

# SAMPLE RISK ASSESSMENT (inc COSHH)



## Making Hydrogen – For demonstration/class activity

Specific

Generic

Please tick

Date: 02/04/15

Attach additional sheets if required at any section.

<b>Substances Involved and Hazards Identified: e.g. Biological*; Radioactive*; Toxic, Explosive, Inflammable, Carcinogenic</b>		
<b>Substance</b>	<b>Hazard</b>	
Sodium Hydroxide solution	Causes burns - corrosive	
Aluminium Foil	None – check for allergies	
Hydrogen Gas	Flammable – do not allow large quantities to accumulate. Can cause asphyxiation in large amounts.	
<b>Equipment used &amp; Hazards Identified (Please Tick)</b>		
<b>Apparatus</b> ✓	<b>Cryogenic</b>	<b>Electrical</b>
<b>Scheme of Work/Procedure</b> <ol style="list-style-type: none"> <li>1. Aluminium foil is added to test tube about 3 cm full of sodium hydroxide solution. Gas is caught in test tube held above and “popped” with a glowing splint.</li> <li>2. Hydrogen is generated by electrolysis of water and bubbled through a small crystallising dish with water/soap/glycerine. The bubbles are lit with a splint to give a yellow flame.</li> <li>3. The specially designed apparatus is used to generate a (small amount!) hydrogen/oxygen mix which is bubbled through the mixture above. Lighting these bubbles gives a “crack” sound and no flame.</li> </ol> <p>Quantities released in all of these experiments are very small - less than 10 cm<sup>3</sup></p>		



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

Lab Coat, safety glasses and marigold gloves worn by ALL in vicinity.

**EMERGENCY PROCEDURES (a) Spillage (b) Fire (c) Other**

a) Wipe up and rinse affected area

b) In case of fire, extinguish with either powder, CO<sub>2</sub> or Foam extinguisher

**First Aid Treatment**

Wash affected part immediately with cold water. Seek medical aid if skin is reddened. If splashed in eye, irrigate with cold water and seek **immediate** medical attention

**Waste Disposal Procedures**

Wash down sink with plenty of water

**Information Sources**

Material Safety Data Sheets

**Name of Assessor**

**Signature**