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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  Other – Possible heavy lifting | | | Relevant signage  Perspex safety shield  Sharps container  Glassware free from cracks or chips  Safety glasses  Thermally insulated gloves  Other – Appropriate trolley if necessary | |
| Chemicals used and produced | Type of hazard | | | Controls and other measures | |
| Liquid nitrogen  Nitrogen gas | xploding bomb Explosive  lame Flammable  lame over circle Oxidising  as cylinder Gases under pressure  orrosion Corrosive  kull and cross bones Acute toxicity | | nvironment Environmental  xclamation mark  Health hazards  Other –  • Cryogenic cold burns  • Asphyxiation  • Pressure build up in closed vessels.  • Embrittlement of incompatible materials.  • Fire due to oxygen enrichment. | Limit quantity/concentration  Perspex safety shield  Ventilation: natural/exhaust  Fume cupboard  Safety glasses  Laboratory coat/apron  Safety shower  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 –  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. | | | | | |