**Hazard / Risk Assessment Control Guidelines**

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# AIRBORNE CONTAMINANTS

Example – Dust, asbestos, silica, fumes

Potential Harm – Respiratory illnesses, cancer, asthma.

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| --- | --- | --- |
| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * dust * asbestos * silica * fumes * mould | * respiratory illness * death * asthma * cancer | * hazard reporting * fume cupboards * dust extraction * emergency procedures * respiratory masks * disposable gloves * asbestos management plans |

# BIOLOGICAL

Example – Bacterial infections, contaminated items, insect bites.

Potential Harm – Illness, death, food poisoning.

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| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * micro-organisms * disease outbreak – flu, gastroenteritis, measles, mumps, chicken pox, rubella. * pandemics – covid19 * contaminated sharps * animal / pest * bacteria * blood / bodily fluids * insect bites / snake bite * poor water supply | * illness * death * hepatitis * legionnaires’ disease * Q fever * HIV / aids * allergies * needle stick injuries * dermatitis * food poisoning | * hazard reporting * hand sanitisers * social distancing * immunisations * not feeling well stay at home * following Government restrictions (SA Health) * spill kits * emergency procedures * sharps disposal containers * disposable gloves |

# ELECTRICITY

Example – Exposure to live electrical wires

Potential harm – Shock, burns, damage to organs and nerves leading to permanent injuries or death

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| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * frayed/loose cords * rattling plugs * faulty appliances * water on electrical equipment * overheating equipment * unlicensed or not qualified electrician * overloading power sockets * damaged power boards * extension cord chains * fastening cables with staples or nails * pulling out equipment from plug * cutting cords * sticking items in power point * drilling/digging into electrical conduits * electrical short | * burns * fire * explosion * muscle spasms * palpitations * damage to internal organs * contact with exposed wires * poor electrical installation * electrical cords across walkways – slips, trips and falls * collapse * unconsciousness * electric shock * electrocution * death | * hazard reporting * education / instruction / training * induction * visual inspections * cord covers * weather proof fittings * residual current device (RCD) push button tested according to legislative requirements * RCD time tested according to legislative requirements * appropriate documentation maintained * ensure only appropriately licensed or registered electricians carry out electrical work * switch off electricity where possible before working on equipment * ensure electrical equipment is in good working order (testing and tagging) * use battery operated tools rather than mains power tools where possible * remove damaged, unsafe electrical equipment or cords from the workplace * ensure tag out and isolation procedures are in place and used * use RCDs (or safety switches) with portable equipment (as per the WHS regulations) * don't overload power sockets use of power boards not double adaptors * meet electrical safety standards |

# EXCURSIONS

Example – Traffic accidents, bites, exposure to elements, slip trip falls, water, loss of communication

Potential Harm – death, lost students/ clients, sprains, strains, fractures, allergic reactions

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| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * to and from venue: * fitness to travel – illness / unfit prior to departure * bus/coach transport to excursion venue * traffic accident * mechanical breakdown * behaviour management * general: * slips, trips and falls * bites and stings * exposure to sun (UV), wind, rain * extreme heat * change in weather conditions * inadequate supervision * bush fires * loss of communication * specific: * interactions with flora / fauna * swimming pools / water * food poisoning through incorrect storage of food; anaphylaxis * access to amenities * waste / rubbish * volunteers | * medical condition worsens * death * vehicle accident resulting in serious injuries * tripping whilst boarding / disembarking the bus / coach. * travel sickness * lost students / clients * unruly students / clients * anxiety * sprains, strains * broken limbs * allergies, illness to stings / bites * sunburn, heat strain, heat stroke * dehydration * getting lost separated from the group * bites, stings * attack by animals * allergic reactions to fauna / flora * serious injuries * illness * vomiting, diarrhoea * Impact on the environment * child protection issues | * hazard reporting * consent forms * mobile phones / two way radio * first aid kit * medical plans * risk assessments * appropriate clothing for event * travel plans * personal protective equipment * checking weather conditions * certified bus companies * correct supervision ratios * suitable provisions |

# EXTREME TEMPERATURES

Example – Heat, Cold

Potential Harm – Burns, Heatstroke, Fatigue, Hypothermia, Hyperthermia, Frost bite.

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| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * extreme heat * extreme cold * severe storms – lightning / thunder * floods | * burns * heatstroke * fatigue * dehydration * hypothermia * hyperthermia * frost bite * fires * struck by lightning * death | * hazard reporting * provide appropriate thermal systems (heating / air conditioning) * provide appropriate personnel protective equipment * provide adequate water, shade, cooling systems * program tasks for cooler times of the day * emergency plans in place * secure loose objects / equipment in the event of severe storms |

# GRAVITY

Example – Falling objects, falls, slips, trips

Potential Harm – Fractures, bruises, lacerations, dislocations, concussion, death.

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| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * uneven pavers * exposed tree roots * inappropriate footwear * slippery surfaces * wet floors * uneven ground * falling off ladder * steps, stairs * frayed carpet * cords / cables * chair legs | * collapse of a structure * collapse of a scaffold * collapse of playground equipment * working at heights * slip, trip or fall * strain, sprain, contusions, lacerations * fractures * impalement * concussion * death | * hazard reporting * induction * repair uneven surfaces * “wet floor” signs available * remove or cover exposed tree roots * apply anti-slip coating to slippery surfaces * appropriate footwear * holes filled in * workplace inspections completed * spill kits available |

# HAZARDOUS CHEMICALS

Example – Acids, hydrocarbons, heavy metal, pesticides.

Potential Harm – Respiratory illnesses, cancers, dermatitis.

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| --- | --- | --- |
| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * escape of fumes * welding fumes * escape of gases * incorrect storage/segregation * incorrect labelling * asbestos * acids * hydrocarbons * heavy metal exposure * pesticides * lead * spill potential * smoking * lead * combustibles | * inhalation * skin absorption * ingestion * burns * fire * dermatitis * asthma * explosions * chemicals reaction * flammable liquids * exposure to dust * exposure to toxic chemicals * exposure to carcinogens * exposure to compressed gasses * respiratory illness * cancer * incorrect storage * incorrect handling * incorrect disposal | * hazard reporting * ensuring correct [labelling](https://www.safeworkaustralia.gov.au/labelling) of containers and pipework, using warning placards and displaying safety signs * maintaining a [register and manifest](https://www.safeworkaustralia.gov.au/registers-manifests-and-placards) (where required) of hazardous chemicals and notifying the regulator if you store manifest quantities * identifying any risk of physical or chemical reaction of hazardous chemicals and ensuring their stability * ensuring [workplace exposure standards](https://www.safeworkaustralia.gov.au/exposure-standards) for hazardous chemicals are not exceeded * providing [health monitoring](https://www.safeworkaustralia.gov.au/doc/hazardous-chemicals-requiring-health-monitoring) to workers (if relevant) * providing information, training, instruction and supervision to workers * providing a spill containment system for hazardous chemicals if necessary * obtaining the current Safety Data Sheets (SDS) from supplier. * controlling ignition sources and accumulation of flammable and combustible substances * providing fire protection equipment, firefighting equipment and emergency and safety equipment; * providing a copy of your emergency plan to the primary local emergency services organisation if the quantity of a class of hazardous chemical at your workplace exceeds its manifest quantity * ensuring the stability and support of containers for bulk hazardous chemicals, including pipework and attachments * ensuring hazardous chemical storage and handling systems are decommissioned correctly * notifying the regulator as soon as practicable of abandoned tanks in certain circumstances |

# HAZARDOUS MANUAL TASKS

Example – Sustained or awkward postures, high or sudden force, repetitive movements or vibration.

Potential Harm – Musculoskeletal disorders such as damage to joints, ligaments and muscles.

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| --- | --- | --- |
| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * incorrect storage of equipment * inappropriate seating * workstations incorrectly set-up * inadequate lighting * sustained or awkward postures * mental stress / tension * high or sudden force * vibrating equipment * poor work area design * limited work space available * design of workstation * unsuitable furniture and equipment * repetitive movement * fatigue * high speed movement * impact / crushing * stacking / storage * duration / frequency | * incorrect lifting, pushing, pulling, holding and restraining * repetitive or sustained forces * fatigue * muscular skeletal injuries * damage to joints, ligaments and muscles * sprains, strain, contusions * overuse syndrome (RSI) * equipment not maintained | * hazard reporting * induction * hazardous manual task training * adequate lighting * appropriate storage for the size and weight of the item * rotation of tasks * trolley’s available * sack truck’s available * lifter’s/wheelchairs available * purchase supplies in smaller quantities * ergonomic assessments * correct workstation design and set-up |

# NOISE

Example – Exposure to loud noise.

Potential Harm – Permanent hearing damage.

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| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * noisy machinery * old machinery * prolonged exposure to noise * no hearing protection * inadequate hearing protection * musical instruments (drums) | * hearing loss * damage to internal organs * tinnitus * deafness * burst eardrum * high blood pressure * cardiovascular disease * fatigue | * hazard reporting * hearing protection * pre-purchase checklist – selecting equipment with low noise emissions * relocate noisy plant to an alternative location * acoustic padding (e.g. acoustic foam, egg cartons) * PPE – ear muffs, ear plugs * rotation of jobs * hearing tests (legal requirement on employment and then every two (2) years) |

# MACHINERY & EQUIPMENT

Example – Being hit by moving vehicles, or being caught in moving parts of machinery.

Potential Harm – Fractures, bruises, lacerations, dislocations, permanent injuries or death.

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| --- | --- | --- |
| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * unguarded machinery * parts being ejected / disintegrating * rotating shafts, pullies, chains, sprockets and gears of machine * sharp edges * scissor, shearing actions * lack of maintenance * poor lighting * noisy equipment * cracked hydraulic hoses * high pressure fluid * electricity * uncontrolled or release of compressed air / steam * entry into a confined space * failure to select plant that is suitable for the intended use * property damage * lack of operator competency * ergonomic or manual handling * metal fatigue * hazardous chemicals * being hit by moving vehicles * caught in moving parts * high temperatures of parts | * hit by moving parts * plant collapsing * contact with hot or cold parts * burns * dislocations * crushing, pinching, trapping, entanglement * lacerations / amputations * hearing loss * striking * explosion * abrasion * blindness * fractures * friction * vibration * pressure * fire * gas leak * slip, trip or fall * foreign bodies in eyes | * hazard reporting * induction * information/instruction/training * guarding in place * manufacturer’s instructions * safe operating procedure * preventative maintenance schedule * “wet floor” signs available * rotation of tasks * less exposure time on equipment * personnel protective equipment * fall restraint systems in place * ladder brackets * ladders Australian standard approved * ladders weight rated * 3 point contact with ladder at all times * ladder placed on an even surface * fire extinguishers available * fire blankets * smoke detectors / alarm systems in place |

# PSYCHOLOGICAL

Example – Excessive time pressure, bullying, violence and work-related fatigue.

Potential Harm – Psychological or physical injury or illness.

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| --- | --- | --- |
| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * excessive time pressure * bullying * violence * work related fatigue * drugs * alcohol * security * unbalanced workload | * being bullied * being harassed * aggression * fatigue * relationship breakdowns * job insecurity * death of a family member * death of a work colleague * excluding people * unrealistic expectations * ostracising people * sleep deprivation * stress * weight loss * fear * anxiety * absenteeism * attempted suicide * opinion not valued * isolation / separation * death | * hazard reporting * administrative controls – procedures * employee assistance program (EAP) * team meetings * tool box meetings * appraisals * mental health first aiders onsite * contact officers |

# RADIATION

Example – Ultra violet, welding arc flashes, micro waves and lasers.

Potential Harm – Burns, cancer or blindness.

|  |  |  |
| --- | --- | --- |
| **What are the hazards?** | **What could go wrong?** | **Controls** |
| * sun * x-ray machines * no shade provided * reflective surfaces * welding arc flashes * microwaves * lasers | * skin burns * infertility * fire * radiation sickness * cancer * cardiovascular disease * welders flash * blindness | * hazard reporting * broad brimmed hat (at least 8cm) * long sleeve, close weave shirt (see AS / NZS 4399: 2017 sun protective clothing - evaluation and classification). this now requires clothing to be UPF 50 * SPF30+ sunscreen (try to avoid sunscreen with nanoparticles) * sunglasses (AS / NZS 1067: 2003 sunglasses and fashion spectacles) * jobs / tasks (including breaks), which in which workers are exposed to UV radiation * time of day tasks are carried out and how often the tasks are performed |