Australian Government

MSL933001 Maintain the laboratory/field workplace fit for purpose

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL933001A Maintain the laboratory/field workplace fit for purpose

Application

This unit of competency covers the general cleaning of work surfaces, cleaning and storage of equipment and the monitoring of laboratory stocks under direct supervision.

This unit of competency is applicable to laboratory assistants and instrument operators working in all industry sectors.

This unit of competency forms a major part of the work of laboratory assistants. They work in accordance with work instructions and standard operating procedures (SOPs) which incorporate all relevant aspects of work health and safety (WHS) legislation and the codes, guidelines, regulations and Australian Standards applying to environmental hazards and dangerous goods.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Quality

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Clean work preparation areas**	1.1 Clean preparation areas using appropriate cleaning agents and equipment according to workplace procedures
		1.2 Remove spillages, if they occur, using appropriate agents, personal protective equipment (PPE) and

			workplace procedures
		1.3	Collect and segregate wastes in accordance with workplace procedures, relevant codes and regulations
2	**Clean, maintain and store equipment**	2.1	Collect used equipment, inspect for faults and, where necessary, remove from service
		2.2	Use appropriate agents, apparatus and techniques to clean equipment
		2.3	Store clean equipment in the designated locations and manner
3	**Monitor stocks of materials and equipment**	3.1	Perform stock checks and maintain records of usage as directed
		3.2	Store labelled stocks for safe and efficient retrieval
		3.3	Inform appropriate personnel of impending stock shortages to maintain continuity of supply
4	**Maintain a safe work environment**	4.1	Use established safe work practices and PPE to ensure personal safety and that of other personnel
		4.2	Report potential hazards and/or maintenance issues in own work area to designated personnel
		4.3	Minimise the generation of waste and environmental impacts
		4.4	Dispose of waste in accordance with workplace procedures, relevant codes and regulations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements	Standards, codes, procedures and/or workplace requirements include the latest version of one or more of: • Australian and international standards, guidelines and codes covering WHS; laboratory design and construction; occupational protective equipment; labelling of workplace substances; storage, handling and transport of dangerous goods; environmental management; physical containment levels and facility types • industry specific codes, regulations and guidelines, such as Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice, Australian Quarantine and Inspection Service (AQIS) Export Control (Orders) Regulations and Import Guidelines, gene technology regulations, National Health and Medical Research Council (NHMRC) Guidelines, and animal welfare
Typical equipment	Typical equipment includes, but is not limited to, one or more of: • balances; glassware; plastic ware; glass, plastic and quartz cuvettes, pipettes, burettes and volumetric glassware • blending, mixing and separating equipment, such as sieves and centrifuges • autoclaves, dishwashers, refrigerators, freezers, ovens, hotplates, mantles, burners and muffle furnaces, microwave ovens, ultrasonic cleaners, incubators and water baths, and gas cylinders • fume hoods, biohazard containers and biological safety cabinets • microtomes and tissue processors, cell counters and staining machines • colorimeters/spectrometers and polarimeters, light and fluorescence microscopes • thermometers, thermohygrographs, hydrometers, conductivity meters and pH meters and ion-selective electrodes, noise meters, melting point apparatus, viscometers and instrument chart recorders • steel ruler/tapes and spirit levels, shovels, scoops, plates, rods, cylinder moulds and buckets • rifflers and splitters and mixers, compaction rammers and soil classification equipment, penetrometers, force measuring equipment and tensiometers, and hardness testing equipment • animal cages

- vehicles

Typical materials	Typical materials include, but are not limited to, one or more of:

- consumable items, such as syringes, pipette tips and weigh boats
- PPE
- distilled water, reagents, chemicals, disinfectants, detergents, agar media and plates
- equipment spares, such as fuses, bulbs and batteries
- oils/lubricants, fuels, industrial gases and cryogenics, such as dry ice and liquid nitrogen
- paper and stationery
- reference samples and standards

Cleaning requirements	Cleaning requirements include one or more of:

- decontamination and/or disinfection
- hygiene monitoring
- minimising environmental impacts
- operation of automatic cleaning apparatus, such as pipette washers, ultrasonic cleaners and dishwashers
- sterilisation and disposal of wastes using boiling, high pressure air or steam, microwaves, chemicals, gas, filtration, ultraviolet radiation and autoclaving
- use of specialised techniques, such as chromic acid baths and soaking in hypochlorite

Preparation areas	Preparation areas include one or more of:

- benches
- fume cupboards
- sheds
- sinks
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Agents for cleaning	Agents for cleaning include one or more of:

- cleaning solutions
- decontaminants
- organic solvents

Spillages	Spillages include one or more of:

- chemicals

- radioactive materials
- biologically active materials

Waste   Waste includes, but is not limited to, one or more of:

- broken glass and sharps
- disposable PPE
- spent reagents, spent or excess samples and test pieces, solvents and batteries
- used containers, boxes, bags and palettes, plastic and metals
- microorganisms

Stock records   Stock records include one or more of:

- calibration and maintenance history
- data sheets
- handbooks, warranty documents, catalogues, manuals and material safety data sheets (MSDS)
- records of usage, loans and breakages

Maintenance issues   Maintenance issues include, but are not limited to, one or more of:

- hygiene issues, prevention of contamination, cleaning, recycling and waste disposal
- checking materials and equipment are fit for purpose, equipment malfunction, and checking serviceability before storage
- potential hazards, incidents and emergencies, spillages, leakages, breakages and contamination
- stock requirements and shortages, and storage constraints

Hazards   Hazards include, but are not limited to, one or more of:

- sharps, broken glassware and hand tools
- aerosols from broken centrifuge tubes and pipetting
- microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids
- chemicals, such as acids, heavy metals, pesticides and hydrocarbons
- sources of ignition, flammable liquids and gases
- cryogenic agents, such as dry ice and liquid nitrogen
- electric shock

- fluids under pressure, such as steam and industrial gas cylinders
- crushing, entanglement and cuts associated with moving machinery or falling objects
- manual handling, working at heights and working in confined spaces
- occupational overuse syndrome, slips, trips and falls
- pedestrian and vehicular traffic
- solar radiation, dust and noise

Established safe work practices

Established safe work practices include, but are not limited to, one or more of:

- applying containment procedures through the use of appropriate equipment, such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets, and Class PCII, PCIII, and PCIV physical containment facilities
- ensuring access to service shut-off points
- following established manual handling procedures for tasks involving manual handling
- handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer instructions
- identifying and reporting operating problems or equipment malfunctions
- labelling of samples, reagents, aliquoted samples and hazardous materials
- recognising and observing hazard warnings and safety signs
- reporting to appropriate personnel of abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/wastewater, gases, smoke, vapour, fumes, odours and particulates
- use of PPE, such as hard hats, hearing protection, gloves, safety glasses, goggles, face guards, coveralls, gown, body suits, respirators and safety boots

WHS and environmental management requirements

WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time
- applying standard precautions relating to the potentially hazardous nature of samples
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research

Council (NHMRC) and State and Territory Departments of Health, where relevant

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -
https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa