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| Name and nature of activity | The reaction of alkali metals lithium and sodium with water | | | | |
| 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 | |
| Spatula  Tweezers or forceps  Petri dish or ceramic tile  Scalpel or sharp knife  Wide glass trough or large beaker | Radiation  ionising  laser  Electrical  Thermal  Projectiles  Sharps  Other – | | | Relevant signage  Perspex safety shield  Sharps container  Glassware free from cracks or chips  Safety glasses  Thermally insulated gloves  Other – | |
| Chemicals used and produced | Type of hazard | | | Controls and other measures | |
| Sodium and/or lithium (flammable and corrosive)  0.1% w/v Phenolphthalein solution (flammable)  Hydrogen gas (flammable)  Sodium Hydroxide solution (corrosive)  Lithium Hydroxide solution (corrosive)  (Note: the reaction has the potential to be explosive if large pieces of the alkali metals are used, so this risk is mitigated by limiting the size of the piece used) | xploding bomb Explosive  lame Flammable  lame over circle Oxidising  as cylinder Gases under pressure  orrosion Corrosive | | kull and cross bones Acute toxicity  xclamation mark  Health hazards  ealth hazard Chronic health hazards  nvironment Environmental  Other – | Limit quantity/concentration  Perspex safety shield  Ventilation: natural/exhaust  Fume cupboard  Safety glasses  Laboratory coat/apron  Gloves: latex/nitrile/neoprene/PVC  Safety shower  Other – Fire extinguisher | |
| Biological/geological materials used | 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 | | | | |
| Dilute solutions of metal hydroxides | Pre-treatment of waste –  Sink with water –  Regular waste –  Licenced hazardous waste company –  Other – | | | | |
| 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: The use of lithium and sodium in their reaction with water is for small-scale demonstration purposes only. | | | | | |
| 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.** | | | | | |