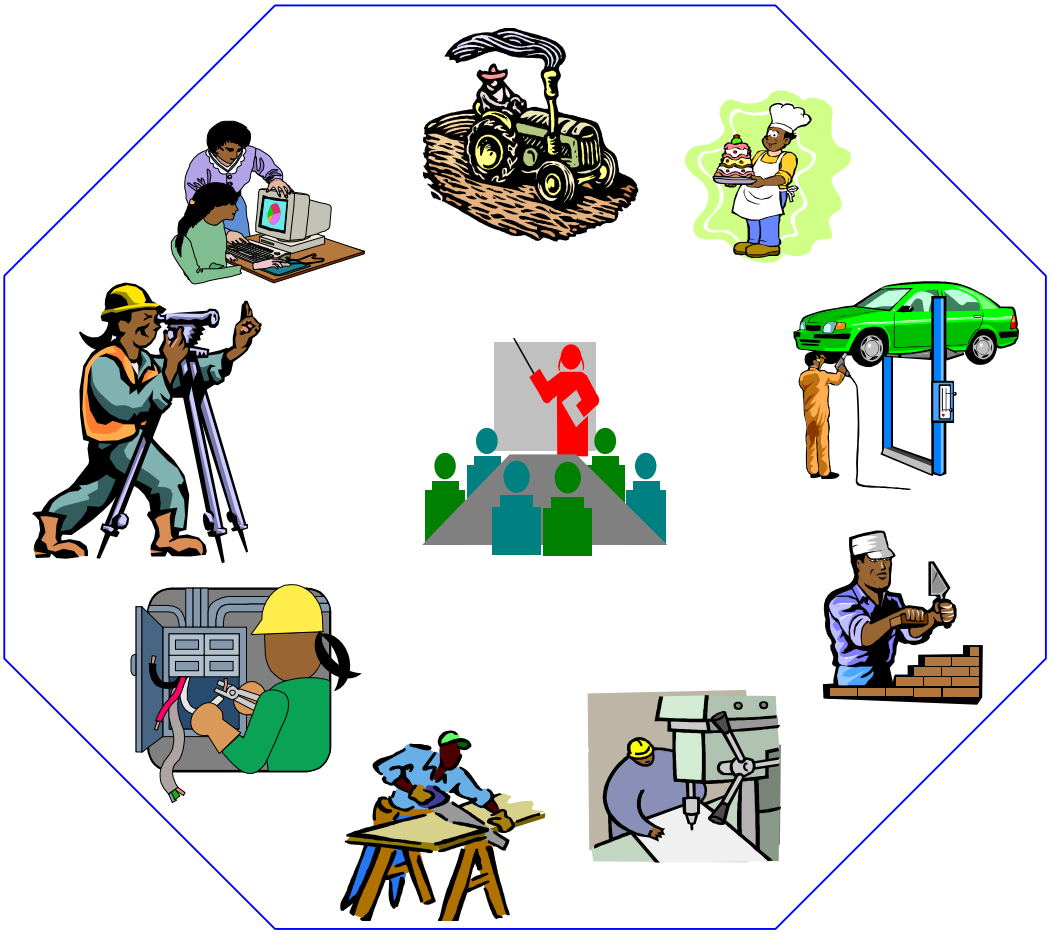
Federal Democratic Republic of Ethiopia

OCCUPATIONAL STANDARD

BASIC CHEMICALS PROCESSING WORK

NTOF Level I



Ministry of Education
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Introduction

Ethiopia has embarked on a process of reforming its TVET-System. Within the policies and strategies of the Ethiopian Government, technology transformation – by using international standards and international best practices as the basis, and, adopting, adapting and verifying them in the Ethiopian context – is a pivotal element. TVET is given an important role with regard to technology transfer. The new paradigm in the outcome-based TVET system is the orientation at the current and anticipated future demand of the economy and the labor market.

The Ethiopian Occupational Standards (EOS) are - a core element of the Ethiopian National TVET-Strategy and an important factor within the context of the National TVET-Qualification Framework (NTQF).They are national Ethiopian standards, which define the occupational requirements and expected outcome related to a specific occupation without taking TVET delivery into account.

This document details the mandatory format, sequencing, wording and layout for the Ethiopian Occupational Standard comprised of Units of Competence.

A Unit of Competence describes a distinct work activity. It is documented in a standard format that comprises:

- Occupational title, NTQF level
- Unit code
- Unit title
- Unit descriptor
- Elements and Performance criteria
- Variables and Range statement
- Evidence guide

Together all the parts of a Unit of Competence guide the assessor in determining whether the candidate is competent.

The ensuing sections of this EOS document comprise a description of the respective occupation with all the key components of a Unit of Competence:

- chart with an overview of all Units of Competence for the respective level including the Unit Codes and the Unit Titles
- contents of each Unit of Competence (competence standard)
- occupational map providing the Technical and Vocational Education and Training (TVET) providers with information and important requirements to consider when designing training programs for this standards and for the individual, a career path

UNIT OF COMPETENCE CHART

Occupational Standard: Basic Chemicals Processing Work

Occupational Code: IND BCP

NTQF Level I

IND BCP1 01 0613 Follow OHS Procedures	IND BCP1 02 0613 Follow Emergency Response Procedures	IND BCP1 03 0613 Identify and Minimize Environmental Hazards
IND BCP1 04 0613 Work Safely With Industrial Chemicals and Materials	IND BCP1 05 0613 Use Tools and Equipment	IND BCP1 06 0613 Shift Materials Safely by Hand
IND BCP1 07 0613 Make Measurements and drawings.	IND BCP1 08 0613 Perform Tasks to Support Production	IND BCP1 09 0613 Operate a Personal Computer
IND BCP1 10 0613 Interpret Technical Drawing	IND BCP1 11 0613 Perform Production Packaging	IND BCP1 12 0613 Perform Inspection
IND BCP1 13 0613 Perform Basic Statistical Quality Control	IND BCP1 14 0613 Collect Waste for Recycling or Safe Disposal	IND BCP1 15 0613 Store and Distribute Products
IND BCP1 16 0613 Apply Quality Standards	IND BCP1 17 0613 Work With Others	IND BCP1 18 0613 Demonstrate Work Values
IND BCP1 19 0613 Receive and Respond to Workplace Communication	IND BCP1 20 0613 Develop Understanding of Entrepreneurship	IND BCP1 21 0613 Apply 3S

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Follow OHS Procedures**
Unit Code	**IND BCP1 01 0613**
Unit Descriptor	On completion of this unit, the worker will be able to recognise hazards commonly occurring at the workplace and follow health and safety instructions and procedures in the workplace. This competency applies to workers who are required to follow OHS instructions and procedures relating to the work being undertaken. Workers will be aware of the importance of maintaining their own health and safety and the health and safety of others in the workplace. Individual workers will also be capable of dealing with incidents and emergencies within their own scope of responsibility and under the direction of the supervisor.

Elements	Performance Criteria
1. Recognise hazards and hazard causes	1.1 ***Hazards and hazard causes*** commonly found in the workplace are identified. 1.2 Work area is checked routinely before and during work. 1.3 Causes of identified hazards are described.
2. Follow procedures for hazard control	2.1 Procedures are followed to remove or minimise hazards, within the scope of responsibilities and competencies. 2.2 Required personal protective and other safety ***tools and equipments*** are used. 2.3 The potential consequences of failing to follow these ***procedures*** and instructions are described.
3. Follow emergency procedures	3.1 Emergency/emergency alarm is recognized. 3.2 Muster point following procedure is gone. 3.3 Instructions related to the emergency are followed.
4. Report problems	4.1 When ***problems***/hazards arise, it is reported to appropriate ***personnel*** in accordance with workplace procedures.

Variable	Range
Hazards and hazard causes may include but not limited to:	• handling chemicals and hazardous materials • chemical and or hazardous materials spillage • gases and liquids under pressure • moving machinery • materials handling • working at heights, in restricted or confined spaces, or environments subjected to heat, noise, dusts or vapours, fire and explosion • Known hazards, such as those identified in procedures or training, are recognised. The underlying causes of these identified hazards are also described, e.g. the identified hazard is slipping, and the cause is spilled granules

Tools and equipment	May include but not limited to: • housekeeping checks, such as obstructions on the floor which may create slip/trip hazard • guards in place • equipment in safe condition • clear and organised work area • nothing unusual/different • emergency equipment available • PPE is functional
Procedures	May include but not limited to: • Procedures necessary to perform all operations • All relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards
Personnel	May include but not limited to: • employer • supervisor • employees elected as OHS representatives • Other personnel with OHS responsibilities
Problems	May include but not limited to: • recognition of hazards • problems encountered in controlling risks associated with hazards • observation of an injury and/or incident which occurred in the workplace • Clarification of understanding of OHS policies and procedures

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • describe the workplace OHS system and know the importance of critical procedures • recognise potential situations requiring action • Implement appropriate corrective action. • known hazards and application of appropriate risk controls • identify other hazards that may arise in the workplace and reporting/taking actions are according to procedure.
Underpinning Knowledge and Attitudes and Attitudes	Demonstrate knowledge of: • Occupational Health and Safety (OHS) system sufficient to recognise situations affecting OHS and to take the appropriate action to rectify the situation. • awareness required that OHS issues are regulated by State/Territory Acts, regulations, codes of practice and industry standards. • employees need to be able to follow OHS procedures.
Underpinning Skills	Demonstrate skills to: • describe the rights and responsibilities of employees under the OHS legislation

	• use and maintain appropriate Personal Protective Equipment (PPE) where required • communicate OHS issues • locate and follow OHS procedures under direct supervision. • recognise hazards in the workplace • recognise safety signs and symbols • recognise hazards commonly found in the workplace and standard controls • report hazards identified to the designated person/according to procedure. • report hazards in an appropriate way and to follow emergency instructions. • recognize and interpret safety signs and other basic safety
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Follow Emergency Response Procedures**
Unit Code	**IND BCP1 02 0613**
Unit Descriptor	This unit relates to the appropriate response to emergency situations for any new workers at the workplace, possibly delivered as part of an induction program. This competency applies to operators who are required to know the signals when an emergency situation takes place as well as the proper procedures to follow in order to save oneself from possible injury and/or death.

Elements	Performance Criteria
1. Know when emergency happens	1.1 ***Emergency signals*** and controls on machines and/or at the worksite are located. 1.2 Signals are interpreted regarding ***emergency issues*** to take appropriate action. 1.3 Emergency where there is no mechanical/ electronic signal is identified.
2. Follow emergency procedures	2.1 Emergency is reported to responsible ***personnel*** according to ***procedures***. 2.2 Emergency leader is identified. 2.3 Workplace procedures and work instructions for dealing with a range of emergencies using appropriate ***tools and equipments***, under direct supervision of emergency leader are followed. 2.4 The potential consequences of failing are described to follow these procedures and instructions. 2.5 If the emergency leader cannot be located when emergency/***hazard*** occurs, what to do is being described.

Variable	Range
Emergency signals	May include but not limited to: • Visual - flashing lights • Auditory - alarms
Emergency issues	May include but not limited to: • observation of injury or incident in the workplace • fires • chemical or oil spills • gas leak or vapour emission • utilities failure • bomb scares • Failure or malfunction of plant/machinery

Personnel	May include but not limited to: • employer • supervisor • employees elected as OHS representatives • Other personnel with OHS responsibilities
Procedures	May include but not limited to: • All operations are performed in accordance with procedures. • Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards
Tools and equipment	May include but not limited to: • Tools and equipment such as PPE required for emergency response. • First aid kits • Fire extinguishers
Hazards	May include but not limited to: • handling chemicals and hazardous materials • chemical and or hazardous materials spillage • gases and liquids under pressure • moving machinery • materials handling • working at heights, in restricted or confined spaces, or environments subjected to heat, noise, dusts or vapours • Fire and explosion

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • recognise and communicate emergency situations promptly • understand and follow emergency procedures. • recognise potential emergency situations • take appropriate actions. • operate safety equipments.
Underpinning Knowledge and Attitudes and Attitudes	Demonstrate knowledge on: • emergency response procedures sufficient to recognise emergency situations and then determine the appropriate action. • Relevant OHS and environmental requirements, and organisation standard operating procedures, is required along with an ability to implement them in a manner that is relevant to emergency response practices. • emergency, fire and accident procedures • chemical spill procedures • procedures for the use of personal protective clothing and equipment • organisation Standard Operating Procedures (SOPs) • hazard policies and procedures • safety procedures

	• Personal protective clothing relevant to the required response to the emergency situation
Underpinning Skills	Demonstrates skills to: • identify location of emergency signals on machines and/or at the worksite • identify emergency situations in which there is no mechanical/electronic signal • report identified emergency signals/situations to the designated person • identify the emergency leader • Follow emergency procedures. • Requires the ability to recognise and respond to emergency signals or other communication of an emergency
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Identify and Minimize Environmental Hazards**
Unit Code	**IND BCP1 03 0613**
Unit Descriptor	This competency covers the awareness of environmental issues and organisation environmental policies and procedures to minimise environmental threats. This competency is performed by all operators in all plants. It reflects the regulatory requirements and the industry's concern to operate in an environmentally friendly manner.

Elements	Performance Criteria
1. Identify potential environmental threats	1.1 Problems, the type and severity of environmental threat posed by the materials and processes used for own work is recognized. 1.2 Ways materials used may enter the environment are identified. 1.3 Sensitive features of the local environment and their impact on work practice and procedures are identified.
2. Identify workplace procedures and policies to minimise environmental threats	2.1 Workplace policy for environmental protection is identified. 2.2 Relevant standard operating ***procedures*** and environmental protection measures appropriate for work are identified. 2.3 Contact procedures for personnel involved in environmental response teams are explained. 2.4 Abnormal or unacceptable ***emission/discharge*** levels are recognized.
3. Follow procedures to minimise environmental threats and hazards	3.1 Environmental protection measures in relevant procedures are implemented. 3.2 Abnormal emissions/environmental issues are reported to appropriate personnel. 3.3 Containment procedures are applied in accordance with SOPs where appropriate. 3.4 Approved waste management procedures and practices to minimize ***hazards*** are implemented***.*** 3.5 Approved safety procedures are followed and personal protective ***tools and equipment*** as specified in procedures are used.

Variable	Range
Problems	May include but not limited to: • required information/materials not available • required tool/equipment not available

Procedures	May include but not limited to: • All operations are performed in accordance with procedures. • Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards
Emissions/ discharges	May include but not limited to: • noise • light • odour • gas • smoke vapour • liquid and solids • particulates • Fumes
Hazards	May include but not limited to: • chemicals and hazardous materials • gases and liquids under pressure • moving machinery and materials handling
Tools and equipment	May include but not limited to: • PPE • spill kits

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • follow standard procedures • recognise deviations from desired conditions. • carry out actions specified in standard procedures. • understand the impact of work practices/actions on the environment.
Underpinning Knowledge and Attitudes and Attitudes	Demonstrate knowledge of: • organisation environment protection systems, procedures and equipment sufficient to for work activities. • organisation standard procedures and work instructions and relevant regulatory requirements, along with the ability to implement them within appropriate time constraints and in a manner relevant to the operation of the system. • sensitive waterways/wetlands • flows from the plant to the environment (E.g. through sandy soil, local creek) • particular environmental threats posed by materials and processes used and the work practices required to minimise these threats.
Underpinning Skills	Demonstrate skills to: • communicate using in-plant reporting systems - verbal, electronic and written • initiate first response to an environmental incident in accordance with SOPs

	• use containment equipment • use personal protective equipment • Use other required resources. • sensitive waterways/wetlands • flows from the plant to the environment (e.g. through sandy soil, local creek) • particular environmental threats posed by materials and processes used and the work practices required to minimise these threats. • read and understand typical product specifications, job sheets, procedures and work instructions, material labels and safety information as provided to operators. • the level of completing workplace forms. • basic numeracy to the extent required by work instructions and procedures
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Work Safely With Industrial Chemicals and Materials**
Unit Code	**IND BCP1 04 0613**
Unit Descriptor	This unit covers using Personal Protective Equipment (PPEs), identifying the particular hazards and emergency procedures, and observing safe working practices in that environment. May be applied in a workplace in which materials and chemicals which are subject to codes and regulations are stored and used, for example, chemicals, solvents, dangerous materials, acids, noxious waste products etc. describes the competencies which are beyond those safety requirements normally applied in the workplace as described in (Apply principles of occupational health and safety in the work environment) or specifically described in individual units such as welding

Elements	Performance Criteria
1. Use personal protective equipment	1.1 Correct and appropriate safety clothing including ***personal protective equipment*** is selected and used correctly based on information in relevant material safety data sheet (MSDS).
2. Identify emergency procedures	2.1 Emergency procedures and plan relevant to the particular work environment are documented, understood and demonstrated as laid down in approved safety instructions.
3. Observe safe working practices	3.1 Hazardous areas and materials are identified and special handling procedures are identified and understood. 3.2 Permits to work (if necessary) are obtained. 3.3 All equipment and hazardous materials are used in accordance with relevant OHS legislation, manufacturers' instructions and standard operating procedures. 3.4 All site-specific safety policies, safety signs, symbols and labels are correctly identified and understood. 3.5 Material safety data sheets are understood and applied. 3.6 Safe manual handling procedures (including equipment) are used. 3.7 Decanted chemicals and ***storage*** is to State/Territory dangerous goods and OHS ***legislation and requirements***. 3.8 Housekeeping duties are performed according to standard operating procedures to maintain a safe working environment. 3.9 The implementation of ***safe working practices*** is ensured.

Variable	Range
Personal protective equipment	May include but not limited to: • goggles/face shields, respirators, air supplied or self-contained helmets, safety boots, gloves and appropriate clothes/garments
Storage	May include all storage containers (minor quantities and in consumer packages) are suitable for chemical exposure and are properly labelled and/or placarded. Chemical manifests are updated at completion of work activity
Legislative requirements	May include appropriate OHS, dangerous goods acts and regulations, Ethiopian standards, Ethiopian Code for the Transport of Dangerous Goods by Road and Rail (ADGC), NOHSC codes of practice
Safe working practices	May include but not limited to: • Environment is inspected • Hazards (and chemical reactive hazards) are assessed and controlled using hierarchy of hazard control • Properly maintained PPE is available • Emergency management plan is documented/understood • Work to be undertaken in safe 'thermal' environments and all possible ignition sources are to be identified and controlled

Evidence Guide	
Critical Aspects of Competence	Competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Underpinning Knowledge and Attitudes and Attitudes	• dangerous goods classification and labelling/placarding • testing, use and maintenance of PPE • inherent hazardous properties of the chemicals to be used • interpretation of the relevant MSDS • basic fire fighting procedures • site-specific emergency plan procedures • chemical spill confinement procedures • dangerous occurrence (near miss) reporting procedures • hierarchy of control
Underpinning Skills	• undertaking risk assessment • communicating with others • performing proper manual handling techniques • interpreting safety signage, labelling and placarding
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Use Tools and Equipment**
Unit Code	**IND BCP1 05 0613**
Unit Descriptor	Applications may include hand and power tools used for adjusting, dismantling, assembling and finishing of items or components, and the finishing, cutting, scraping of metallic and non-metallic material to size and shape. This includes simple tapping and threading and routine maintenance of hand and power tools. This unit should not be selected if the hand /power too are dedicated to a single operation or machine and if only a machine specific/customised tool is used.

Elements	Performance Criteria
1. Follow workplace procedures.	1.1 What is required for the job is found out. 1.2 Appropriate procedures are identified and followed. 1.3 All reporting as required is completed. 1.4 ***Hazards*** and anything unusual are recognized and reported.
2. Use hand tools	2.1 ***Hand tools*** are selected appropriate to the task requirements. 2.2 Hand tools are used to produce desired outcomes to ***job specifications*** which may include finish, tension, size or shape. 2.3 All safety requirements are adhered to before, during and after use. 2.4 Unsafe or faulty tools are identified and marked for repair according to designated procedures before, during and after use. 2.5 ***Routine maintenance*** of tools, including hand sharpening is undertaken according to standard operational procedures, principles and techniques. 2.6 Hand tools are stored safely in appropriate location according to standard operational procedures and manufacturers' recommendations.
3. Use power tools	3.1 ***Power tools*** are selected appropriate to the task requirements. 3.2 Power tools are used for a determined sequence of operations - which may include ***clamping***, alignment and adjustment to produce desired outcomes - to job specifications which may include finish, size or shape. 3.3 All safety requirements are adhered to before, during and after use.

	3.4 Unsafe or faulty tools are identified and marked for repair before, during and after use according to designated procedures. 3.5 ***Operational maintenance*** of tools, including hand sharpening, is undertaken according to standard workplace procedures, principles and techniques. 3.6 Power tools are stored safely in appropriate location according to standard workshop procedures and manufacturers' recommendations.
4. Monitor and use the equipment/ process	4.1 The equipment is turned on and off as required by the ***packaged plant*** procedure. 4.2 Equipment is monitored throughout the job using measurements, readings and senses as appropriate. 4.3 Deviations of ***variables*** from standard/desired conditions are recognized. 4.4 Appropriate ***corrective action*** is taken.

Variable	**Range**
Hand tools	May include but not limited to: • Hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, knives, stitchers, Allen keys, wood planes and files of all cross-sectional shapes and types
Job specifications	• Finish, tension, size or shape etc.
Routine maintenance	May include but not limited to: • Cleaning, lubricating, tightening, simple tool repairs, hand sharpening and adjustments using engineering principles, tools, equipment and procedures
Power tools	May include electric or pneumatic/hydraulic drills, grinders, jigsaws, nibblers, cutting saws, sanders, planers, routers, pedestal drills and pedestal grinders.
Clamping	May include but not limited to: • Multigrips, vices, jigs and fixtures, clamps etc.
Operational maintenance	May include but not limited to: • Hand sharpening, cleaning, lubricating, tightening • Simple tool repairs and adjustments using engineering principles, tools, equipment and procedures to statutory and regulatory requirements
Procedures	May include but not limited to: • All operations are performed in accordance with procedures. • All relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.
Hazards	May include but not limited to: • rotating components

	• drive chains or belts • hot or cold equipment parts • dust, vibration, noise or fumes • oil spills • fuel leaks.
Packaged plant	includes: • all items of equipment which come in a 'ready to use' form, and are often skid mounted, portable or designed for use by untrained and inexperienced people.
Variables	May include but not limited to: • equipment production outputs • equipment operating conditions • Operating temperatures and pressures.
Corrective action	May include but not limited to: • Taking appropriate corrective action and reporting to the appropriate people or such other specific actions which have been previously defined for specific occurrences.

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • Competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts. • standard procedures are followed • deviations from desired conditions are recognised • action specified in the standard procedures is carried out • work is carried out safely. • use the tools/equipment for the specified purpose • operate the equipment within the prescribed operating limits • identify when the tools/equipment is not operating as prescribed • correctly monitor the equipment's operation • report tools/equipment malfunctions or problems according to procedures.
Underpinning Knowledge and Attitudes and Attitudes	Demonstrates knowledge of: • applications of different tools and equipment in a general engineering context • clamping/securing methods • adjustments/alignments to a range of power tools and equipment • common faults and/or defects in tools and equipment • procedures for marking unsafe or faulty tools for repair • routine maintenance requirements for a range of hand ,power tools and equipment • storage location and procedures for a range of hand/power tools

	• hazards and control measures associated with using hand ,power tools and equipment • use and application of personal protective equipment • safe work practices and procedures • the equipment and procedures but sufficient to recognise abnormal operating conditions and alert the appropriate individuals. • organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards.
Underpinning Skills	Demonstrates skills to: • reading and following information on standard operating procedures • following verbal instructions • selecting hand/power tools appropriate to the task • describe appropriate safety procedures concerning the operation of the equipment, procedures relating to the reporting of hazardous conditions, and appropriate shutdown procedures • Recognise a situation requiring action and take the action specified in the procedures, and report the situation as specified in the procedures. • Requirements other than those required to start and stop the equipment and recognise common problems (eg reading gauges). • using hand/power tools safely • identifying hand/power tool defects and marking for repair • maintaining/sharpening hand tools using appropriate techniques • sharpening tools/tool bits within the scope of this unit • storing hand /power tools in accordance with manufacturers'/standard operating procedures
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Shift Materials Safely by Hand**
Unit Code	**IND BCP1 06 0613**
Unit Descriptor	This competency covers the shifting of materials by hand in a safe manner. It applies to all sectors of the industry. This competency is typically performed by all operators working either independently or as part of a work team. This competency applies to operators who move packages, loose goods, materials and products by lifting, pushing and pulling without injury to themselves or damage to the materials being moved. The key factors are planning and executing the move in a safe and efficient manner. It includes identifying the type of material to be moved, identifying the route to be used, identifying and using the most appropriate piece of equipment and following OHS State regulations to complete the operation. This competency unit includes the use of manual handling aids such as handcarts.

Elements	Performance Criteria
1. Plan operations	1.1 Type and quantity of produce or material to be moved are correctly identified. 1.2 The safest and most efficient and appropriate movement route to avoid ***hazards*** are identified.
2. Manually transfer products or materials	2.1 Products or materials are manually shifted to and from production processes using ***tools and equipments*** according to ***procedures*** and OHS State regulations. 2.2 Specified products or materials at specific points during the manufacturing process, according to procedures and OHS State regulations are manually loaded.
3. Store, stack and/or relocate products or materials	3.1 Products or materials are manually stacked according to procedures and OHS State regulations. 3.2 Products or materials are manually stored in correct locations. 3.3 Material movements are documented and/or reported and ***problems*** are faced as required.

Variable	Range
Hazards	May include but not limited to: • spills • dusts/vapours • hazardous materials • manual handling hazards

Tools and equipment	May include but not limited to: • hand carts • self-propelled trolleys • wheelbarrows • block and tackle • relevant personal protective equipment
Procedures	May include but not limited to: • All operations are performed in accordance with procedures. • Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. • All operations are performed in accordance with standard procedures and work instructions.
Problems	May include but not limited to: • load too heavy or large for safe, easy moving • load in awkward position for safe, easy moving • clash of work priorities • correct equipment not available. • Appropriate action for problems outside of area of responsibility may be reporting to an appropriate person. • Appropriate action for solving problems within area of responsibility includes asking questions and seeking assistance from appropriate persons/sources.

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • apply manual handling principles and that the importance of safe manual handling techniques is known. be demonstrated be abile to recognise and analyse potential situations requiring action and then in implementing appropriate action. • These may include the ability to apply and/or explain: ➢ correct OHS procedures ➢ appropriate manual handling and lifting/moving techniques ➢ appropriate lifting/moving equipment ➢ relevant inventory systems. • be able to distinguish between jobs which: ➢ may be easily and safely done by a single person ➢ require assistance from other people ➢ require manual handling equipment ➢ need mechanical lifting aids. ➢ perform consistently. For example, look to see that standard operating procedures and all safety procedures are adhered to.
Underpinning Knowledge and Attitudes and Attitudes	Demonstrates knowledge of: • essential knowledge and their level required for this unit. • good manual handling practice including organisation procedures and relevant State OHS regulations for manual

	handling and lift techniques sufficient to recognise potential problems and to take the appropriate action. • organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards.
Underpinning Skills	Demonstrates skills to: • read and interpret typical product specifications, job sheets and material labels as provided to operators. • write to the level of completing workplace forms. • basic numeracy (eg to determine that two 25 kg bags are needed to make up a requirement for 50 kg). • organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards.
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Make Measurements and Drawings**
Unit Code	**IND BCP1 07 0613**
Unit Descriptor	This unit covers the making or taking of measurements in a variety of sites and locations, applies to people who are required to apply basic knowledge and skills in performing routine measurements for industry related operations. It is typically performed by people working either independently or as part of a work team, covers performing measurement skills requiring straightforward use of mechanical measuring devices and associated calculations, covers straightforward measurement using devices which incorporate visual indications representing units of measurement and applies to the use of measuring devices in a range of manufacturing, engineering and related environments. It includes, where required, adjustment of measuring devices through simple means and typically includes zeroing or scale adjustment.

Elements	Performance Criteria
1. Identify appropriate measurements	1.1 Appropriate measuring ***tools and equipments*** are selected. 1.2 Units to be used and the details required are identified. 1.3 Measuring equipment is checked and calibrated. 1.4 ***Variables*** are identified upon which measurements are taken.
2. Perform measurements	2.1 Range of results that may be obtained are explained. 2.2 Relevant external factors are identified and taken into account. 2.3 Measurements using appropriate techniques and ***procedures*** are performed. 2.4 Measurements are compared against the range of expected results 2.5 Numerical information us self-checked for accuracy and correctness. 2.6 The need for calibration is explained and calibrated equipment to make measurements is used.
3. Record measurements as required	3.1 The result is accurately recorded in the appropriate format. 3.2 The result is recorded to the appropriate level of detail.
4. Respond to routine problems in accordance with procedures	4.1 Known Faults That Occur During The Measurement Are Recognized. 4.2 Causes of routine faults and ***hazards*** are identified and action is taken.

	4.3 ***Problems*** are logged as required. 4.4 Non-routine problems are identified and reported to designated person.
5. Select appropriate device or equipment	5.1 Measurement requirements are determined from ***specifications.*** 5.2 ***Range*** *of* ***appropriate devices*** or ***equipments*** is selected according to standard operating procedures, to achieve required outcome.
6. Obtain measurements using a range of measuring devices	6.1 Correct and appropriate measuring technique is used. 6.2 Measurements are accurately obtained. 6.3 Dimensions are determined or verified using basic calculations, where required.
7. Maintain measuring devices	7.1 Routine care and storage of ***devices*** is undertaken to manufacturers' specifications or standard operating procedures. 7.2 ***Routine adjustments*** to devices are made and checked.
8. Communicate measurements as required	8.1 ***Measurements*** are accurately recorded, where required. 8.2 Freehand sketch which depicts required ***information*** is prepared, as required.

Variable	**Range**
Tools and equipment	May include but not limited to: • measuring devices, including gauges, dip-sticks, thermometers, weighing scales, length/thickness measuring • calculators • computers for recording results • relevant personal protective equipment
Variables	May include but not limited to: • extent • dimension • quantity • mass • capacity • capability
Procedures	May include but not limited to: • All operations are performed in accordance with procedures. • Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.
Hazards	May include but not limited to: • dusts/vapour • temperature • hazardous substances and manual handling hazards

Problems	May include but not limited to: • Respond to routine problems means 'apply known solutions to a limited range of predictable problems'. • measuring instrument not fit for use (e.g. not within calibration) • appropriate measuring device not available • deviations from normal range of readings • effect of temperature on material properties
Specifications	• Drawings, sketches, job instructions, schematics, diagrams, technical manuals
Range of measuring devices	• Protractors, combination squares, set squares, dial indicators, thermometers, tapes, rules, micrometers, vernier-scaled measuring equipment
Basic calculations	• Calculations needed to assist in determining measurements where a reading of the graduated device is not sufficient, for example subtracting one measurement from another to give a third measurement. Examples of calculations needed are addition, subtraction, multiplication, division, fractions and decimals. Calculations may be made using a calculator
Routine adjustments	• Validating the device using simple zeroing or scale adjustment
Measurements	• Measuring length, squareness, flatness, angle, roundness, clearances or any other measurements that can be read off analog, digital or other measuring device
Information	• Dimensions, instructions, base line or datum points

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • meet consistently standards in taking measurements • follow all safety procedure. • take accurate measures using the appropriate measuring device • apply approved procedures. • correct application of a range of measuring devices • describe methods of communicating measurements by drawings, as required • plan and sequence operations • check and clarify task related information and conformance to specifications • undertake numerical operations within the scope of this unit • prepare drawings as required
Underpinning Knowledge and Attitudes and Attitudes	Demonstrate knowledge of: • processes sufficient to recognise non-standard situations and then determine appropriate action which is consistent with operating guidelines. For example, in gel coating, a coating less than 5 mils thick may wrinkle, especially when brush marks are present. Thickness is checked using a gel coat thickness gauge.

	• Application of approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup • basic units of measurement (e.g. kilogram, metre, second) • correct selection and use of measuring devices • application of relevant mathematical calculations and procedures, including additions, subtractions, division, fractions, percentages • use of dial, scale and digital readouts • the need for calibration and methods of checking equipment is within calibration • correct application of a range of measuring devices • correct and appropriate measuring technique for a range of measuring devices • addition, subtraction, multiplication, division, fractions, decimals to the scope required by this unit • procedures for handling and storing a range of measuring devices • procedures for adjusting and zeroing a range of measuring devices • methods of communicating measurements by drawings, as required • safe work practices and procedures • selecting the appropriate measuring device for given measuring tasks • using appropriate measuring technique
Underpinning Skills	Demonstrates skills on: • implementing the organisation's procedures and relevant regulatory requirements, within appropriate time constraints and work standards. • ability of the process sufficient to recognise non-standard situations and then determine appropriate action which is consistent with operating guidelines. For example, in gel coating, a coating less than 5 mils thick may wrinkle, especially when brush marks are present. Thickness is checked using a gel coat thickness gauge • ability to implement the organisation's procedures and relevant regulatory requirements, within appropriate time constraints and work standards. • application of approved hazard control and safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup. • ability to read and interpret typical product specifications, job sheets and material labels as provided. • the level of completing workplace forms. • numeracy is required to the level of basic arithmetical manipulations and the interpretation of the significance of numbers and variations of readings.

	• selecting the appropriate measuring device for given measuring tasks • using appropriate measuring technique • reading all measurements taken accurately to the finest graduation of the selected measuring device • handling and storing measuring devices in accordance with manufacturers' specifications or standard operating procedures • verifying all measuring devices before use • making, where appropriate, routine adjustments to measuring devices • reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents • planning and sequencing operations • checking and clarifying task related information • checking for conformance to specifications • undertaking numerical operations involving addition, subtraction, multiplication, division, fractions and decimals within the scope of this unit • preparing drawings as required
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Perform Tasks to Support Production**
Unit Code	**IND BCP1 08 0613**
Unit Descriptor	This competency covers the performance of largely manual tasks that are performed in support of the production process working under close supervision. It applies to all sectors of the industry. This competency applies to operators who are not operating equipment but are making product and contributing to the production process. It might also apply to a more experienced operator working outside their field of expertise and under close supervision. This competency is typically performed by all operators working either independently or as part of a work team. It includes 'fetch and carry' type tasks, making product under close supervision but not operating process equipment and following safe working procedures and using personal protective equipment.

Elements	Performance Criteria
1. Perform general cleaning duties	1.1 Cleaning duties are clarified. 1.2 Personal safety ***tools and equipment*** are selected and used, where needed, in accordance with organisation ***procedures***. 1.3 Appropriate cleaning equipment and chemicals/detergents are determined, prepared and mixed for specific tasks. 1.4 Procedures for handling and storage of cleaning liquids are followed in accordance with organisation or manufacturer specifications. 1.5 General cleaning is performed as required.
2. Perform general duties and tasks	2.1 tasks are performed as directed. 2.2 questions are asked to appropriate person to confirm unusual requirements and get solution for possible ***problems***. 2.3 relevant tools and equipment are organized to measure ***variables*** and checked to confirm good working condition.
3. Transfer, remove or supply materials/ product where required	3.1 Organise, confirm and record requests and tasks according to specified procedures. 3.2 Identify and organise appropriate equipment for transferring material where relevant. 3.3 Use suitable material ***loading and unloading aids***. 3.4 Transfer/move material to the correct destination in a safe and ***hazard*** free manner.
4. Complete documentation accurately	4.1Complete documentation for tasks, where relevant, accurately in accordance with required organisation procedures.

Variable	Range
Tools and equipment	May include but not limited to: • cleaning equipment • detergents and other chemicals hand and power tools • hand trolleys pallet trucks
Procedures	May include but not limited to: • All operations are performed in accordance with procedures. • All relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. These may include: • Original manufacturer instructions and guidelines for the use of any equipment • Relevant procedures relating to safe working practices prescribed for the equipment • Local OHS legislation and/or Regulations • Site specific instructions based on production requirements.
Problems	May include but not limited to: • difficult access to the work area • awkward work spaces • tool failures or breakages • defective equipment • incorrect or defective materials
Variables	May include but not limited to: • atmospheric conditions (weather) • condition of the work area • placement of products or materials used in the production process • lighting • types of aids to production being used.
Loading and unloading aids	May include but not limited to: • Loading and unloading aids include various types of equipment other than regulated load shifting equipment and must conform to materials handling requirements, safe work practices and manual handling techniques, and workplace procedures
Hazards	May include but not limited to: • slips, trips and falls • manual handling injuries • dust, dirt and vapours • cuts and abrasions • lack of knowledge of machine operation.

Evidence Guide	
Critical Aspects of Competence	Demonstrate by applying: • undertake basic production tasks • handle material and products

	• locate and transport materials and products • clean equipment, machines and work environment • document work and maintain records as required • apply workplace health and safety policies in work operations
Underpinning Knowledge and Attitudes and Attitudes	Demonstrates knowledge of: • Application of the materials, equipment and process sufficient to recognise material and equipment conditions which may lead to out of specification production. • Organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards. • communicating effectively within the workplace • interpreting and applying established procedures • Documenting and transferring information
Underpinning Skills	Demonstrates skills of: • Application of materials, equipment and process sufficient to recognise material and equipment conditions which may lead to out of specification production. • Application of organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards. • machine and equipment operation • procedures to handle products and materials • use of products and materials • quality requirements • relevant OHS legislation, codes of practice, policies and procedures • maintenance planning and workplace procedure • reporting procedures • loading and unloading materials • applying all relevant safety practices • use and disposal of a range of chemical cleaning agents, sealants and lubricants, where required • communicating effectively within the workplace • interpreting and applying established procedures • Documenting and transferring information
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Operate a Personal Computer**
Unit Code	**IND BCP1 09 0613**
Unit Descriptor	This unit describes the performance outcomes, skills and knowledge required to start up a personal computer or business computer terminal; to correctly navigate the desktop environment; and to use a range of basic functions.

Elements	Performance Criteria
1. Start computer, system information and features	1.1 Workspace, furniture and equipment are adjusted to suit user ***ergonomic requirements***. 1.2 ***Work organization*** meets organizational and ***occupational health and safety*** (***OHS***) ***requirements*** for computer operation are ensured. 1.3 Computer or log on is started according to user procedures. 1.4 Basic functions and features using system information are identified. 1.5 Desktop configuration, if necessary, with assistance from appropriate persons is customized. 1.6 Help functions are used as required.
2. Navigate and manipulate desktop environment	2.1 Features are opened, closed and accessed by selecting correct ***desktop icons***. 2.2 Desktop windows are opened, resized and closed by using correct window functions and roles. 2.3 Shortcuts from the desktop, if necessary, with assistance from appropriate persons are created.
3. Organize files using basic directory and folder structures	3.1 Folders/subfolders with suitable names are created. 3.2 Files with suitable names in appropriate folders are saved. 3.3 Folders/subfolders and files are renamed and moved as required. 3.4 Folder/subfolder and ***file attributes*** are identified. 3.5 Folders/subfolders and files using cut and paste, and drag and drop techniques are moved. 3.6 Folders/subfolders and files to ***appropriate media*** are saved where necessary. 3.7 Folders/subfolders and files using appropriate software tools are searched for. 3.8 Deleted folder/subfolders and files are restored as necessary.

4. Print information	4.1 Information from installed printer is printed. 4.2 Progress of print jobs are viewed and deleted as required. 4.3 Default printer if installed and required is changed.
5. Shut down computer	5.1 All open applications are closed. 5.2 Computer is shut down according to user procedures.

Variable	Range
Ergonomic requirements	May include but not limited to: • avoiding radiation from computer screens • chair height, seat and back adjustment • document holder • footrest • keyboard and mouse position • lighting • noise minimisation • posture • screen position • workstation height and layout
Work organization	May include but not limited to: • exercise breaks • mix of repetitive and other activities • rest periods • visual display unit (VDU) eye testing
Occupational health and safety requirements	May include but not limited to: • OHS guidelines related to the use of the screen equipment, computing equipment and peripherals, ergonomic work stations, security procedures, customisation requirements • statutory requirements
Desktop icons	May include but not limited to: • directories/folders • files • network devices • recycle bin and waste basket
File attributes	May include but not limited to: • dates • size
Appropriate media	May include but not limited to: • CDs • diskettes • local hard drive • other locations on a network • USB/ Flash/Thumb drives • zip disks

Evidence Guide	
Critical Aspects of Competence	Evidence of the following is essential: • navigation and manipulation of the desktop environment within the range of assigned workplace tasks • knowledge of organizational requirements for simple documents and filing conventions • application of simple keyboard functions to produce documents with a degree of speed and accuracy relevant to the level of responsibility required
Underpinning Knowledge and Attitudes and Attitudes	Key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as: • OHS • basic ergonomics of computer use • main types and parts of computers, and basic features of different operating systems • suitable file naming conventions
Underpinning Skills	Demonstrates skills of: • literacy skills to identify work requirements, to comprehend basic workplace documents, to interpret basic user manuals and to proofread simple documents • communication skills to identify lines of communication, to request advice, to effectively question, to follow instructions and to receive feedback • problem-solving skills to solve routine problems in the workplace, while under direct supervision • technology skills to use equipment safely while under direction, basic keyboard and mouse skills and procedures relating to logging on and accessing a computer • basic typing techniques and strategies
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Interpret Technical Drawing**
Unit Code	**IND BCP1 10 0613**
Unit Descriptor	This unit covers interpreting technical drawing applying to any of the full range of engineering disciplines. Technical drawings may utilize perspective, exploded views or hidden view techniques. Technical drawings may include symbol glossaries.

Elements	Performance Criteria
1. Select correct technical drawing	1.1 Drawing is checked and validated against job requirements or equipment. 1.2 Drawing version is checked and validated.
2. Interpret technical drawing	2.1 Components, assemblies or objects are recognized as required. 2.2 Dimensions are identified as appropriate to field of employment. 2.3 Instructions are identified and followed as required. 2.4 Material requirements are identified as required. 2.5 Symbols are recognized in the drawing as appropriate. 2.6 ***Technical drawings*** are interpreted.

Variable	Range
Interpret technical drawing	an extensive work and the candidate is not required to have complete familiarity with all its contents, the application of would usually be in line with standard operating procedures; interpretation may require guidance particularly in respect to any geometric tolerance

Evidence Guide	
Critical Aspect of Competence	Must demonstrate skills and knowledge competence to: • describe relationship between the views contained in the drawing • explain objects represented in the drawing • identify and apply units of measurement used in the preparation of the drawing • identify and explain dimensions of the key features of the objects depicted in the drawing • identify and use symbols applied in the drawing • undertake numerical operations, geometry and calculations/formulae within the scope • read, interpret information on the drawing, written job instructions, specifications, standard operating procedures, charts, lists and other applicable reference documents

Underpinning Knowledge and Attitudes and Attitude	Demonstrates knowledge of: • relationship between the views contained in the drawing • objects represented in the drawing • units of measurement used in the preparation of the drawing • dimensions of the key features of the objects depicted in the drawing • understanding of the instructions contained in the drawing • the actions to be undertaken in response to those instructions • the materials from which the object(s) are made • any symbols used in the drawing as described in range statement • hazard and control measures associated with interpreting technical drawings, including housekeeping • safe work practices and procedures
Underpinning Skills	Demonstrates skills in: • checking the drawing against job requirements/related equipment in accordance with standard operating procedures • confirming the drawing version as being current in accordance with standard operating procedures • where appropriate, obtaining the current version of the drawing in accordance with standard operating procedures • reading, interpreting information on the drawing, written job instructions, specifications, standard operating procedures, charts, lists and other applicable reference documents • checking and clarifying task related information • undertaking numerical operations, geometry and calculations/formulae within the scope
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Perform Production Packaging**
Unit Code	**IND BCP1 11 0613**
Unit Descriptor	This unit covers packaging and labeling of finished goods for storage or transport. This unit typically applies in a production/process environment. It would normally involve packing of finished goods, including assemblies, sub-assemblies, individual or multiple components.

Elements	Performance Criteria
1. Undertake packaging	1.1. ***Packaging requirements*** are identified from instructions or determined by safety, ***storage conditions***, ***site and legislative requirements***. 1.2. Packaging is undertaken to standard operating procedures.
2. Label packaged items	2.1. Identification labels, tags and stickers are checked for correctness and appropriately placed/attached. 2.2. Packaged items are stored in a safe, orderly and retrievable manner and the location in the warehouse/store is recorded.

Variable	Range
Packaging requirements	May include but not limited to: • Packaging methods including manual processes, semi automatic and fully automated packaging equipment • Procedures undertaken including standards, codes, legislative, company and customer requirements • Packaging material is generally determined from instructions, written or verbal
Storage conditions**,** site and legislative requirements	May include but not limited to: • As per legislative requirements e.g. dangerous goods and storage of poisons acts and regulations

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • Competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts
Underpinning Knowledge and Attitudes and Attitudes	Demonstrate knowledge of: • labelling procedures and standards • storage and recording procedures • use and application of personal protective equipment • safe work practices and procedures • hazards and control measures associated with production packaging

Underpinning Skills	Demonstrate skills to: • read and interprete routine information on written job instructions and standard operating procedures. May include simple drawings • determine packaging requirements from safety, storage conditions, site and legislative requirements • label packaged items • handle and store products • use scanning devices, if required • follow oral instruction • enter routine and familiar information on to proforma and standard workplace forms • orally report routine information
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Perform Inspection**
Unit Code	**IND BCP1 12 0613**
Unit Descriptor	This unit applies to basic inspection of completed or partly completed products produced by others. Inspection is carried out according to a site quality plan or specifications; it applies to a range of manufacturing enterprises; and requires application of a range of measuring equipment/devices/tools. Location and frequency of checks/tests and measurements are undertaken to standard operating procedures. In general, verification should be made as close as possible to the point of production of the feature or characteristic. Inspection may involve 'first piece inspection', fixed interval, sample etc. Depending on the inspection process, other technical units may need to be accessed, for example, appropriate measurement units.

Elements	Performance Criteria
1. Inspect products	1.1 Products are ***tested for conformance to specifications*** in accordance with standard operating procedures.
2. Keep records	2.1 Test status identification is made on conforming and non-conforming products and records are accurately kept using standard operating procedures.
3. Provide feedback	3.1 Products are tested/inspected/measured after rework or repair. 3.2 Deficiencies or deviations are reported according to standard operating procedures.

Variable	Range
Tested for conformance to specifications	May include but not limited to: • Visual inspection, physical measurements, chemical tests, checks against patterns, templates and guides etc.

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • Competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts
Underpinning Knowledge and Attitudes	Demonstrate knowledge of: • procedures as defined by job instructions to be used to check conformance to specifications • data to be recorded and the frequency of recording required

	• consequences of not keeping accurate records • non-conformances of given products that can be removed by rework/repair in accordance with job instructions • hazards and control measures associated with performing basic inspection activities • use and application of personal protective equipment • safe work practices and procedures
Underpinning Skills	Demonstrates skills to: • read, interprete and following information on written job instructions, standard operating procedures and other applicable reference documents • test products for conformance to specifications in accordance with job instructions • test reworked/repaired products for conformance to specification, in accordance with job instructions • enter routine and familiar information onto proformas and standard workplace forms
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Perform Basic Statistical Quality Control**
Unit Code	**IND BCP1 13 0613**
Unit Descriptor	This unit covers taking samples and applying a statistical process to monitor production. This unit applies to the collation and interpretation of statistical data in the context of statistical quality control, for example, tally, run or control charts. Uncontrolled variations are reported to appropriate authority.

Elements	Performance Criteria
1. Take samples	1.1 Difference between population and sample is understood and various ***sampling schemes*** are applied in accordance with standard operating procedures.
2. Apply statistical process to monitor production	2.1 Concept of variation in terms of average and spread is understood. Data is used to produce ***relevant statistical information.*** 2.2 Data is interpreted accurately and information is presented to appropriate authority according to standard operating procedures.

Variable	Range
Sampling schemes	May include but not limited to: • Agreed customer plans, Acceptable Quality Level (AQL) and Average Outgoing Quality Level (AOQL) plans, Shainin, Six Sigma etc.
Relevant statistical information	May include but not limited to: • Average, range and process control data and the plotting of charts such May include but not limited to: • as line graphs, run charts, tally charts, histograms, control charts, random and assignable causes etc.

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • Competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations
Underpinning Knowledge and Attitudes and Attitudes	Demonstrate knowledge of: • the difference between population and sample, and the concept of variation in terms of average and range, random and assignable causes • numerical operations and statistical calculations/formulae within the scope of this unit

	• statistical process control procedures, which may include Six Sigma etc. and the sampling procedures to be followed • types of charts that can be produced to assist monitoring of products including run charts, tally charts, histograms, control charts • procedures for reporting sample data information • use and application of personal protective equipment • safe work practices and procedures
Underpinning Skills	Demonstrates skills to: • read, interprete and following information on written job instructions, standard operating procedures, charts, lists, drawings and other applicable reference documents • apply statistical process control procedures in accordance with instructions to a given production process • obtain data from samples including average, range and random or assignable causes • produce tally, run or control charts from sampling data • report information from sampling data • check and clarify task-related information • complete proforma and standard workplace forms
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Collect Waste for Recycling or Safe Disposal**
Unit Code	**IND BCP1 14 0613**
Unit Descriptor	This competency covers the collection, sorting and appropriately storage of wastes for recycling or safe disposal. It applies to all sectors of the industry. This competency is typically performed by all operators working either independently or as part of a work team. This competency applies to operators who deal with the collection, sorting and disposal of waste products from the production process. The key factors know the type of waste being collected, what to do with it and ensuring it goes to the right destination. It includes gathering waste materials from equipment and floor areas, segregating waste into recyclable and other materials, avoiding contamination of recyclable waste, transporting waste to the appropriate storage areas, and loading waste into drums, skips, or other receptacles.

Elements	Performance Criteria
1. Identify waste products	1.1 Waste products are identified from the production process in terms of the material type, toxicity, recyclability, flammability and reactivity. 1.2 Sources of waste are identified and approved locations for storage of each waste type.
2. Relocate and store non-recyclable waste	2.1 Manual handling techniques appropriate for safely ***hazard*** free relocating waste is employed. 2.2 Co-storing requirements for waste products are identified and complied with. 2.3 Storage inventory systems are updated and maintained.
3. Sort and prepare materials for re-use	3.1 Materials are sorted and categorized for recycling. 3.2 ***Procedures*** for pre-processing activity are identified to prepare products for re-use as required. 3.3 Pre-processed materials for re-use are relocated. 3.4 Materials requiring disposal are identified. 3.5 Materials for safe disposal in conformance with environmental requirements are contained. 3.6 Products for disposal are marked, labelled or otherwise identified. 3.7 ***Variables*** are measured and reported to responsible body.
4. Complete waste processes	4.1 Waste disposal is arranged according to workplace instructions. 4.2 Appropriate safety and lifting ***tools and equipment*** are

	available as needed for safe loading of waste are ensured. 4.3 Reports on ***problems*** and wastage are completed in accordance with workplace procedures as required. 4.4 Quantities of waste stored are monitored for compliance with workplace procedures and environmental regulations as required.

Variable	**Range**
Hazards	May include but not limited to: • spills • dusts/vapours • hazardous materials • manual handling hazards • knife hazards
Procedures	May include but not limited to: • All operations are performed in accordance with procedures. • Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards
Variables	May include but not limited to: • movement of materials • handling of semi-bulk materials (bulki-boxes, pallecons, etc) • stacking and storing of materials • storing materials. • types of materials to be collected • methods of disposal
Tools and equipment	May include but not limited to: • hand carts and trolleys • hoists/lifting equipment not requiring any special permits or licences • basic hand tools such as brooms, shovels and knives • relevant personal protective equipment
Problems	May include but not limited to: • 'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems' • getting in the way of mobile equipment • contamination of materials • foreign matter being included in selected waste

Evidence Guide	
Critical Aspects of Competence	Demonstrate knowledge and skills to: • meet consistently waste disposal standards • communicate timely and effective • read and interpreted procedures correctly • identify problems and take appropriate action (i.e. the problem is fixed or reported)

	• follow all safety procedures. • recognise the importance of categories of waste and key waste properties • apply approved procedures • take appropriate action to resolve problems or report problems to appropriate personnel • explain and implement emergency procedures
Underpinning Knowledge and Attitudes and Attitudes	Demonstrate knowledge of: • materials, equipment and process sufficient to recognise how those materials are changed through the production process and what methods of disposal are appropriate. • organizations standard procedures and work instructions and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and in a manner relevant to the job
Underpinning Skills	Demonstrate skills of: • waste materials contaminated with foreign matter • waste materials mixed with recyclables/re-usable • Incompatible waste materials placed together. • production workflow sequences and the waste produced at each stage • correct selection and use of equipment, materials, processes and procedures • hazards of the materials and process and appropriate hazard control procedures • relevant procedures relating to safe working practices prescribed for the process • local OHS legislation and/or regulations • Site-specific instructions based on production requirements. • reading and interpreting typical product specifications, job sheets and material labels as provided to operators. • completing workplace forms/labels. • Basic numeracy
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Store and Distribute Product**
Unit Code	**IND BCP1 15 0613**
Unit Descriptor	This unit describes the outcomes required to store and distribute product in the chemical industry. This unit applies to operators who store and distribute product in the chemical industry. This unit generally applies to those who prepare for handling, operations and document and report product information to meet safety, quality and productivity requirements.

Elements	Performance Criteria
1. Prepare for handling operations	1.1 Preparation for handling operations is completed within Occupational Health and Safety (OHS) ***regulations,*** environmental and safe working requirements/practices, and housekeeping requirements. 1.2 ***Productivity requirements*** are identified and confirmed. 1.3 Work areas are prepared. 1.4 ***Equipment*** pre-operation checks are conducted. 1.5 Availability of required ***materials*** is confirmed.
2. Load and unload product	2.1 Product is loaded and unloaded within OHS regulations, environmental and safe working requirements/practices, and housekeeping requirements. 2.2 Safe working loads are identified. 2.3 Product is directly loaded or unloaded from the production line in appropriate ***storage levels***. 2.4 Non-conformance product is identified, isolated and appropriately auctioned.
3. Document and report product information	3.1. Product information is ***documented and reported*** within OHS regulations, environmental and safe working requirements/practices, and housekeeping requirements. 3.2. Inventory records are compiled and verified. 3.3. Product is appropriately identified as required. 3.4. Product information is ***communicated*** to relevant personnel as required.

Variable	Range
Productivity requirements	May include: • energy efficiency • waste minimisation • evaporation minimisation, including landfill and waste water reduction

	• environmentally safe waste disposal • consideration of resource utilisation • minimising delays • chemical recovery maximisation • meeting key performance indicators • line speed • handovers • quality checks • machine/process time availability i.e. time the machine or process is making product • machine/process production rate
Storage levels	May include: • vats • chests • silos • tanks • bins • piles
Materials	May include: • steam • water • chemicals • power
Equipment	May include: • chemical delivery and processing • process plant • materials handling equipment • hand and power tools • analogue and digital instruments
Regulatory	May include: • OHS and environmental requirements (local, state and commonwealth) • activity or task specific high risk (and non-high risk) load shifting requirements • hazardous chemical handling requirements • air and gas discharge requirements • safety instructions
Documented and reported	May include: • environmental sustainability requirements/practices • quality procedures • chemical spills and disposal guidelines • plant isolation documentation • safe work documentation e.g. plant clearance, job safety analysis, permit systems • log sheets and shift reports • work orders • tally or production records

	• incident reports • Materials Safety Data Sheets (MSDS) • process and instrumentation diagrams
Communications	Interaction with: • internal or external • customers and suppliers • team members • maintenance services • operational management • statutory authorities • written e.g. log books, emails, incident and other reports, run sheets, data entry • reading and interpreting documentation e.g. manuals, checklists, drawings • verbal e.g. radio skills, telephone, face to face, handover • non-verbal e.g. hand signals, alarms, observations • signage e.g. safety, access
Actions	May include: • process adjustments • reporting to authorised person • rectifying problem within level of responsibility
Situational awareness	May include: • awareness of: • location of equipment • product • hazards • obstruction

Evidence Guide	
Critical Aspects of Competence	Demonstrate by applying: • the required knowledge and skills tailored to the needs of the
Underpinning Knowledge and Attitudes and Attitudes	Demonstrates knowledge of: • Procedures, regulations and legislative requirements relevant to chemical product storage including OHS, environmental including relevant sustainability requirements/practices, isolation procedures, safe working requirements, risks and hazard identification and housekeeping • Relevant forms of communication • Basic problem-solving techniques consistent with level of responsibility • Working knowledge of plant, processes, layout and associated services sufficient to carry out storage activities within level of responsibility • Storage and inventory systems
Underpinning Skills	Demonstrates skills to: • Uses required forms of communication in storing chemical products

	• Reads and interprets required documentation, procedures and reports • Identifies internal and external customers • Identifies and actions problems within level of responsibility • Identifies and monitors process control points • Maintains situational awareness work area • Handles product to minimise damage • Stores product in appropriate locations • Conducts routine maintenance of equipment
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Apply Quality Standards**
Unit Code	**IND BCP1 16 0613**
Unit Descriptor	This unit covers the knowledge, attitudes and skills required in applying quality standards in the operational activities.

Elements	Performance Criteria
1. Assess own work	1.1 Completed work is checked against organization standards relevant to the activity being undertaken. 1.2 An understanding is demonstrated on how the work activities and completed work relate to the next process and to the final appearance of the service / product. 1.3 Faulty service is identified and isolated in accordance with policies and procedures. 1.4 Faults and any identified causes are recorded and reported in accordance with standard procedures.
2. Assess quality of service rendered	2.1 Services rendered are ***quality checked*** against standards and specifications. 2.2 Service rendered are evaluated using the appropriate evaluation ***parameters*** and in accordance with standards. 2.3 Causes of any identified faults are identified and corrective actions are taken in accordance with policies and procedures.
3. Record information	3.1 Basic information on the quality performance is recorded in accordance with organization procedures. 3.2 Records of work quality are maintained according to the requirements of the organization / enterprise.
4. Study causes of quality deviations	4.1 Causes of deviations from final outputs or services are investigated and reported in accordance with standard procedures. 4.2 Suitable preventive action is recommended based on organization ***quality standards*** and identified causes of deviation from specified quality standards of final service or output.
5. Complete documentation	5.1 Information on quality and other indicators of service performance is recorded. 5.2 All service processes and outcomes are recorded.

Variable	Range
Quality check	May include but not limited to: • Visual inspection • Physical measurements

	• Check against specifications/preferences
Quality standards	May include but not limited to: • materials • service • output • processes/procedures
Quality parameters	May include but not limited to: • style/design/specifications • durability • service variations • materials • damage and imperfections

Evidence Guide	
Critical Aspects of Competency	Assessment requires evidence that the candidate to: • Check completed work continuously against standard • Identify and isolate faulty service / workmanship • Check service rendered against organization standards • Identify and apply corrective actions on the causes of identified faults • Record basic information regarding quality performance • Investigate causes of deviations of services against standard • Recommend suitable preventive actions
Underpinning Knowledge and Attitudes	Demonstrate knowledge of: • Relevant quality standards, policies and procedures • Characteristics of services • Safety environment aspects of service processes • Relevant evaluation techniques and quality checking procedures • Workplace procedures • Reporting procedures
Underpinning Skills	Demonstrate skills to: • Interpret work instructions, specifications and standards appropriate to the required work or service • Carry out relevant performance evaluation • Maintain accurate work records in accordance with procedures • Meet work specifications • Communicate effectively within defined workplace procedures
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Work with Others**
Unit Code	**IND BCP1 17 0613**
Unit Descriptor	This unit covers the knowledge, skills, and attitudes required to develop workplace relationship and contribute in workplace activities.

Element	Performance Criteria
1. Develop effective workplace relationship	1.1 ***Duties and responsibilities*** are done in a positive manner to promote cooperation and good relationship. 1.2 Assistance is sought from ***workgroup*** when difficulties arise and addressed through discussions. 1.3 ***Feedback on performance*** provided by others in the team is encouraged, acknowledged and acted upon. 1.4 Differences in personal values and beliefs are respected and acknowledged in the development.
2. Contribute to work group activities	2.1 ***Support is provided to team members*** to ensure workgroup goals are met. 2.2 Constructive contributions to workgroup goals and tasks are made according to ***organizational requirements***. 2.3 Information relevant to work are shared with team members to ensure designated goals are met.

Variable	Range
Duties and responsibilities	Must include but not limited to: • Job description and employment arrangements • Organization's policy relevant to work role • Organizational structures • Supervision and accountability requirements including OHS • Code of conduct
Work group	Must include supervisor or manager, Peers/work colleagues and Other members of the organization
Feedback on performance must include but not limited to:	• Formal/Informal performance appraisal • Obtaining feedback from supervisors and colleagues and clients • Personal, reflective behavior strategies • Routine organizational methods for monitoring service delivery
Providing support to team members must include but not limited to:	• Explaining/clarifying • Helping colleagues • Providing encouragement • Providing feedback to another team member • Undertaking extra tasks if necessary

Organizational requirements	Must include but not limited to: • Goals, objectives, plans, system and processes • Legal and organization policy/guidelines • OHS policies, procedures and programs • Ethical standards • Defined resources parameters • Quality and continuous improvement processes and standards

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate to: • Provide support to team members to ensure goals are met • Act on feedback from clients and colleagues • Access learning opportunities to extend own personal work competencies to enhance team goals and outcomes
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • relevant legislation that affects operations, especially with regards to safety • reasons why cooperation and good relationships are important • the organization's policies, plans and procedures • understanding how to elicit and interpret feedback • workgroup member's responsibilities and duties • importance of demonstrating respect and empathy in dealings with colleagues • how to identify and prioritize personal development opportunities and options
Underpinning Skills	Demonstrates skills: • ability to read and understand the organization's policies and work procedures • write simple instructions for particular routine tasks • interpret information gained from correspondence • communication skills to request advice, receive feedback and work with a team • planning skills to organized work priorities and arrangement • technology skills including the ability to select and use technology appropriate to a task • ability to relate to people from a range of social, cultural and ethnic backgrounds
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Receive and Respond to Workplace Communication**
Unit Code	**IND BCP1 18 0613**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to receive, respond and act on verbal and written communication.

Element	Performance Criteria
1. Follow routine spoken messages	1.1 Required information is gathered by listening attentively and correctly interpreting or understanding information/instructions. 1.2 Instructions/information is properly recorded. 1.3 Instructions are acted upon immediately in accordance with information received. 1.4 Clarification is sought from workplace supervisor on all occasions when any instruction/information is not clear.
2. Perform workplace duties following written notices	2.1 ***Written notices and instructions*** are read and interpreted correctly in accordance with ***organizational guidelines***. 2.2 Routine written instruction is followed in sequence. 2.3 Feedback is given to workplace supervisor based on the instructions/information received.

Variable	Range
Written notices and instructions	Must include but not limited to: • Handwritten and printed material • Internal memos • External communications • Electronic mail • Briefing notes • General correspondence • Marketing materials • Journal articles
Organizational guidelines	It may include: • Information documentation procedures • Company policies and procedures • Organization manuals • Service manual

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate to: • Demonstrate knowledge of organizational procedures for handling verbal and written communications • Receive and act on verbal messages and instructions • Demonstrate competence in recording instructions/information

Underpinning Knowledge and Attitudes and Attitudes	Demonstrates knowledge of: • organizational policies/guidelines in regard to processing internal/external information • ethical work practices in handling communications • communication process
Underpinning Skills	Demonstrates skills: • conciseness in receiving and clarifying messages/information/communication • accuracy in recording messages/information
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Demonstrate Work Values**
Unit Code	**IND BCP1 19 0613**
Unit Descriptor	This unit covers the knowledge, skills and attitude required in demonstrating proper work values.

Elements	Performance Criteria
1. Define the purpose of work	1.1 One's unique sense of purpose for working and the 'whys' of work are identified, reflected on and clearly defined for one's development as a person and as a member of society. 1.2 Personal mission is achieved in harmony with company's values.
2. Apply work values/ethics	2.1 ***Work values/ethics/concepts*** are classified and reaffirmed in accordance with the transparent company ethical standards, policies and guidelines. 2.2 ***Work practices*** are undertaken in compliance with industry work ethical standards, organizational policy and guidelines 2.3 Personal behavior and relationships with co-workers and/or clients are conducted in accordance with ethical standards, policy and guidelines. 2.4 ***Company resources*** are used in accordance with transparent company ethical standard, policies and guidelines.
3. Deal with ethical problems	3.1 Company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct are accessed and applied in accordance with transparent company ethical standard, policies and guidelines. 3.2 ***Work incidents/situations*** are reported and/or resolved in accordance with company protocol/guidelines. 3.3 Resolution and/or referral of ethical problems identified are used as learning opportunities.
4. Maintain integrity of conduct in the workplace	4.1 Personal work practices and values are demonstrated consistently with acceptable ethical conduct and company's core values. 4.2 Instructions to co-workers are provided based on ethical, lawful and reasonable directives. 4.3 Company values/practices are shared with co-workers using appropriate behavior and language.

Variable	Range
Work values/ethics/ concepts	May include but are not limited to: • Commitment/ Dedication • Sense of urgency • Sense of purpose • Love for work • High motivation • Orderliness • Reliability and Dependability • Competence • Goal-oriented • Sense of responsibility • Being knowledgeable • Loyalty to work/company • Sensitivity to others • Compassion/Caring attitude • Balancing between family and work • Sense of nationalism
Work practices	Must include but not limited to: • Quality of work • Punctuality • Efficiency • Effectiveness • Productivity • Resourcefulness • Innovativeness/Creativity • Cost consciousness • 5S • Attention to details
Company resources	Must include but not limited to: • Consumable materials • Equipment/Machineries • Human • Time • Financial resources
Work incidents/ Situations	Must include but not limited to: • Violent/intense dispute or argument • Gambling • Use of prohibited substances • Pilferages • Damage to person or property • Vandalism • Falsification • Bribery • Sexual Harassment • Blackmail

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate to: • Define one's unique sense of purpose for working • Clarify and affirm work values/ethics/concepts consistently in the workplace • Demonstrate work practices satisfactorily and consistently in compliance with industry work ethical standards, organizational policy and guidelines • Demonstrate personal behavior and relationships with co-workers and/or clients consistent with ethical standards, policy and guidelines • Use company resources in accordance with company ethical standard, policies and guidelines. • Follow company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct/behavior
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Occupational health and safety • Work values and ethics • Company performance and ethical standards • Company policies and guidelines • Fundamental rights at work including gender sensitivity • Work responsibilities/job functions • Corporate social responsibilities • Company code of conduct/values • Balancing work and family responsibilities
Underpinning Skills	Demonstrates skills in: • Interpersonal skills • Communication skills • Self awareness, understanding and acceptance • Application of good manners and right conduct
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard : Basic Chemicals Processing Work Level I	
Unit Title	**Develop Understanding of Entrepreneurship**
Unit Code	**IND BCP1 20 0613**
Unit Descriptor	This unit covers skills, knowledge and attitude required to understand the principles, functions, strategies and methods of entrepreneurship. It also covers identifying and developing the major entrepreneurial competences.

Elements	Performance Criteria
1. Describe and explain the principles, concept and scope of entrepreneurship	1.1 The principles, concept and terminology of entrepreneurship are analyzed and discussed. 1.2 The different / various forms of enterprises in the community are identified and their roles understood. 1.3 The identified enterprises are categorized and ***classified***. 1.4 The terms and elements involved in the concept of enterprising, both on a personal level and in the context of being enterprising in business are identified and interpreted. 1.5 Functions of entrepreneurship in business and how the entrepreneurs improved business and economic environment are explained.
2. Discuss how to become entrepreneur	2.1 Self-employment as an alternative option for an individual economic independence and personal growth is discussed and analyzed. 2.2 Advantages and disadvantages of self-employment are discussed and explained. 2.3 Entrepreneurial characteristics and traits are identified and discussed. 2.4 Self-potential is assessed to determine if qualified to become future entrepreneur. 2.5 Major competences of successful entrepreneurship are identified and explained.
3. Discuss how to organize an enterprise	3.1 The importance and role of business entrepreneurship in the society are discussed and correlated to the operations of the economy. 3.2 Facts about small and medium enterprises are discussed, clarified and understood. 3.3 Key success factor in setting up small and medium business are identified and explained. 3.4 Business opportunities are identified and assessed.

	3.5 Business ideas are generated using appropriate tools, techniques and steps. 3.6 Procedures for identifying suitable market for business are discussed and understood. 3.7 ***Major factors*** to consider in selecting a location for a business are identified and discussed. 3.8 Basic types of business ownership are identified and explained. 3.9 Amount of money needed to start an enterprise estimated and distinction between pre operations and initial operation payments clarified. 3.10 Advantages and disadvantages of using various sources of capital to start an enterprise are identified.
4. Discuss how to operate an enterprise	4.1 Disadvantages and advantages of ***three alternatives*** means of becoming an entrepreneur are identified and understood. 4.2 Process of hiring and managing people is discussed and explained. 4.3 The importance and techniques of managing time are discussed and understood. 4.4 The techniques and procedures of managing sales are discussed and explained. 4.5 Factors to consider in selecting suppliers and the steps to follow when doing business with them are identified and discussed. 4.6 Awareness of how new technologies can affect small and medium business are developed. 4.7 Characteristics of appropriate technology for use in small and medium business are identified and explained 4.8 Different types of cost that occur in a business and how to manage them are discussed and understood. 4.9 Factors and procedures in knowing the cost of the enterprise are discussed and understood. 4.10 Importance of financial record keeping and preparing simple financial statement are explained and understood. 4.11 The application of self-management skills and negotiation skills are discussed in operating a business. 4.12 Risk assessment and management of business enterprise are performed .

5. Develop one's own business plan	5.1 Process of preparing/ writing a business plan is discussed and applied. 5.2 Standard structure and format are applied in preparing business plan. 5.3 Findings of the business plan are interpreted, assessed and analyzed. 5.4 Feasibility of the business idea is made clear and understandable. 5.5 Problems that may arise or encounter when starting a business are identified and understand. 5.6 Techniques and procedures in obtaining and sourcing information are discussed and understood.

Variables	**Range**
Classification	Must include but not limited to: • Private vs. public • Profit vs. non-profit • Formal vs. Non-formal • Individual vs. Community • Local vs. Foreign • Business vs. Social • Small vs. Large • Manufacturing vs. Service • Consumer vs. Industrial
Major factors	Must include but not limited to: • Economics (local economy) • Population • Competition
Three alternatives	Must include but not limited to: • Buying an existing business • Starting a new business • Operating a franchising business

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate to: • explain principles and concept of entrepreneurship • discuss how to become entrepreneur • discuss how to organize an enterprise • discuss how to operate an enterprise • develop business plan
Underpinning Knowledge and Attitudes	Demonstrate knowledge of: • Entrepreneurship principles, concepts and terminologies • Entrepreneurial competence • Entrepreneurial motivation • Risk assessment and evaluation

	• Principles and process of negotiations • Self-management and self-employment • Managing sales, people and time • Factors in setting up small and medium business • Small and Medium Enterprise • Business plan development • Discussion techniques and procedures
Underpinning Skills	Demonstrate skills in: • Planning and Leading • Presentation skills • Using technology • Managing money • Preparing simple financial statement • Selecting suppliers
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Basic Chemicals Processing Work Level I	
Unit Title	**Apply 3S**
Unit Code	**IND BCP1 21 0613**
Unit Descriptor	This unit of competence covers the knowledge, skills and attitudes required by a worker to apply 3S techniques to his/her workplace. The unit assumes the worker has a particular job in the allocated workplace known by the individual.

Elements	Performance Criteria
1. Organize junior Kaizen Promotion Team (KPT).	1.1 Basics, principles and stages of KPT are identified using appropriate procedures. 1.2 Structure of ***Junior KPT*** is established in accordance with the organizational procedures. 1.3 Effective and appropriate contributions are made to complement team activities and objectives using individual skills and competencies. 1.4 Effective and appropriate forms of communications are used and undertaken with KPT members who contribute to know KPT activities and objectives. 1.5 Kaizen Board (Visual Management Board) is prepared and used in harmony with different workplace contexts.
2. Prepare for work.	2.1 Work instructions are used to determine job requirements, including method, material and equipment. 2.2 Job specifications are read and interpreted following working manual. 2.3 ***OHS requirements***, including dust and fume collection, breathing apparatus and eye and ear personal protection needs are observed throughout the work. 2.4 Appropriate materials are selected. 2.5 ***Safety equipment and tools*** are identified and checked for safe and effective operation.
3. Sort items.	3.1 Plan is prepared to implement sorting activities. 3.2 Cleaning activities are performed. 3.3 All ***items*** in the workplace are identified following ***the appropriate procedures***. 3.4 Necessary and ***unnecessary items*** are listed using the ***appropriate format***.

	3.5 ***Red tag*** strategy is used for unnecessary items. 3.6 Unnecessary items are evaluated and placed in an appropriate place other than the workplace. 3.7 ***Necessary items*** are recorded and quantified using appropriate format. 3.8 Performance results are reported using appropriate formats. 3.9 Necessary items are regularly checked in the workplace.
4. Set all items in order.	4.1 Plan is prepared to implement set in order activities. 4.2 General cleaning activities are performed. 4.3 Location/layout, storage and indication methods for items are decided. 4.4 Necessary ***tools and equipment*** are prepared and used for setting in order activities. 4.5 Items are placed in their assigned locations. 4.6 After use, the items are immediately returned to their assigned locations. 4.7 Performance results are reported using appropriate formats. 4.8 Each item is regularly checked in its assigned location and order.
5. Perform shine activities.	5.1 Plan is prepared to implement shine activities. 5.2 Necessary tools and equipment are prepared and used for shinning activities. 5.3 ***Shine activity*** is implemented using appropriate procedures. 5.4 Performance results are reported using appropriate formats. 5.5 Regular shinning activities are conducted.

Variable	**Range**
Junior KPT	may include but not limited to: • 3S • 3MU (Mura, Muri and MUDA) • 4P (Policy, Procedure, People and Plant) • 4M (Material, Method, Man and Machine) • PDCA (Plan, Do, Check and Act)

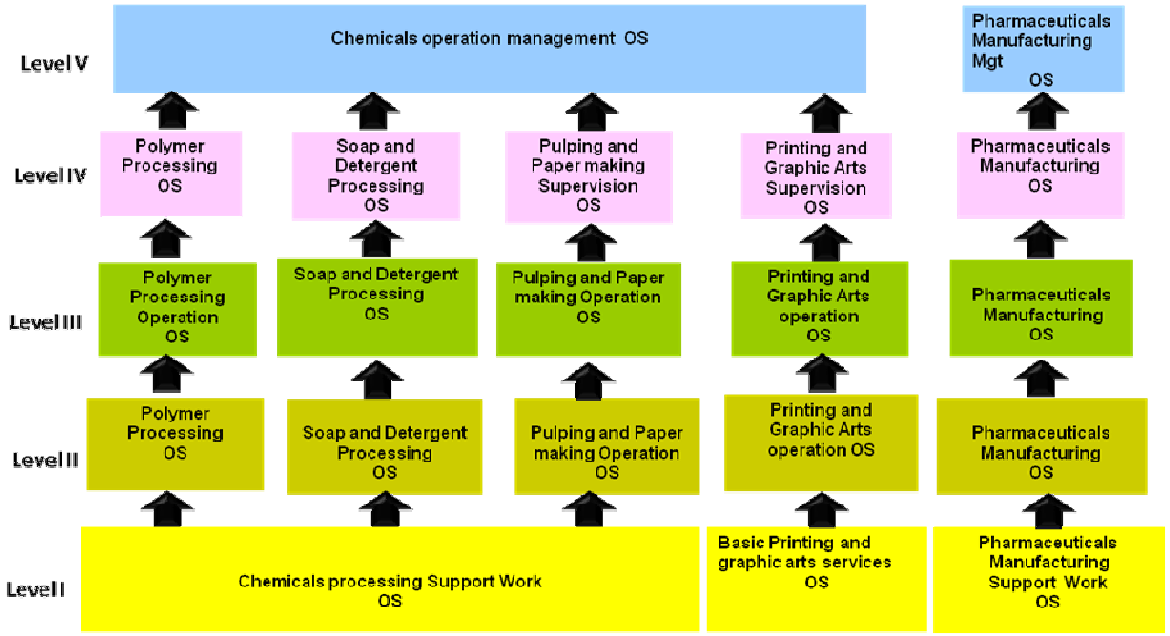
OHS requirements	may include but not limited to: • Legislation/ regulations/codes of practice and enterprise safety policies and procedures. This may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances. • Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices. • Safe operating procedures are to include, but are not limited to the conduct of operational risk assessment and treatments associated with workplace organization. • Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation.
Safety equipment and tools	may include but not limited to: • dust masks / goggles • glove • working cloth • first aid • safety shoes
Items	may include but not limited to: • tools • jigs/fixtures • materials/components • machine and equipment • manuals • documents • personal items (e.g. bags, lunch boxes and posters) • safety equipment and personal protective equipment • other items which happen to be in the work area
The appropriate procedures	may include but not limited to: • steps for implementing 3S (sort, set in order and shine) activities. • written, verbal and computer based or in some other format.
Unnecessary items	are not needed for current production or administrative operation and include but not limited to: • defective or excess quantities of small parts and inventory • outdated or broken jigs and dies • worn-out bits • outdated or broken tools and inspection gear • old rags and other cleaning supplies • electrical equipment with broken cords • outdated posters, signs, notices and memos some locations where unneeded items tend to accumulate may include but not limited to:

	• in rooms or areas not designated for any particular purpose • in corners next to entrances or exists • along interior and exterior walls • next to partitions and behind pillars • under the eaves of warehouses • under desks and shelves and in desk and cabinet drawers • near the bottom of tall stacks of items • on unused management and production schedule boards • in tools boxes that are not clearly sorted
Appropriate format	may include but not limited to: • all items. • necessary and unnecessary items.
Red tag	A format prepared with a red color paper or card which is filled and attached temporarily on the unnecessary items until decision is made. The red tag catch people's attention because red is a color that stands out. So to filland attach red tag on items, asks the following three questions: • Is this item needed? • If it is needed, is it needed in this quantity? • If it is needed, does it need to be located here?
Necessary items	Are required in the workplace for current production or administrative operation in the amount needed.
Tools and equipment	May include but not limited to: • paint • hook • sticker • signboard • nails • shelves • chip wood • sponge • broom • pencil • shadow board/ tools board
Shine activity	May include but not limited to: • Inspection • Cleaning • Minor maintenance may include: ➢ Tightening bolts ➢ Lubrication and Replacing missing parts

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge to: • Discuss how to organize KPT. • Describe the pillars of 5S. • Implement 3S in own workplace by following appropriate procedures.

Underpinning Knowledge and Attitudes	• Kaizen principle, pillars and concept • Key characteristic of Kaizen • Elements of Kaizen • Wastes/MUDA • Basics of KPT • Aims, benefits and principles of KPT • Stages of KPT • Structure and role of the components of Junior KPT • Concept and parts of Kaizen board • Concept and benefits of 5S • The pillars of 5S • Three stages of5S application • Benefits and procedure of sorting activities • The concept and application of Red Tag strategy • OHS procedures • Benefits and procedure of set in order activities • Set in order methods/techniques • Benefits and procedure of shine activities • Inspection methods • Planning and reporting methods • Method of Communication
Underpinning Skills	Demonstrates skills of: • Participating actively in KPT • technical drawing • communication skills • planning and reporting own tasks in implementation of 3S • following procedures to implement 3S in own workplace • using sorting formats to identify necessary and unnecessary items • improving workplace layout following work procedures • preparing labels, slogans, etc. • reading and interpreting documents • observing situations • gathering evidence by using different means • recording activities and results using prescribed formats • working with others • solving problems by applying 3S • preparing and using Kaizen board • preparing and using tools and equipment to implement 3S
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

SECTOR: INDUSTRY
Sub sector: chemical products manufacturing



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This occupational standard was developed on May 2013 at Ethiopian Management Institute (EMI), Debre Zeyit.

COMMENT TEMPLATE

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