

# Risk Assessment for School Science Activities

<b>Name and nature of activity</b>	Diluting concentrated nitric acid	
<b>Location and date of activity</b>		
<b>Name of teacher/technician</b>	Science ASSIST example risk assessment	
<b>Activity type</b>	<input checked="" type="checkbox"/> Technician procedure <input type="checkbox"/> Teacher demonstration <input type="checkbox"/> Student activity – Student year group	
<b>Physics and general equipment</b>	<b>Type of hazard</b>	<b>Controls and other measures</b>
Magnetic stirrer (optional) Glassware	<input type="checkbox"/> Radiation  ionising  laser <input checked="" type="checkbox"/> Electrical <input type="checkbox"/> Thermal <input type="checkbox"/> Projectiles <input type="checkbox"/> Sharps <input type="checkbox"/> Other –	<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 type="checkbox"/> Other –
<b>Chemicals used and produced</b>	<b>Type of hazard</b>	<b>Controls and other measures</b>
Nitric acid, concentrated Nitric acid, dilute solution	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input type="checkbox"/> Explosive   <input type="checkbox"/> Flammable   <input checked="" 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 checked="" type="checkbox"/> Health hazards   <input type="checkbox"/> Chronic health hazards   <input type="checkbox"/> Environmental   <input type="checkbox"/> Other –         </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 – Gloves: Neoprene and butyl rubber gloves offer best protection against concentrated nitric acid. Latex and nitrile gloves may offer splash protection. Ensure spill kit is available.
<b>Biological/geological materials used</b>	<b>Type of hazard</b>	<b>Controls and other measures</b>
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 –
<b>Waste produced</b>	<b>Waste disposal procedure</b>	
Unused concentrated nitric 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.	
<b>Standard Operating Procedures</b>		
<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.		
<b>Conclusion:</b>		
<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: <b>May 2016</b>
Assessment approved by:	Signature:	Date:
Next assessment due:		
<b>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.</b>		