

Risk Assessment for School Science Activities

Name and nature of activity	Diluting concentrated sulfuric acid	
Location and date of activity		
Name of teacher/technician	Science ASSIST example risk assessment	
Activity type	<input checked="" type="checkbox"/> Technician procedure <input type="checkbox"/> Teacher demonstration <input type="checkbox"/> Student activity – Student year group	
Physics and general equipment	Type of hazard	Controls and other measures
Glassware Large trough or bucket for water bath	<input type="checkbox"/> Radiation ionising laser <input type="checkbox"/> Electrical <input type="checkbox"/> Thermal <input type="checkbox"/> Projectiles <input type="checkbox"/> Sharps <input checked="" type="checkbox"/> Other – Possible heavy lifting	<input type="checkbox"/> Relevant signage <input type="checkbox"/> Perspex safety shield <input type="checkbox"/> Sharps container <input checked="" type="checkbox"/> Glassware free from cracks or chips <input type="checkbox"/> Safety glasses <input type="checkbox"/> Thermally insulated gloves <input checked="" type="checkbox"/> Other – Water bath filled/emptied in fume cupboard with a smaller container.
Chemicals used and produced	Type of hazard	Controls and other measures
Sulfuric acid, concentrated Sulfuric acid, dilute solution	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Explosive <input type="checkbox"/> Flammable <input type="checkbox"/> Oxidising <input type="checkbox"/> Gases under pressure <input checked="" type="checkbox"/> Corrosive </div> <div style="width: 45%;"> <input type="checkbox"/> Acute toxicity <input type="checkbox"/> Health hazards <input type="checkbox"/> Chronic health hazards <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Other – Heat and fumes generated </div> </div>	<input checked="" type="checkbox"/> Limit quantity/concentration <input type="checkbox"/> Perspex safety shield <input type="checkbox"/> Ventilation: natural/exhaust <input checked="" type="checkbox"/> Fume cupboard <input checked="" type="checkbox"/> Safety glasses <input checked="" type="checkbox"/> Laboratory coat/apron <input checked="" type="checkbox"/> Gloves: latex/nitrile/neoprene/PVC <input checked="" type="checkbox"/> Safety shower <input checked="" type="checkbox"/> Other – Use a cool water bath to absorb heat produced in reaction. Gloves: Neoprene gloves give fair protection; gloves of other materials may provide splash protection. Ensure spill kit is available.
Biological/geological materials	Type of hazard	Controls and other measures
NA	<input type="checkbox"/> Biohazard <input type="checkbox"/> Dust/aerosols <input type="checkbox"/> Sharps <input type="checkbox"/> Manual handling <input type="checkbox"/> Other –	<input type="checkbox"/> Steriliser <input type="checkbox"/> Disinfectant <input type="checkbox"/> Sharps container <input type="checkbox"/> Dust mask <input type="checkbox"/> Safety glasses <input type="checkbox"/> Gloves <input type="checkbox"/> Other –
Waste produced	Waste disposal procedure	
Unused concentrated sulfuric acid Residual concentrated acid on glassware	<input checked="" type="checkbox"/> Pre-treatment of waste – If small quantity, neutralise first <input checked="" type="checkbox"/> Sink with water – If small quantity, and after neutralisation <input type="checkbox"/> Regular waste – <input checked="" type="checkbox"/> Licenced hazardous waste company – If large quantity <input checked="" type="checkbox"/> Other – Unused concentrated acid may be transferred to a suitable labelled container and stored for future use. Rinse contaminated glassware in fume cupboard before removal.	
Standard Operating Procedures		
<input checked="" type="checkbox"/> I have read the relevant Standard Operating Procedure. <input checked="" type="checkbox"/> I am experienced/trained in using all the equipment listed. <input checked="" type="checkbox"/> All chemicals used and produced are approved for use. <input checked="" type="checkbox"/> I have read the current SDSs for all hazardous chemicals used and produced. <input checked="" type="checkbox"/> I am aware of safety guidelines for using all chemicals, materials and equipment. <input checked="" type="checkbox"/> I will follow local guidelines for waste disposal (water authority, local council, EPA). <input checked="" type="checkbox"/> I am aware of first aid procedures if required.		
Other comments: If storing the unused concentrated acid, it is best transferred to a separate container to avoid contamination of the stock bottle.		
Conclusion:		
<input type="checkbox"/> Risks not significant now and not likely to increase. <input checked="" type="checkbox"/> Risks significant but effectively controlled at the moment. <input type="checkbox"/> Risks significant and not adequately controlled at the moment. <input type="checkbox"/> Uncertain about risks; more detailed assessment required.		
Assessment carried out by: Science ASSIST	Signature:	Date: May 2016
Assessment approved by:	Signature:	Date:
Next assessment due:		
This Risk Assessment assumes that the activity will be conducted in a science teaching area with the following facilities: electricity, running water, emergency shut-offs for electricity, gas if applicable, and water, regular testing and tagging of portable appliances; emergency contingencies such as evacuation/emergency plans, appropriate fire extinguishers, spill kits, hand washing facilities, eyewash/safety shower and first aid supplies. It is also assumed that all the necessary licencing requirements and approvals are obtained prior to the activity.		