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| Name and nature of activity | Handling liquid nitrogen |
| Location and date of activity |       |
| Name of teacher/technician |  |
| Activity type | [ ] Technician procedure [ ] Teacher demonstration [ ] Student activity – Student year group       |
| Physics and general equipment | Type of hazard | Controls and other measures |
| Dewar flask | [ ]  Radiation  ionising  laser[ ]  Electrical [ ]  Thermal[ ]  Projectiles[ ]  Sharps[x]  Other – Possible heavy lifting | [x]  Relevant signage[ ]  Perspex safety shield[ ]  Sharps container[ ]  Glassware free from cracks or chips[ ]  Safety glasses[ ]  Thermally insulated gloves[x]  Other – Appropriate trolley if necessary |
| Chemicals used and produced | Type of hazard | Controls and other measures |
| Liquid nitrogenNitrogen gas | xploding bomb[ ]  Explosivelame[ ]  Flammablelame over circle[ ]  Oxidisingas cylinder[x]  Gases under pressureorrosion[ ]  Corrosivekull and cross bones[ ]  Acute toxicity | nvironment[ ]  Environmentalxclamation mark [ ]  Health hazards[x]  Other – • Cryogenic cold burns• Asphyxiation• Pressure build up in closed vessels.• Embrittlement of incompatible materials.• Fire due to oxygen enrichment. | [x]  Limit quantity/concentration[x]  Perspex safety shield [x]  Ventilation: natural/exhaust[x]  Fume cupboard[x]  Safety glasses[x]  Laboratory coat/apron [x]  Safety shower[x]  Other – • PPE: Cold insulating gloves, full face shield, long pants with no cuffs, closed in shoes.• Ensure adequate ventilation: Never transport in an enclosed vehicle. Never accompany a Dewar flask in a lift• Do not place in sealed container• Do not use glass vessels• Keep away from combustible materials |
| Biological/geological materials | Type of hazard | Controls and other measures |
| NA | [ ]  Biohazard [ ]  Dust/aerosols [ ]  Sharps[ ]  Manual handling [ ]  Other –       | [ ]  Steriliser[ ]  Disinfectant [ ]  Sharps container [ ]  Dust mask[ ]  Safety glasses[ ]  Gloves [ ]  Other –       |
| Waste produced | Waste disposal procedure |
| Surplus liquid nitrogen | [ ]  Pre-treatment of waste –      [ ]  Sink with water –      [ ]  Regular waste –      [ ]  Licenced hazardous waste company –      [x]  Other – Boil off small amounts of liquid nitrogen in an operating fume cupboard or well ventilated area. – Never pour LN2 down sinks or drains |
| Standard Operating Procedures |
| [ ]  I have read the relevant Standard Operating Procedure. [ ]  I am experienced/trained in using all the equipment listed. [ ]  All chemicals used and produced are approved for use.[ ]  I have read the current SDSs for all hazardous chemicals used and produced.[ ]  I am aware of safety guidelines for using all chemicals, materials and equipment. [ ]  I will follow local guidelines for waste disposal (water authority, local council, EPA).[ ]  I am aware of first aid procedures if required. |
| Other comments: Follow all safety advice in SOP. In the event of a spill: evacuate and ventilate area. |
| Conclusion:[ ]  Risks not significant now and not likely to increase.[ ]  Risks significant but effectively controlled at the moment.[ ]  Risks significant and not adequately controlled at the moment.[ ]  Uncertain about risks; more detailed assessment required. |
| Assessment carried out by:      | Signature: | Date:       |
| 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. |