date</b>	07/02/2016
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