

Unit ID: 1455

Domain METALLURGICAL PROCESSING - CORE
Title: Handle reagents as part of metallurgical
process operations

Level: 2

Credits: 8

Purpose

This unit standard is intended for those who carry out metallurgical processing operations. People holding credit for this unit standard are able to: Demonstrate knowledge relating to the handling of reagents; prepare to handle reagents; handle reagents; and complete duties pertaining to the reagent handling process.

Special Notes

1. Entry information:

Prerequisite

- 1449 *Comply with health, safety and environmental rules and regulations pertaining to processing operations*; or demonstrated equivalent knowledge and skills.

2. *'Reagents'* refer to chemical substances utilised in process operations but excludes hazardous substances specified as UN (United Nations) class I (Explosives); UN class II (Gases); UN class III (Flammable liquids); and UN class IV (Flammable solids).
3. Assessment evidence may be collected from a real workplace or a simulated workplace in which processing operations are carried out.
4. Safe working practices include day-to-day observation of safety policies and procedures and compliance with emergency procedures.
5. Specifications refer to any, or all of the following: manufacturer's specifications and recommendations, and workplace specific requirements.
6. Performance of all elements in this unit standard must comply with relevant regulatory, legislative, workplace requirements and/or manufacturers' specifications. Expected worksite targets are to be met.
7. Regulations and legislation, including subsequent amendments, relevant to this unit standard may include but are not limited to the following:
 - Labour Act, No. 11, 2007
 - Mineral Act, No. 33, 1992
 - Mine Health and Safety Regulations, 1999
 - Regulations relating to the Health and Safety of employees at work, 1997 and all industry specific regulations, legislations, code of practice, or code of conduct.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Demonstrate knowledge relating to the handling of reagents

Range:

Components may include but are not limited to mixing vessel; transfer pumps; storage tanks; fume extraction systems; auxiliary systems; safety devices; and interlock systems.

Corrective actions may include but are not limited to basic first aid treatment; entry into confined spaces; acid neutralisation; spillage disposal; and fume inhalation procedure.

Performance Criteria

- 1.1 The principal components of the reagent handling system are identified and their functions explained in terms of design, operational requirements, and control methods applied.
- 1.2 The requirements pertaining to safe, healthy work environment in the reagent handling process are described.
- 1.3 Hazards, associated risks, and corrective actions in case of an emergency are identified and described.
- 1.4 Colour coding and symbolic signs associated with the reagent handling process are identified and described in terms of legal and operational requirements.
- 1.5 Lock-out procedures regarding the reagent handling system are explained.

Element 2: Prepare to handle reagents

Performance Criteria

- 2.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, explained, clarified and applied to the allocated task.
- 2.2 Task-specific personal protective and safety equipment are selected and examined in accordance with workplace procedures and legislative requirements.

- 2.3 Task-specific tools and equipment are selected and checked for consistency with the requirements of the job, their usability and any faults rectified or reported prior to commencement of work.
- 2.4 Workplace hazards and associated risks are dealt with according to workplace safety procedures.
- 2.5 The reagent handling system is examined and substandard conditions reported to appropriate personnel according to workplace procedures.

Element 3: Handle reagents

Performance Criteria

- 3.1 Task-specific tools and equipment, including personal protective and safety equipment, are used in accordance with workplace procedures and legislative requirements.
- 3.2 Start-up reagent handling system according to manufacturer's specifications and workplace procedures.
- 3.3 Reagents are mixed and/or added in a controlled manner according to workplace procedures.
- 3.4 Reagent handling process is monitored and controlled according to workplace procedures.
- 3.5 Effective communication with co-workers and supervisor is maintained to ensure safe and optimal handling of reagent.
- 3.6 Safety and health procedures to protect self, others, and the environment are adhered to in accordance with legislative requirements and workplace procedures.
- 3.7 Work related hazards and associated risks, and/or inconsistencies with the job requirement encountered are reported according to workplace procedures.

Element 4: Complete duties pertaining to the reagent handling process

Range

Housekeeping may include but is not limited to ensure the work area is ready for next user; remove work materials to designated locations; correctly identify waste and re-usable material; and remove waste and re-usable materials to designated locations.

Performance Criteria

- 4.1 Reagents are transferred and stored according to workplace procedures.
- 4.2 The reagent handling system is stopped according to manufacturer's specifications and workplace procedures.

- 4.3 Task-specific tools and equipment, including personal protective and safety equipment, are cleaned, maintained and stored for further use according to workplace procedures.
- 4.4 Good housekeeping practices are maintained according to workplace procedures.
- 4.5 Reporting and recording requirements are met according to workplace procedures.
- 4.6 Preparation for maintenance, where applicable, is carried out according to lock-out and workplace procedures.

Registration Data

Subfield:	Metallurgy
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