QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR RUBBER INDUSTRY

## Contents



## What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding


Contact Us:
PHD House (4th Floor),
Opp. Asian Games Village,
Siri Fort Institutional Area, New Delhi - 110016

E-mail:
info@rsdcindia.in


# Introduction

## Qualifications Pack- Lab Supervisor

**SECTOR:** RUBBER INDUSTRY

**SUB-SECTOR:** 1. Tyre 2. Non-tyre

**OCCUPATION:** Lab chemist

**REFERENCE ID:** RSC/ Q 0301

**ALIGNED TO:** NCO-2004/NIL

**Brief Job Description:** A Lab Supervisor is responsible to ensure all incoming samples of raw material, master batches , final batches, compounds, cements and adhesives, dip solutions and slab dips , extruded and calendered components, semi-finished and finished product are tested as per the laid down procedures in a timely manner and give appropriate decision/report for its suitability for usage / holding up for Managers' decision.

**Personal Attributes:** This job requires the individual to be analytical. He should be able to delegate task appropriately considering the ability and availability of manpower in his team and have his own method of monitoring. He should maintain effective time management for getting the testing done in a given time frame . He should keep the technicians motivated for proper testing and learning new methods. He should be strict in adhering to the confidentiality of reports.

Job Details

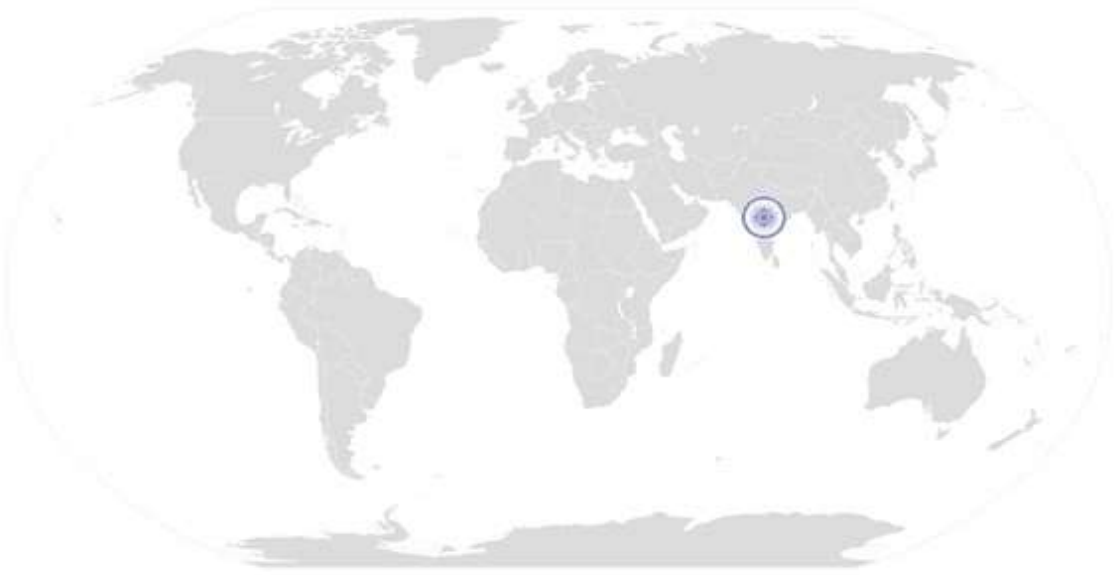
| | | | |
|---|---|---|---|
| **Qualifications Pack Code** | **RSC/ Q 0301** | | |
| **Job Role** | **Lab Supervisor** | | |
| **Credits(NSQF)** | **5** | **Version number** | **1.0** |
| **Sector** | **Rubber Manufacturing** | **Drafted on** | **02/12/14** |
| **Sub-sector** | **Tyre and Non- tyre** | **Last reviewed on** | **02/12/14** |
| **Occupation** | **Supervisor** | **Next review date** | **02/12/15** |
| **NSQC Clearnace on** | **20/07/2015** | | |

| **Job Role** | **Lab Supervisor** |
|---|---|
| **Role Description** | The Lab Supervisor is responsible to supervise all the lab testings carried out in the laboratory including the samples of raw material, master batches , final batches, compounds, cements and adhesives, dip solutions and slab dips , extruded and calendered components,asseblmed components semi-finished and finished product and communicate the results/decisions to concerned department and his/her manager. |
| **NSQF level** | 5 |
| **Minimum Educational Qualifications*** | XII/Diploma/ITI/Graduate in Science |
| **Maximum Educational Qualifications*** | Post Graduate in Science |
| **Training** (Suggested but not mandatory) | Training on latest testing techniques/instruments/ reporting method |
| **Minimum Job Entry Age** | 18 years |
| **Experience** | Worked as a lab technician for 3 years in the same role |
| **Applicable National Occupational Standards (NOS)** | **Compulsory:**<br>1. RSC/ N 0305 ( Supervise the Lab preparation w.r.t tools, equipment, material and manpower)<br>2. RSC/N 0306 (Supervise the lab testing operations)<br>3. RSC/N 0307 ( Conduct post-testing supervisory operation)<br>4. RSC/ N 5001 (To carry out housekeeping)<br>5. RSC/ N 5002 (To carry out reporting and documentation)<br>6. RSC/ N 5003 (To carry out quality checks)<br>7. RSC/ N 5004 ( To carry out problem identification and escalation )<br>**Optional:**<br>8. NA |
| **Performance Criteria** | As described in the relevant OS units |

Definitions

| Keywords /Terms | Description |
|---|---|
| Sector | Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests. |
| Sub-sector | Sub-sector is derived from a further breakdown based on the characteristics and interests of its components. |
| Occupation | Occupation is a set of job roles, which perform similar/related set of functions in an industry. |
| Function | Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS. |
| Job Role | Job role defines a unique set of functions that together form a unique employment opportunity in an organization. |
| OS | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| Performance Criteria | Performance Criteria are statements that together specify the standard of performance required when carrying out a task. |
| NOS | NOS are Occupational Standards which apply uniquely in the Indian context. |
| Qualifications Pack Code | Qualifications Pack Code is a unique reference code that identifies a qualifications pack. |
| Qualifications Pack | Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code. |
| Unit Code | Unit Code is a unique identifier for an Occupational Standard , which is denoted by an 'N'. |
| Unit Title | Unit Title gives a clear overall statement about what the incumbent should be able to do. |
| Description | Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for. |
| Knowledge and Understanding | Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard. |
| Organizational Context | Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility. |
| Technical Knowledge | Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities. |
| Core Skills or Generic Skills | Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS , these include communication related skills that are applicable to most job roles. |

# National Occupational Standard



## Overview

**This unit is about supervising the laboratory operations /preparation of lab equipmemts, manpower management and arrange incoming samples from various stages of operation for testing in rubber products manufacturing.**

National Occupational Standard

| Unit Code | RSC / N 0305 |
|---|---|
| Unit Title (Task) | Supervise the Lab preparation w.r.t tools, equipment, material and manpower |
| Description | Th is about supervising the organization /preparation of lab equipmemts, manpower management and arrange incoming samples from various stages of operation for testing in rubber products manufacturing. |
| Scope | This unit/task covers the following:<br>• Ensure housekeeping and safety in laboratory.<br>• Ensure that maintenance programme of the equipments are carried out on regular basis<br>• Ensure adequate trained lab technicians are available for testing<br>• Ensure that test procedures for each testing requirement are available in writing<br>• Monitor that the proper system for sampling is followed for all incoming samples to Lab in timely manner<br>• Ensure all samples delivered to lab are recorded and kept in appropriate location/s to facilitate testing operation<br>• Ensure that FIFO is followed for conducting testing |

| Performance Criteria (PC) w.r.t. the Scope | |
|---|---|
| **Element** | **Performance Criteria** |
| Equipment readiness | To be competent, the user/individual on the job must be able to<br>PC1. Ensure the set up of appropriate equipment/apparatus to be used for testing correctly as per IS / ISO / International Standard such as ASTM etc and SOP<br>PC2. Ensure that all the test equipments are duly calibrated and are operational<br>PC3. Ensure daily , weekly, monthly and annual cheecks are conducted on every testing equipment for accuracy and readiness for testing<br>PC4. Consuct gauge R&R study for reputability and reproducibility<br>PC5. Ensure annual maintenance of testing equipment by outside vendors/ equipment supplier .<br>PC6. Identify defective equipment/apparatus and take action as per SOP<br>PC7. Ensure that calibration schedule of the equipments is complied well<br>PC8. Ensure the availability of testing related glass wares |

| | |
|---|---|
| | PC9. Ensure that all services such as steam , water ,electricity, Nitrogen and Oxygen cylinders , pressurized air are available at all times |
| **Sample appropriateness** | PC1. Monitor that the proper system for sampling is followed for all incoming samples to Lab in timely manner<br>PC2. Ensure that the sampling procedure is strictly followed in terms of ID on samples, size /quantity of sample, reason why the sample is being sent and the source of the sample<br>PC3. Ensure all samples delivered to lab are recorded with details of sample code/name , batch number, date /shift , from location, reason why<br>PC4. Ensure that the paper document received along with the samples are with all relevant details and duly signed by the sender<br>PC5. All samples received must be recorded in the log book, maintain individual log books and identifying source /type of material/ suspicious material<br>PC6. Identify the defect/problem in inappropriate sample and report it to the related department head<br>PC7. Ensure that the reagents and materials used for testing are of standard quality and procured from approved source. |
| **Sample Testing** | PC8. Ensure that test procedures for each testing requirement are available in writing and duly signed .<br>PC9. Ensure that test methods confirms to the required quality and accuracy of testing.<br>PC10. Return the sample to the source once the testing is complete and the results discussed , material released and NO more testing is required |
| **Health & Safety** | PC11. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes).<br>PC12. Arrange for hospitalization in case of accident<br>PC13. Manage first aid, general medication etc. of the team members<br>PC14. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department<br>PC15. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards. |
| **Record Maintenance and Reporting** | PC1. Ensure all samples received are properly recorded in the forms/formats/log books/computers to ensure traceability<br>PC2. In case the sample sizes are inadequate, ensure prompt communication to get fresh sample Paper /computer documents must be complete and |

| | |
|---|---|
| | traceable in all respect |
| **Knowledge and Understanding (K)** | |
| **A. Organizational Context** (Knowledge of the company / organization and its processes) | The user/individual on the job needs to know and understand:<br>KA1. Implications of poorly prepared lab equipments.<br>KA2. Company's quality policies and acceptance standards for raw materials, processed and final product.<br>KA3. Organisational Coding system of raw material, compounds and products<br>KA4. Different quality management systems<br>KA5. Principles of good laboratory practices (ISO/IEC 17025) applicable in the workplace<br>KA6. Importance of identifying non-conforming samples.<br>KA7. Risk and impact of not following defined procedures/work instructions.<br>KA8. Escalation matrix for reporting identified problems.<br>KA9. Types of documentation in organization and importance of the same.<br>KA10. Records to be maintained and the implications of their non-maintenance.<br>KA11. Importance of housekeeping activities.<br>KA12. Health, safety and environment guidelines, legislation and regulations as applicable.<br>KA13. Personal and Personnel protection (which protective equipment to be used and how).<br>KA14. Impact of poor practices on health, safety and environment.<br>KA15. Potential hazards and actions to minimize them.<br>KA16. The escalation matrix and procedures for reporting hazards.<br>KA17. Impact of various practices on cost, quality, productivity, delivery and safety.<br>KA18. Importance of optimal utilization of material, equipment and manpower. |
| **B. Technical Knowledge** | The user/individual on the job needs to know and understand:<br>KB1. All testing method and its relevance to plant production process and the product performance<br>KB2. Importance of testing methods and strict adherence to test procedure as per testing method<br>KB3. Various testing requirements and their procedures<br>KB4. Trouble shooting the faulty or mal functioning equipments/instruments<br>KB5. The importance of accessing the external sources from where to get the faulty instruments handled at the earliest<br>KB6. Quality certification standards such as /QS/TS etc<br>KB7. Testing equipments and related test methods and purpose of tests<br>KB8. Calibration requirements for test equipment<br>KB9. Procedures for storing samples |

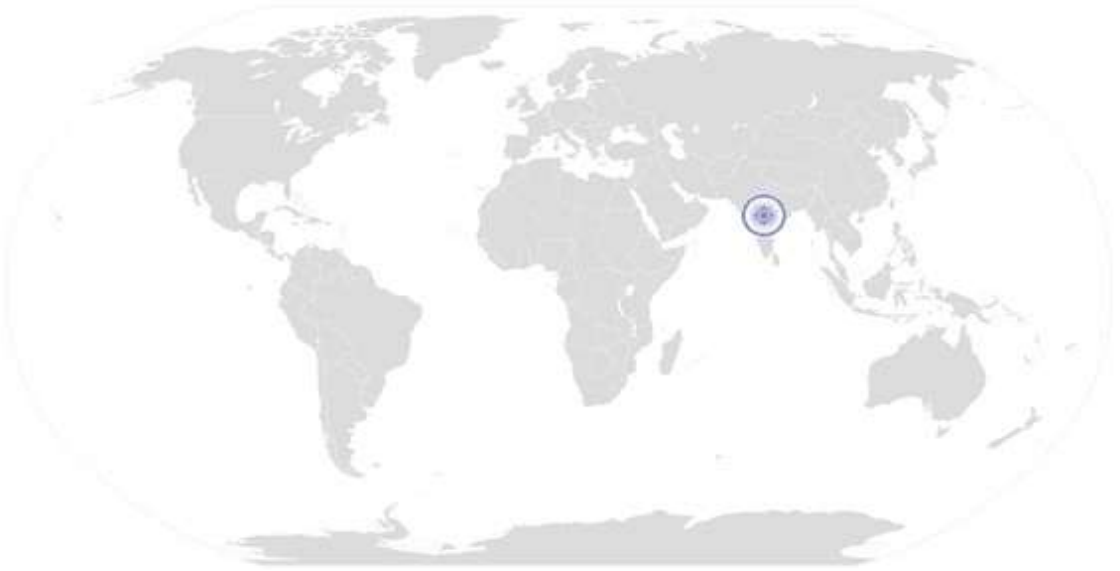
| | |
|---|---|
| | KB10. Specifications of materials tested and its importance in the release system<br>KB11. National/International standard test methods for different materials<br>KB12. Standard method of drawing samples and preparing them for testing<br>KB13. How to assess whether a sample is suitable for testing<br>KB14. Methods/techniques used for labeling samples<br>KB15. Procedure (SOP) to be followed in case the sample is unfit for test<br>KB16. The methods that can be used for controlling test variables<br>KB17. Implications (impact on internal/external customers) of defective products, materials or components.<br>KB18. The Material Safety Data Sheets (MSDS) for all the materials used for the experiments that one is conducting. Procedures for storing and retention period for samples<br>KB19. MSDS for all incoming raw materials<br>KB19. Factors that adversely affect integrity of the sample<br>KB20. Statistical analysis of test data<br>KB21. How to obtain and interpret records, charts, specifications, equipment manuals, history/technical support reports and other documents<br>KB22. Methods and techniques involved in evaluating information<br>KB23. Use of Computer/application software<br>KB24. Units of measurement<br>KB25. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster |
| **Skills (S)** | |
| **A. Core Skills/ Generic Skills** | **Writing Skills**<br>The user/ individual on the job needs to know and understand how to:<br>SA1. Express the ideas, lodge complaints and give suggestions through effective written communication.<br>SA2. Fill up appropriate activity logs in required format of the company<br>SA3. Write simple letters, mails, etc<br>SA4. Perform functional and advanced mathematical and statistical operations and techniques such as estimation and approximation, for practical purposes<br>SA5. Prepare and fill up schedules<br>SA6. Maintain records in specified format in books and using computers |
| | **Reading and Understanding Skills**<br>The user/individual on the job needs to know and understand how to:<br>SA7. Read and understand manuals, health and safety instructions, memos, reports, job cards etc<br>SA8. Read images, graphs, diagrams |

| | |
|---|---|
| | SA9. Understand the various coding systems as per company norms<br>SA10. Understand procedural guidelines |
| | **Oral Communication (Listening and Speaking skills)** |
| | The user/individual on the job needs to know and understand how to:<br>SA11. Express statements, opinions or information clearly so that others can hear and understand<br>SA12. Respond appropriately to any queries<br>SA13. Communicate with all sources from where the lab receives the samples<br>SA14. Communication with his/her manager<br>SA15. Instruct the team and encourage the team to adapt behavioral skills required to support the group activities.<br>SA16. Disclose information only to those who have the right and need to know it.<br>SA17. Communicate confidential and sensitive information discretely to authorized person as per SOP |
| | **Integrity** |
| | The user/individual on the job needs to know and understand how to:<br>SA18. Practice honesty with respect to company property and time<br>SA19. Communicate with people in a form and manner and using language that is open and respectful<br>SA20. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust |
| | **Motivation** |
| | The user/individual on the job needs to know and understand how to:<br>SA21. Take responsibility for completing one's own work assignment and the work under supervision<br>SA22. Take initiative to enhance/learn skills in ones's area of work<br>SA23. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.<br>SA24. Is open to new ways of doing things<br>SA25. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |
| | **Reliability** |
| | The user/individual on the job needs to know and understand how to:<br>SA26. Avoid absenteeism<br>SA27. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations<br>SA28. Work in disciplined factory environment<br>SA29. Be punctual |

| | |
|---|---|
| **B. Professional Skills** | **Material, Equipment and Manpower Handling** |
| | The user/individual on the job needs to know and understand how to:<br>SB1. Handle lab equipment/apparatus<br>SB2. Handle various samples brought in for testing<br>SB3. Handle chemicals and laboratory reagents<br>SB4. Handle rubber products<br>SB5. Complex sample components<br>SB6. Perform computer operations<br>SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.<br>SB8. Handling the coordination among team members<br>SB9. Report team members issues to HR department that is beyond his control |
| | **Subject Knowledge and Analytical Thinking** |
| | The user/individual on the job needs to have:<br>SB10. Thorough knowledge of physics, chemistry, mathematics and statistics<br>SB11. Knowledge of GMPs, SOPs and quality standards<br><br>The user/individual on the job needs to know and understand how to:<br>SB12. Diagnose common problems in the samples and equipments based on visual inspection and quality checks<br>SB13. Suggest improvements(if any) in process based on experience<br>SB14. Manage time and human resource effectively<br>SA30. Ability to demonstrate testing for training /Emergency |

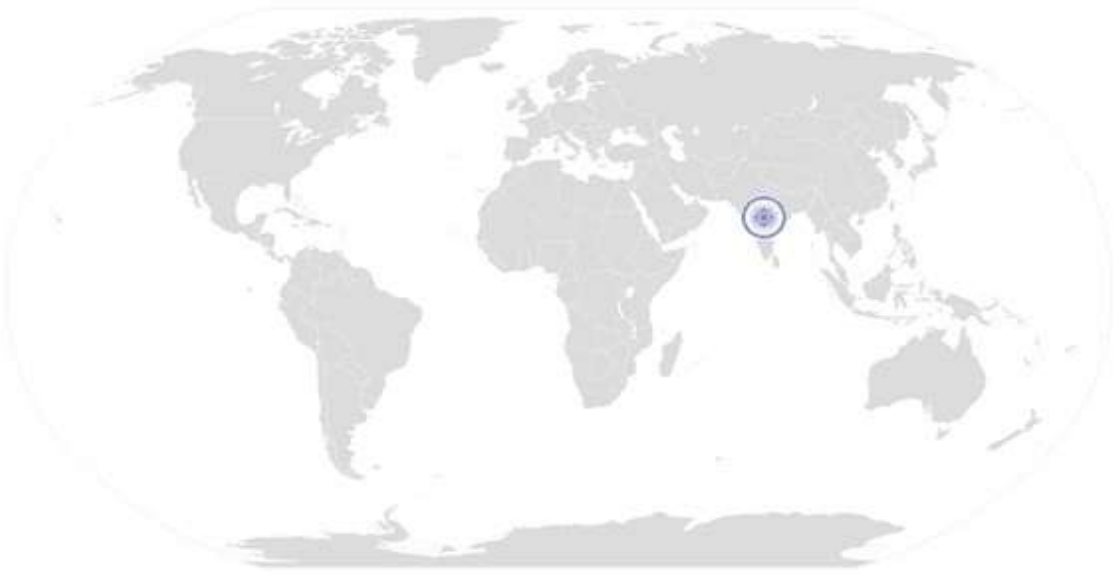
## NOS Version Control

| | | | |
|---|---|---|---|
| **NOS Code** | **RSC / N 0305** | | |
| **Credits(NSQF)** | **TBD** | **Version number** | **1.0** |
| **Industry** | **Rubber Manufacturing** | **Drafted on** | **02/12/14** |
| **Industry Sub-sector** | **Tyre and NonTyre** | **Last reviewed on** | **02/12/14** |
| **Occupation** | **Lab Chemist** | **Next review date** | **02/12/15** |



Back to QP

# National Occupational Standard



## Overview

**This unit is about supervising the lab testings carried out of all incoming samples in the laboratory from suppliers or from rubber processing during the manufacturing at different stages of production.**

National Occupational Standard

| Unit Code | RSC / N 0306 |
|---|---|
| Unit Title (Task) | Supervise the lab testing operations |
| Description | This unit is about supervising the lab testings carried out of all incoming samples in the laboratory from suppliers or from the rubber processing during the manufacturing at different stages of production. |
| Scope | This unit/task covers the following:<br>• Ensure housekeeping and safety in laboratory.<br>• Ensure that all tests are properly conducted |
| **Performance Criteria (PC) w.r.t. the Scope** | |
| **Element** | **Performance Criteria** |
| **Sample Testing** | PC1. Ensure that test procedures for each testing requirement are available in writing –applicable current revisions must be available<br>PC2. Carry out tests ASTM or as per company SOP:<br>PC3. Ensure that test methods confirms to the required quality and accuracy of testing.<br>PC4. Ensure that the approved materials confirm to the specifications and standard<br>PC5. Ensure that Gage studies are conducted regularly to ensure repeatability and reproducibility of test and person conducting the test<br>PC6. Return the sample to the source if the testing is complete and the results discussed and NO more testing is required<br>PC7. Ensure NO short cuts are employed while testing and the testing and test results reported are true with NO manipulations |
| **Health & Safety** | PC16. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes).<br>PC17. Arrange for hospitalization in case of accident<br>PC18. Manage first aid, general medication etc. of the team members<br>PC19. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department<br>PC20. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards.<br>PC21. Have shower and eye washing equipmenet in case any chemical burnt /other other mishaps |
| **Knowledge and Understanding (K)** | |

| | |
|---|---|
| **B. Organizational Context** (Knowledge of the company / organization and its processes) | The user/individual on the job needs to know and understand:<br>KA19. Implications of poorly prepared lab equipments.<br>KA20. Company's quality policies and acceptance standards for raw materials, processed and final product.<br>KA21. Organisational Coding system of raw material, compounds and products<br>KA22. Different quality management systems<br>KA23. Principles of good laboratory practices (ISO/IEC 17025) applicable in the workplace<br>KA24. Importance of identifying non-conforming samples.<br>KA25. Risk and impact of not following defined procedures/work instructions.<br>KA26. Escalation matrix for reporting identified problems.<br>KA27. Types of documentation in organization and importance of the same.<br>KA28. Records to be maintained and the implications of their non-maintenance.<br>KA29. Importance of housekeeping activities.<br>KA30. Health, safety and environment guidelines, legislation and regulations as applicable.<br>KA31. Personal and Personnel protection (which protective equipment to be used and how).<br>KA32. Impact of poor practices on health, safety and environment.<br>KA33. Potential hazards and actions to minimize them.<br>KA34. The escalation matrix and procedures for reporting hazards.<br>KA35. Impact of various practices on cost, quality, productivity, delivery and safety.<br>KA36. Importance of optimal utilization of material, equipment and manpower. |
| **B. Technical Knowledge** | The user/individual on the job needs to know and understand:<br>KB20. All testing method and its relevance to plant production process and the product performance<br>KB21. Effect of wrong or incorrect testing on plant process or product performance<br>KB22. Various testing requirements and their procedures - latest revsions of spec/procedures /customer specific requests<br>KB23. Trouble shooting the faulty or mal functioning equipments/instruments<br>KB24. The importance of accessing the external sources from where to get the faulty instruments handled at the earliest<br>KB25. Quality certification standards such as ISO etc<br>KB26. Testing equipments and related test methods and purpose of tests<br>KB27. Calibration requirements for test equipment<br>KB28. Procedures for storing samples<br>KB29. Specifications of materials tested and its importance in the release system<br>KB30. National/International standard test methods for different materials<br>KB31. Standard method of drawing samples and preparing them for testing<br>KB32. How to assess whether a sample is suitable for testing<br>KB33. Methods/techniques used for labeling samples |

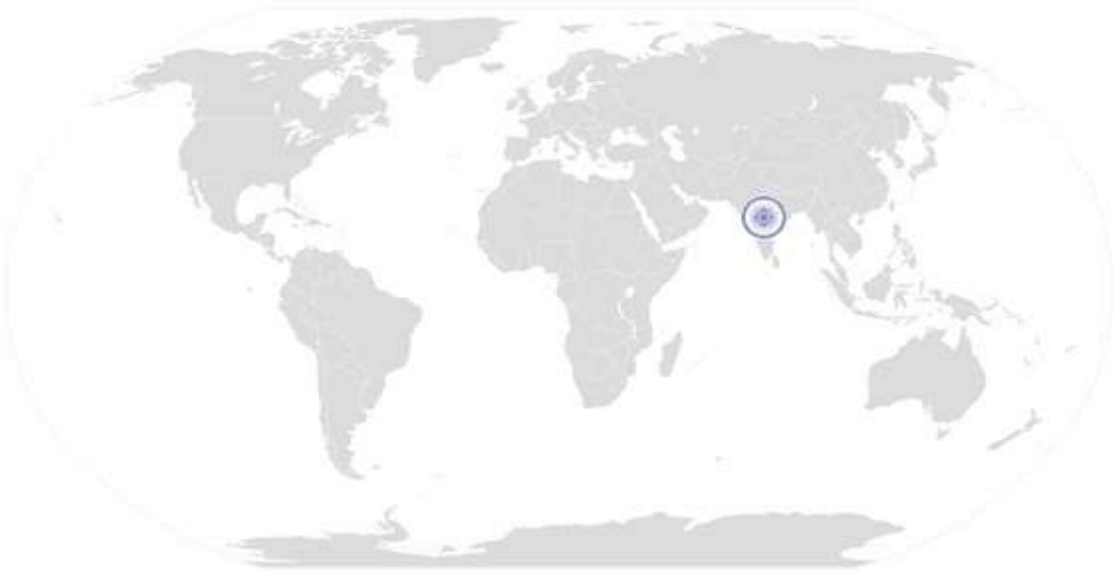
| | |
|---|---|
| | KB34. Procedure (SOP) to be followed in case the sample is unfit for test<br>KB35. The methods that can be used for controlling test variables<br>KB36. Implications (impact on internal/external customers) of defective products, materials or components.<br>KB37. The Material Safety Data Sheets (MSDS) for all the raw materials and the materials used for the experiments that one is conducting. Procedures for storing and retention period for samples<br>KB19. Factors that adversely affect integrity of the sample<br>KB20. Statistical analysis of test data<br>KB21. How to obtain and interpret records, charts, specifications, equipment manuals, history/technical support reports and other documents<br>KB22. Methods and techniques involved in evaluating information<br>KB23. Use of Computer/application software – Use password as per Company SOP under information leaking problem<br>KB24. Units of measurement<br>KB25. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster |
| **Skills (S)** | |
| **C. Core Skills/ Generic Skills** | **Writing Skills**<br>The user/ individual on the job needs to know and understand how to:<br>SA31. Express the ideas, lodge complaints and give suggestions through effective written communication.<br>SA32. Fill up appropriate activity logs in required format of the company<br>SA33. Write simple letters, mails, etc<br>SA34. Perform functional and advanced mathematical and statistical operations and techniques such as estimation and approximation, for practical purposes<br>SA35. Prepare and fill up schedules<br>SA36. Write test reports<br>SA37. Maintain records in specified format in books and using computers |
| | **Reading and Understanding Skills**<br>The user/individual on the job needs to know and understand how to:<br>SA38. Read and understand manuals, health and safety instructions, memos, reports, job cards etc<br>SA39. Read images, graphs, diagrams<br>SA40. Understand the various coding systems as per company norms<br>SA41. Understand procedural guidelines<br>SA42. Interpret and understand lab testing reports |

| | |
|---|---|
| | **Oral Communication (Listening and Speaking skills)** |
| | The user/individual on the job needs to know and understand how to:<br>SA43. Express statements, opinions or information clearly so that others can hear and understand<br>SA44. Respond appropriately to any queries<br>SA45. Communicate with all sources from where the lab receives the samples<br>SA46. Communicate with other scheduler in case samples related to production operation fails<br>SA47. Communication with his/her manager<br>SA48. Instruct the team and encourage the team to adapt behavioral skills required to support the group activities.<br>SA49. Disclose information only to those who have the right and need to know it.<br>SA50. Communicate confidential and sensitive information discretely to authorized person as per SOP |
| | **Integrity** |
| | The user/individual on the job needs to know and understand how to:<br>SA51. Practice honesty with respect to company property and time<br>SA52. Communicate with people in a form and manner and using language that is open and respectful<br>SA53. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust |
| | **Motivation** |
| | The user/individual on the job needs to know and understand how to:<br>SA54. Take responsibility for completing one's own work assignment and the work under supervision<br>SA55. Take initiative to enhance/learn skills in ones's area of work<br>SA56. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.<br>SA57. Is open to new ways of doing things<br>SA58. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |
| | **Reliability** |
| | The user/individual on the job needs to know and understand how to:<br>SA59. Avoid absenteeism<br>SA60. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations<br>SA61. Work in disciplined factory environment<br>SA62. Be punctual |
| **D. Professional Skills** | **Material, Equipment and Manpower Handling** |

| | |
|---|---|
| | The user/individual on the job needs to know and understand how to:<br>SB1. Handle lab equipment/apparatus<br>SB2. Handle chemicals and laboratory reagents<br>SB3. Handle rubber products<br>SB4. Complex sample components<br>SB5. Perform computer operations<br>SB6. Recording test results in the assigned format and taking permissible decisions on acceptance /rejection of samples<br>SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.<br>SB8. Handling the coordination among team members<br>**SB9.** Report team members issues to HR department that is beyond his control |
| | **Subject Knowledge and Analytical Thinking** |
| | The user/individual on the job needs to have:<br>SB15. Thorough knowledge of physics, chemistry, mathematics and statistics<br>SB16. Knowledge of GMPs, SOPs and quality standards<br><br>The user/individual on the job needs to know and understand how to:<br>SB17. Diagnose common problems in the samples and equipments based on visual inspection and quality checks<br>SB18. Suggest improvements(if any) in process based on experience<br>SB19. Manage time and human resource effectively<br>SA63. Ability to demonstrate testing for training /Emergency |

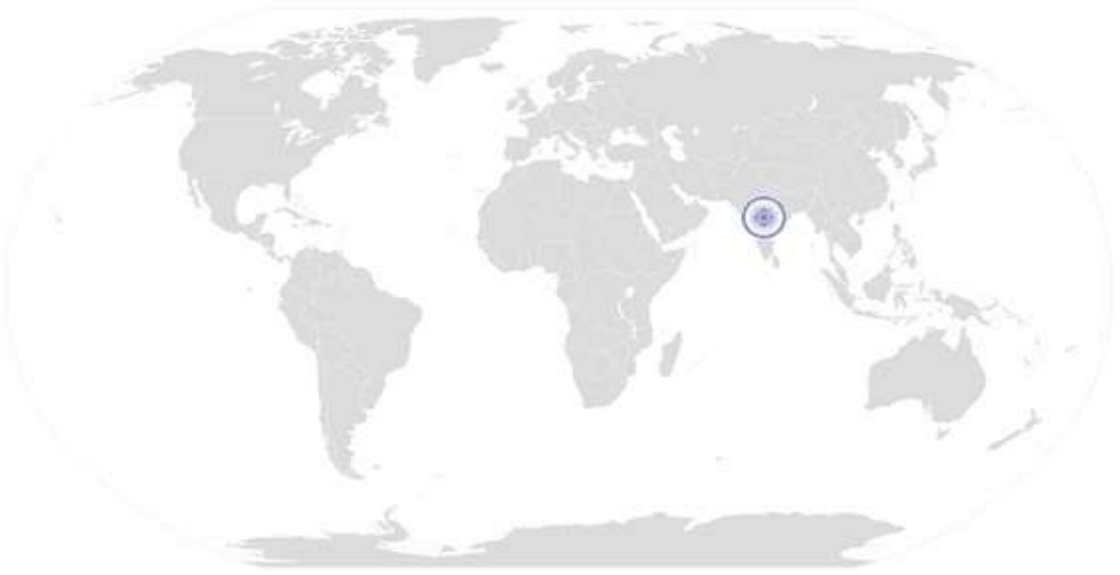
## NOS Version Control

| NOS Code | RSC / N 0306 | | |
|---|---|---|---|
| Credits(NSQF) | TBD | Version number | 1.0 |
| Industry | Rubber Manufacturing | Drafted on | 02/12/14 |
| Industry Sub-sector | Tyre and NonTyre | Last reviewed on | 02/12/14 |
| Occupation | Lab Chemist | Next review date | 02/12/15 |



Back to QP

# National Occupational Standard



## Overview

**This unit is about supervising operations which are carried out after the lab testings.**

National Occupational Standard

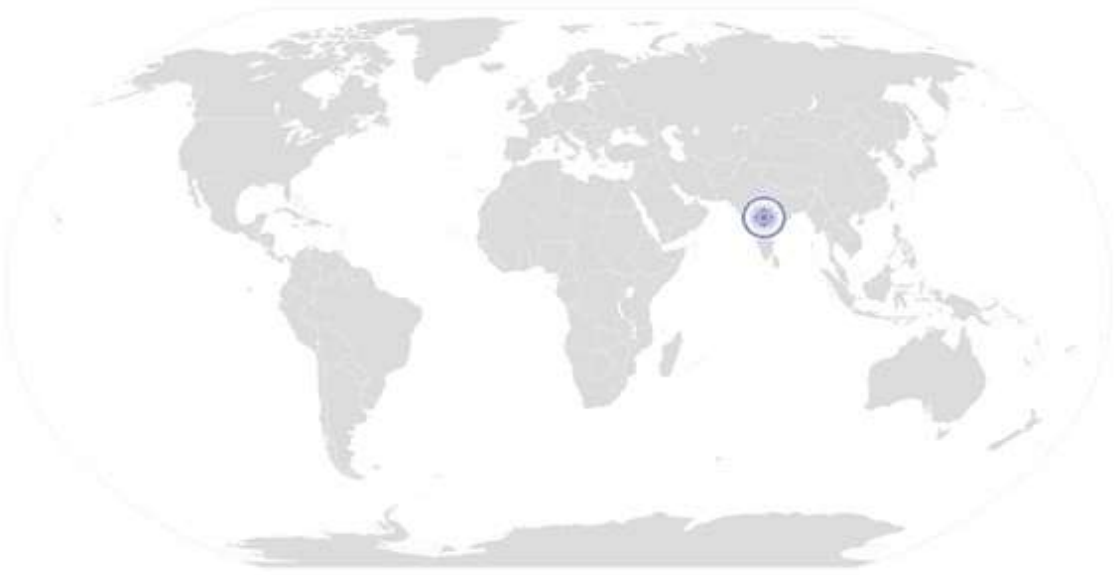
| Unit Code | RSC / N 0307 |
|---|---|
| Unit Title (Task) | Conduct post-testing supervisory operations |
| Description | This unit is about supervising operations which are carried out after the lab testings. |
| Scope | This unit/task covers the following:<br>• Ensure housekeeping and safety in laboratory.<br>• Ensure proper recording of test results ,issuing reports, holding /release of tested reference sample and communicating the decision<br>• Arranging to dispose off the tested left over samples as per SOP<br>• Taking help of manager on test results where he is not authorized to take decision |
| **Performance Criteria (PC) w.r.t. the Scope** | |
| **Element** | **Performance Criteria** |
| **Record Maintenance and Reporting** | PC3. Ensure all test results are properly recorded in the forms/formats/log books/computers<br>PC4. Report test results in the same units as requested or as decided by plant technical<br>PC5. All raw material/compound /cement /component tested if found OK then communicate that it can be released for further processing through proper follow up on release procedure.<br>PC6. In case the results are off, ensure prompt communication, material held up and quarantined and the LAB manager informed for further actions<br>PC8. Paper /computer documents must be complete and traceable in all respect<br>PC9. Ensure complete traceability of source of sample to test results to its usage /rejection as per decison – Ensure NO open ended decisions or actions |
| **Health & Safety** | PC22. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes).<br>PC23. Arrange for hospitalization in case of accident<br>PC24. Manage first aid, general medication etc. of the team members<br>PC25. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department<br>PC26. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards.<br>PC27. Have shower and eye washing equipmenet in case any chemical burnt /other other mishaps |

| Knowledge and Understanding (K) | |
|---|---|
| **C. Organizational Context** (Knowledge of the company / organization and its processes) | The user/individual on the job needs to know and understand:<br>KA1. Implications of poorly prepared lab equipments.<br>KA2. Company's quality policies and acceptance standards for raw materials, processed and final product.<br>KA3. Organisational Coding system of raw material, compounds and products<br>KA4. Different quality management systems<br>a. Principles of good laboratory practices (ISO/IEC 17025) applicable in the workplace<br>KA5. Importance of identifying non-conforming samples.<br>KA6. Risk and impact of not following defined procedures/work instructions.<br>KA7. Escalation matrix for reporting identified problems.<br>KA8. Types of documentation in organization and importance of the same.<br>KA9. Records to be maintained and the implications of their non-maintenance.<br>KA10. Importance of housekeeping activities.<br>KA11. Health, safety and environment guidelines, legislation and regulations as applicable.<br>KA12. Personal and Personnel protection (which protective equipment to be used and how).<br>KA13. Impact of poor practices on health, safety and environment.<br>KA14. Potential hazards and actions to minimize them.<br>KA15. The escalation matrix and procedures for reporting hazards.<br>KA16. Impact of various practices on cost, quality, productivity, delivery and safety.<br>KA17. Importance of optimal utilization of material, equipment and manpower. |
| **B. Technical Knowledge** | The user/individual on the job needs to know and understand:<br>KB1. National/International standard test methods for different materials<br>KB2. The Material Safety Data Sheets (MSDS) for all the materials used for the experiments that one is conducting.<br>KB3. Procedures for storing and retention period for samples<br>KB4. How to obtain and interpret records, charts, specifications, equipment manuals, history/technical support reports and other documents<br>KB5. Methods and techniques involved in evaluating information<br>KB6. Use of Computer/application software – Use password as per Company SOP under information leaking problem<br>KB7. Importance of instrument calibration and certification by the equipment servicing agents<br>KB8. Importance of record maintenance<br>KB9. Importance of timely delivery of test reports<br>KB10. Effective communication at different levels<br>KB11. Knowledge of traceability |

| | |
|---|---|
| | KB12. Record maiantenance for the period as directed by plant technical |
| **Skills (S)** | |
| **E. Core Skills/ Generic Skills** | **Writing Skills** |
| | The user/ individual on the job needs to know and understand how to:<br>SA1. Express the ideas, lodge complaints and give suggestions through effective written communication.<br>SA2. Fill up appropriate activity logs in required format of the company<br>SA3. Write simple letters, mails, etc<br>SA4. Perform functional and advanced mathematical and statistical operations and techniques such as estimation and approximation, for practical purposes<br>SA5. Prepare and fill up schedules<br>SA6. Write test reports<br>SA7. Maintain records in specified format in books and using computers |
| | **Reading and Understanding Skills** |
| | The user/individual on the job needs to know and understand how to:<br>SA1. Read and understand manuals, health and safety instructions, memos, reports, job cards etc<br>SA2. Read images, graphs, diagrams<br>SA3. Understand the various coding systems as per company norms<br>SA4. Understand procedural guidelines<br>SA5. Interpret and understand lab testing reports |
| | **Oral Communication (Listening and Speaking skills)** |
| | The user/individual on the job needs to know and understand how to:<br>SA1. Express statements, opinions or information clearly so that others can hear<br>SA2. and understand<br>SA3. Respond appropriately to any queries<br>SA4. Communicate with all sources from where the lab receives the samples<br>SA5. Communicate with other scheduler in case samples related to production operation fails<br>SA6. Communication with his/her manager<br>SA7. Instruct the team and encourage the team to adapt behavioral skills required to support the group activities.<br>SA8. Disclose information only to those who have the right and need to know it.<br>SA9. Communicate confidential and sensitive information discretely to authorized person as per SOP |
| | **Integrity** |

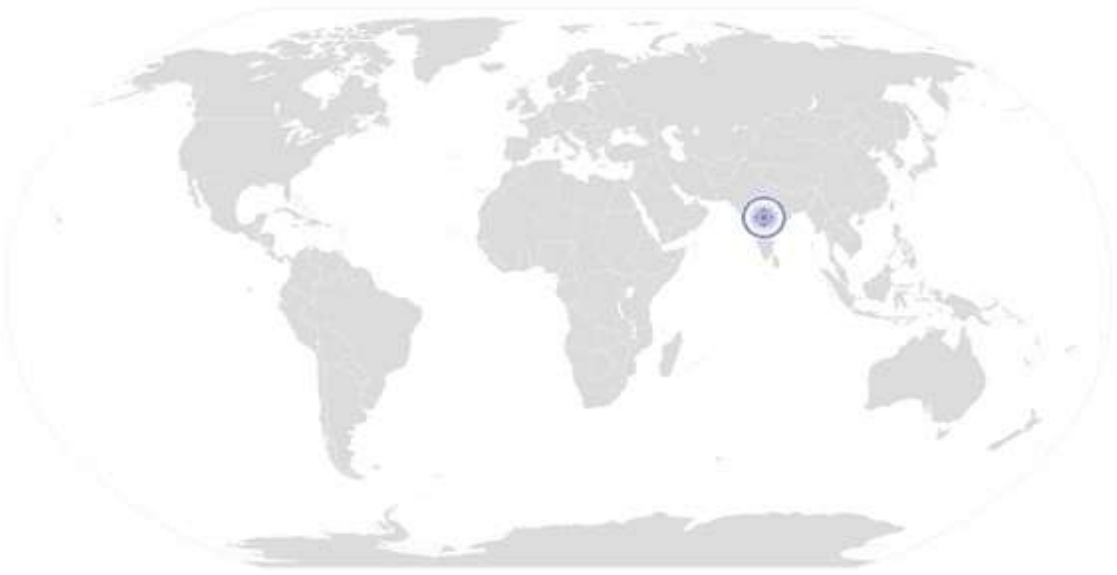
| | |
|---|---|
| | The user/individual on the job needs to know and understand how to:<br>SA1. Practice honesty with respect to company property and time<br>SA2. Communicate with people in a form and manner and using language that is open and respectful<br>SA3. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust |
| | **Motivation** |
| | The user/individual on the job needs to know and understand how to:<br>SA1. Take responsibility for completing one's own work assignment and the work under supervision<br>SA2. Take initiative to enhance/learn skills in ones's area of work<br>SA3. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.<br>SA4. Is open to new ways of doing things<br>SA5. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |
| | **Reliability** |
| | The user/individual on the job needs to know and understand how to:<br>SA1. Avoid absenteeism<br>SA2. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations<br>SA3. Work in disciplined factory environment<br>SA4. Be punctual |
| **F. Professional Skills** | **Material, Equipment and Manpower Handling** |
| | The user/individual on the job needs to know and understand how to:<br>SB1. Handle test reports<br>SB2. Handle record books<br>SB3. Perform computer operations<br>SB4. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.<br>SB5. Managing pressure and adhereing to strict testing guidelines/procedures for perfect tesing<br>SB6. Handling the coordination among team members<br>SB7. Report team members issues to HR department that is beyond his control |
| | **Subject Knowledge and Analytical Thinking** |

| | |
|---|---|
| | The user/individual on the job needs to have:<br>SB1. Thorough knowledge of physics, chemistry, mathematics and statistics<br>SB2. Knowledge of GMPs, SOPs and quality standards<br><br>The user/individual on the job needs to know and understand how to:<br>SB3. Diagnose common problems in the samples and equipments based on visual inspection and quality checks<br>SB4. Suggest improvements(if any) in process based on experience<br>SB5. Manage time and human resource effectively<br>SB6. Ability to demonstrate testing for training /Emergency |



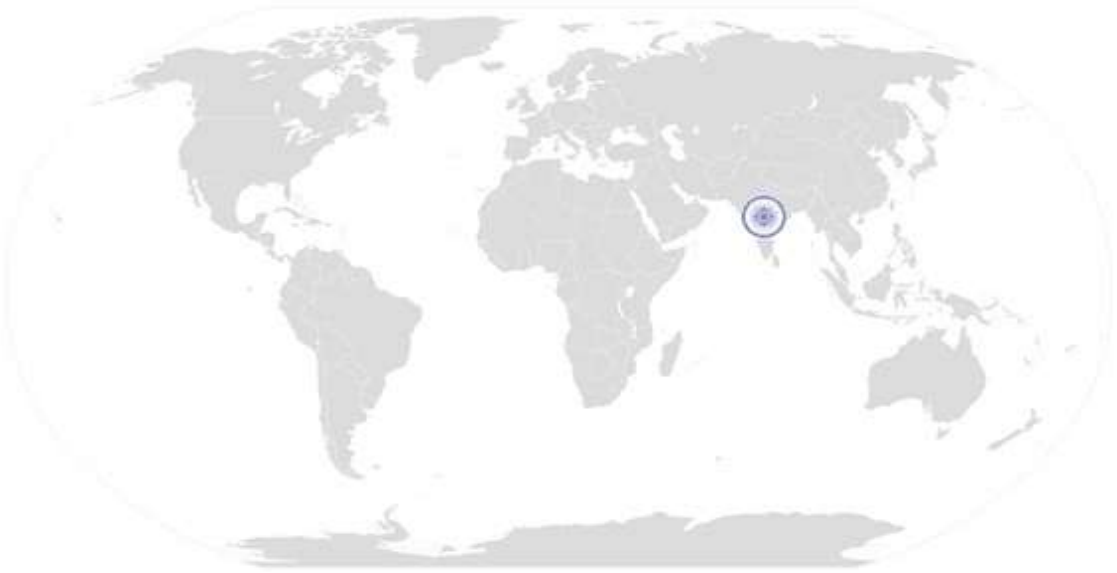
## NOS Version Control

| | | | |
|---|---|---|---|
| **NOS Code** | **RSC / N 0307** | | |
| **Credits(NSQF)** | **TBD** | **Version number** | **1.0** |
| **Industry** | **Rubber Manufacturing** | **Drafted on** | **02/12/14** |
| **Industry Sub-sector** | **Tyre and NonTyre** | **Last reviewed on** | **02/12/14** |
| **Occupation** | **Lab Chemist** | **Next review date** | **02/12/15** |



Back to QP

# National Occupational Standard



## Overview

**This unit is about carrying out housekeeping**

National Occupational Standard

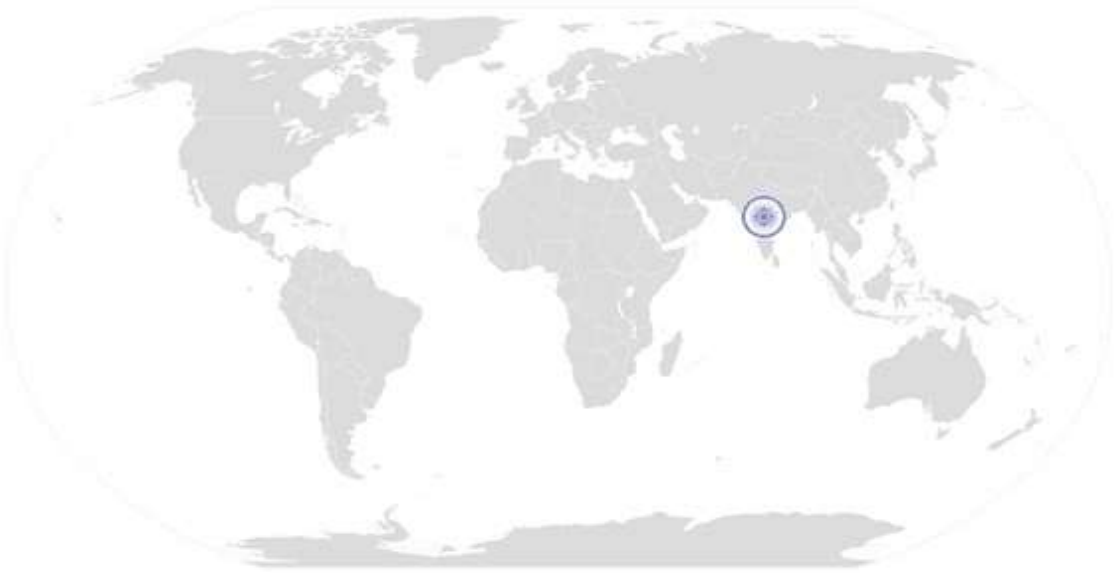
| Unit Code | RSC / N 5001 |
|---|---|
| Unit Title (Task) | To carry out housekeeping |
| Description | This unit is about carrying out housekeeping activities |
| Scope | This unit/task covers the following:<br>• Preparing for housekeeping activities<br>• Carry out housekeeping activities<br>• Post housekeeping activities |

| Performance Criteria (PC) w.r.t. the Scope | |
|---|---|
| **Element** | **Performance Criteria** |
| Pre housekeeping activities | To be competent, the user/individual on the job must be able to:<br>PC1. Inspect the area while taking into account various surfaces<br>PC2. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain<br>PC3. Ensure that the cleaning equipment is in proper working condition<br>PC4. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person<br>PC5. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces<br>PC6. Inform the affected people about the cleaning activity<br>PC7. Display the appropriate signage for the work being conducted<br>PC8. Ensure that there is adequate ventilation for the work being carried out<br>PC9. Wear the personal protective equipment required for the cleaning method and materials being used |
| Operations | PC10. Use the correct cleaning method for the work area, type of soiling and surface<br>PC11. Carry out cleaning activity without disturbing others<br>PC12. Deal with accidental damage, if any, caused while carrying out the work<br>PC13. Report to the appropriate person any difficulties in carrying out your work<br>PC14. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill |
| Post housekeeping activities | PC15. Ensure that there is no oily substance on the floor to avoid slippage<br>PC16. Ensure that no scrap material is lying around<br>PC17. Maintain and store housekeeping equipment and supplies |

| | |
|---|---|
| | PC18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process<br>PC19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements<br>PC20. Return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored<br>PC21. Dispose the waste garnered from the activity in an appropriate manner<br>PC22. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly |
| **General** | PC23. Maintain schedules and records for housekeeping duty<br>PC24. Replenish any necessary supplies or consumables |
| **Knowledge and Understanding (K)** | |
| **A. Technical Knowledge** | The user/individual on the job needs to know and understand:<br>KB1. The levels of hygiene required by workplace and why it is important to maintain them during your work<br>KB2. How to inspect a work area to decide what cleaning it needs<br>KB3. Methods and materials that used for cleaning variety of surfaces<br>KB4. The types of cleansing agents that are not to be mixed together<br>KB5. The correct method for cleaning equipment and/or machinery used during your work<br>KB6. The importance of personal protective equipment<br>KB7. Appropriate personal protective equipment for the work area,cleaning equipment, tools, materials and chemicals used<br>KB8. The correct sequence for cleaning the work area<br>KB9. The time taken by the treatment to work<br>KB10. The importance of following manufacturer's instructions on cleaning agents<br>KB11. The most appropriate place to carry out test cleans and why this should be done before applying treatments<br>KB12. The importance of applying treatments evenly and the effect of not doing this<br>KB13. Process of cleaning the surfaces without causing injury or damage<br>KB14. The method to check the treated surface and equipment on completion of cleaning<br>KB15. Procedures for reporting any unidentified soiling<br>KB16. Procedures for disposing off waste<br>KB17. Procedures for disposing off or storing personal protective equipment<br>KB18. Escalation procedures for soils or stains that could not be removed |

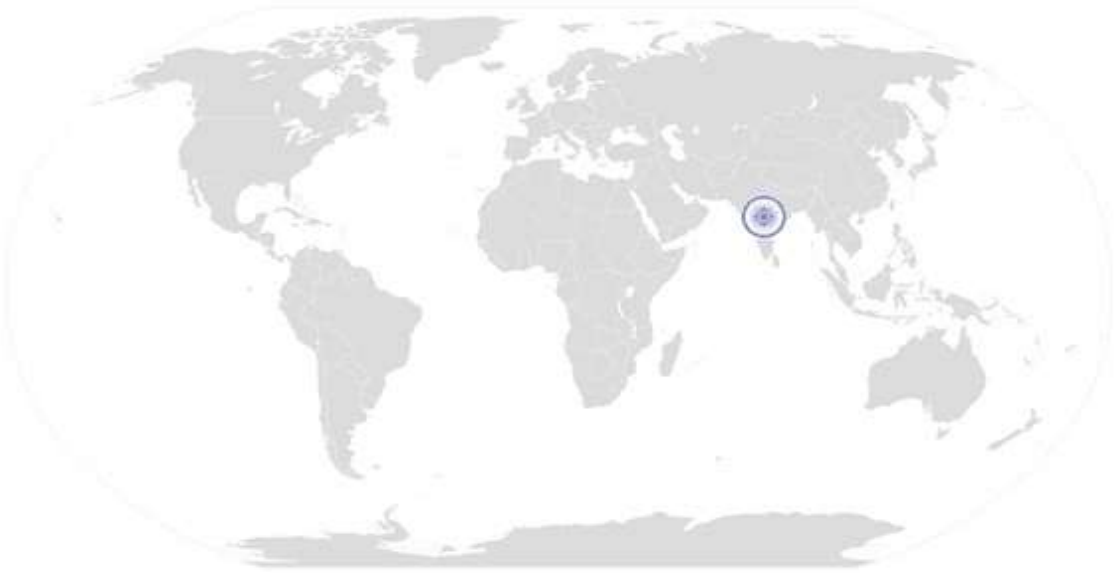
| Skills (S) | |
|---|---|
| A. Core Skills/ Generic Skills | **Writing Skills** |
| | The user/ individual on the job needs to know and understand how to:<br>SA1. Construct simple sentences and express ideas clearly through written communication<br>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company<br>SA3. Write simple letters, mails, etc<br>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes |
| | **Reading and Understanding Skills** |
| | The user/individual on the job needs to know and understand how to:<br>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc<br>SA6. Read images, graphs, diagrams<br>SA7. Understand the various coding systems as per company norms |
| | **Oral Communication (Listening and Speaking skills)** |
| | The user/individual on the job needs to know and understand how to:<br>SA8. Express statements, opinions or information clearly so that others can hear<br>and understand<br>SA9. Respond appropriately to any queries<br>SA10. Communicate with supervisor<br>SA11. Communicate with upstream and downstream teams<br>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme) |
| | **Integrity** |
| | The user/individual on the job needs to know and understand how to:<br>SA13. Practice honesty with respect to company property and time<br>SA14. Communicate with people in a form and manner and using language that is open and respectful<br>SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust |
| | **Motivation** |
| | The user/individual on the job needs to know and understand how to:<br>SA16. Take responsibility for completing one's own work assignment<br>SA17. Take initiative to enhance/learn skills in ones's area of work<br>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. |

| | |
|---|---|
| | SA19. Is open to new ways of doing things<br>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |
| | **Reliability** |
| | The user/individual on the job needs to know and understand how to:<br>SA21. Avoid absenteeism<br>SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations<br>SA23. Work in disciplined factory environment<br>SA24. Be punctual |



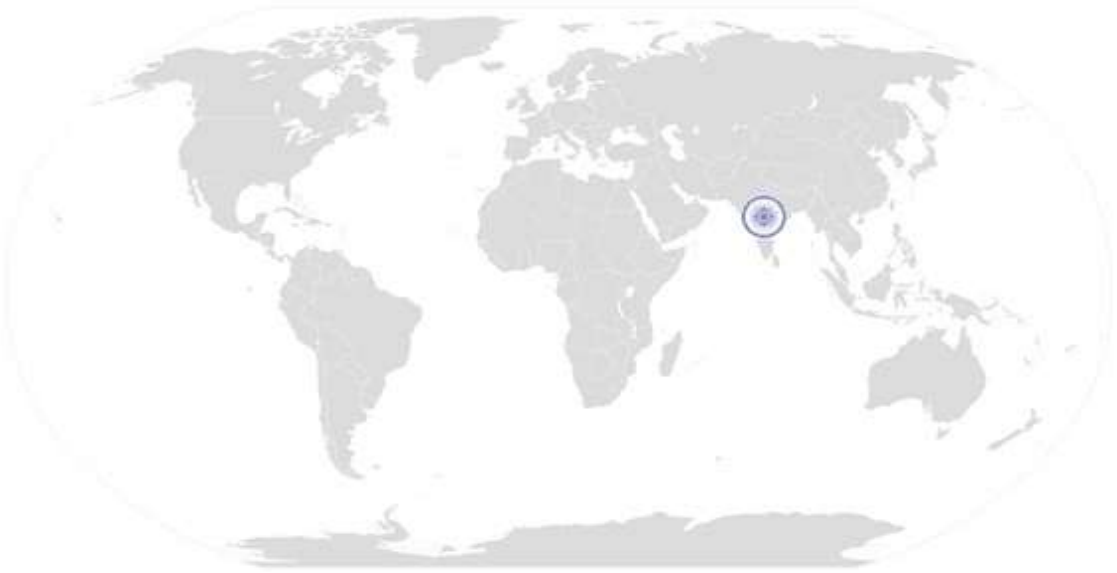
# NOS Version Control

| | | | |
|---|---|---|---|
| **NOS Code** | **RSC / N 5001** | | |
| **Credits(NSQF)** | **TBD** | **Version number** | **1.0** |
| **Industry** | **Rubber Manufacturing** | **Drafted on** | **04/06/14** |
| **Industry Sub-sector** | **Tyre and NonTyre** | **Last reviewed on** | **14/06/14** |
| **Occupation** | **Lab Chemist** | **Next review date** | **04/06/15** |



Back to QP

# National Occupational Standard



## Overview

**This unit is about reporting and documentation**

National Occupational Standard

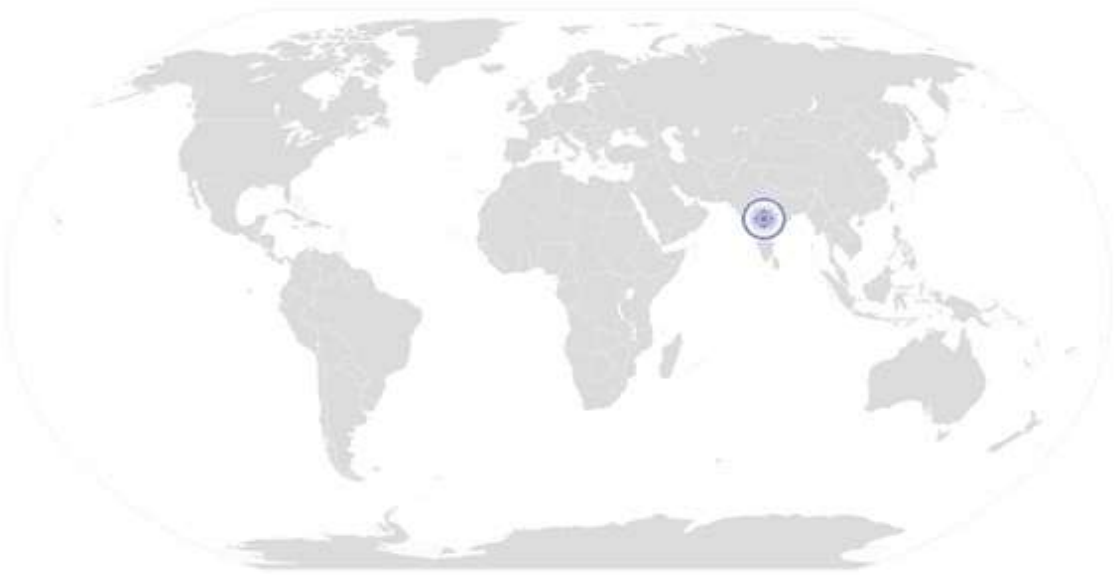
| Unit Code | RSC / N 5002 |
|---|---|
| Unit Title (Task) | To carry out reporting and documentation |
| Description | This unit is about carrying out reporting and documentation |
| Scope | This unit/task covers the following:<br>• Reporting of data/problem/incidents etc<br>• Documentation<br>• Information Security |
| **Performance Criteria (PC) w.r.t. the Scope** | |
| **Element** | **Performance Criteria** |
| **Reporting** | To be competent, the user/individual on the job must be able to:<br>PC1. Report data/problems/incidents as applicable in a timely manner<br>PC2. Report to the appropriate authority as laid down by the company<br>PC3. Follow reporting procedures as prescribed by the company |
| **Recording and Documentation** | PC4. Identify documentation to be completed relating to one's role<br>PC5. Record details accurately an appropriate format<br>PC6. Complete all documentation within stipulated time according to company procedure<br>PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly<br>PC8. Make sure documents are available to all appropriate authorities to inspect |
| **Information Security** | PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures<br>PC10. Inform the appropriate authority of requests for information received |
| **Knowledge and Understanding (K)** | |
| **B. Technical Knowledge** | The user/individual on the job needs to know and understand:<br>KB1. Different methods of recording information<br>KB2. Various documents that need to be maintained<br>KB3. Company procedure for filling/maintaining up the documents<br>KB4. Procedures for reporting to the appropriate authority<br>KB5. Procedures for recording damage, breakages etc<br>KB6. Reporting incidents where standard operating procedures are not followed<br>KB7. The importance of complete and accurate documentation<br>KB8. How to maintain complete documentation accurately and within agreed timescales<br>KB9. The importance of ensuring that the documents are correct |

| | |
|---|---|
| | KB10. The actions to be taken if the documents are not correct<br>KB11. The importance of maintaining the security and confidentiality of recorded information<br>KB12. Procedures to maintain confidentiality of information<br>KB13. The appropriate method for responding to requests for information<br>KB14. The reporting procedures to followed before disclosing information to any outside party |
| **Skills (S)** | |
| **A. Core Skills/ Generic Skills** | **Writing Skills** |
| | The user/ individual on the job needs to know and understand how to:<br>SA1. Construct simple sentences and express ideas clearly through written communication<br>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company<br>SA3. Write simple letters, mails, etc<br>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes |
| | **Reading and Understanding Skills** |
| | The user/individual on the job needs to know and understand how to:<br>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc<br>SA6. Read images, graphs, diagrams<br>SA7. Understand the various coding systems as per company norms |
| | **Oral Communication (Listening and Speaking skills)** |
| | The user/individual on the job needs to know and understand how to:<br>SA8. Express statements, opinions or information clearly so that others can hear and understand<br>SA9. Respond appropriately to any queries<br>SA10. Communicate with supervisor<br>SA11. Communicate with upstream and downstream teams<br>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme) |
| | **Integrity** |
| | The user/individual on the job needs to know and understand how to:<br>SA13. Practice honesty with respect to company property and time<br>SA14. Communicate with people in a form and manner and using language that is open and respectful<br>SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust |

| | |
|---|---|
| | **Motivation** |
| | The user/individual on the job needs to know and understand how to:<br>SA16. Take responsibility for completing one's own work assignment<br>SA17. Take initiative to enhance/learn skills in ones's area of work<br>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.<br>SA19. Is open to new ways of doing things<br>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |
| | **Reliability** |
| | The user/individual on the job needs to know and understand how to:<br>SA21. Avoid absenteeism<br>SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations<br>SA23. Work in disciplined factory environment<br>SA24. Be punctual |

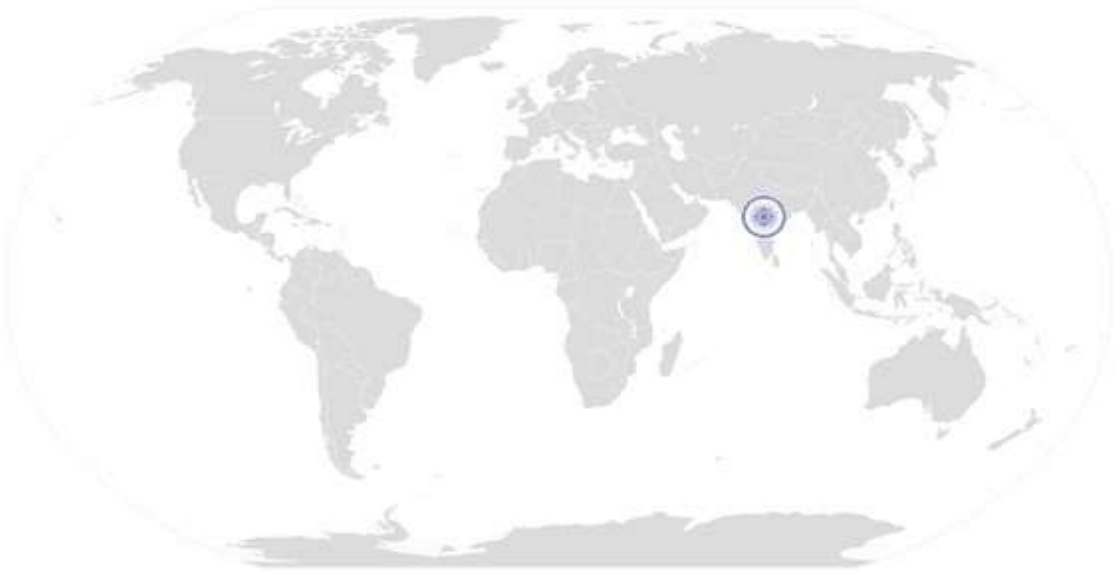
# NOS Version Control

| NOS Code | RSC / N 5002 | | |
|---|---|---|---|
| Credits(NSQF) | TBD | Version number | 1.0 |
| Industry | Rubber Manufacturing | Drafted on | 04/06/14 |
| Industry Sub-sector | Tyre and NonTyre | Last reviewed on | 14/06/14 |
| Occupation | Lab Chemist | Next review date | 14/06/15 |



Back to QP

# National Occupational Standard



## Overview

**This unit is about carrying out quality checks**

National Occupational Standard

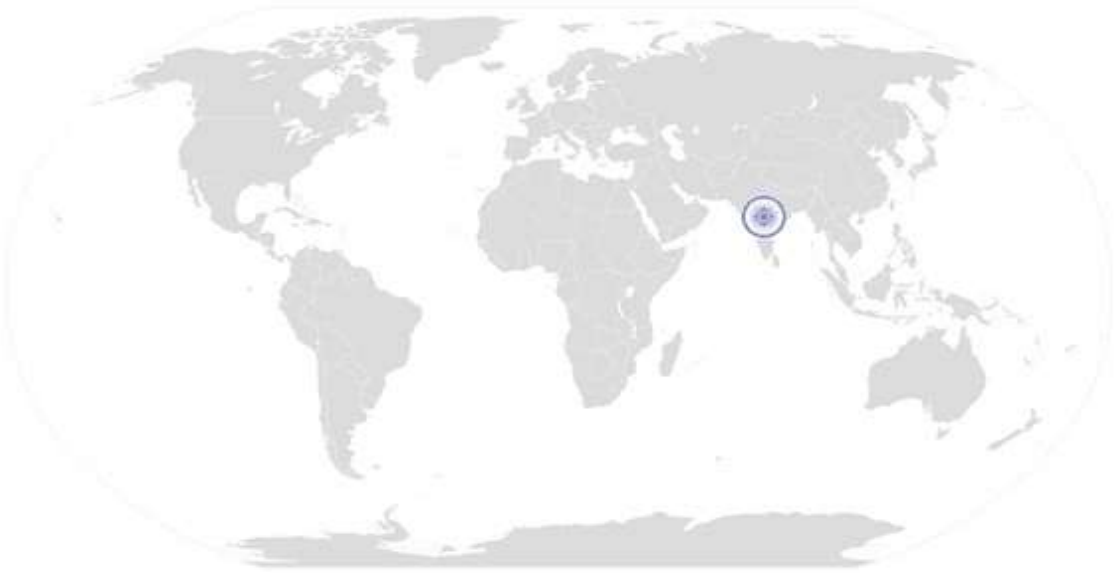
| Unit Code | RSC / N 5003 |
|---|---|
| **Unit Title (Task)** | **To carry out quality checks** |
| **Description** | This unit is about carrying out quality control activities |
| **Scope** | This unit/task covers the following:<br>• Carrying out quality checks to identify problems<br>• Take corrective actions<br>• Reporting the results |
| **Performance Criteria (PC) w.r.t. the Scope** | |
| **Element** | **Performance Criteria** |
| **Inspection** | To be competent, the user/individual on the job must be able to:<br>PC1. Ensure that total range of checks are regularly and consistently performed<br>PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required |
| **Analysis** | PC3. Identify non-conformities to quality assurance standards<br>PC4. Identify potential causes of non-conformities to quality assurance standards<br>PC5. Identify impact on final product due to non-conformance to company standards<br>PC6. Evaluating the need for action to ensure that problems do not recur<br>PC7. Suggest corrective action to address problem<br>PC8. Review effectiveness of corrective action |
| **Reporting** | PC9. Interpret the results of the quality check correctly<br>PC10. Take up results of the findings with QC in charge/appropriate authority.<br>PC11. Take up the results of the findings within stipulated time<br>PC12. Record of results of action taken<br>PC13. Record adjustments not covered by established procedures for future reference<br>PC14. Review effectiveness of action taken<br>PC15. Follow reporting procedures where the cause of defect cannot be identified |
| **Knowledge and Understanding (K)** | |
| **B. Technical Knowledge** | The user/individual on the job needs to know and understand:<br>KB1. The importance of quality control procedures<br>KB2. Relevance and importance of activities and how they contribute to the |

| | |
|---|---|
| | achievement of the quality objectives,<br>KB3. Proper procedure for selecting the material/product and performing quality checks without affecting the material<br>KB4. Availability of work instructions, as necessary,<br>KB5. Characteristics of the product/material<br>KB6. Use of suitable equipment<br>KB7. Availability and use of monitoring and measuring devices,<br>KB8. Requirements of records<br>KB9. Importance of maintaining accurate up-to-date records<br>KB10. The need to report within the stipulated time<br>KB11. Implications of inaccurate measuring and testing instruments and equipment<br>KB12. The cost of non-conformance to quality standards<br>KB13. Implications (impact on internal/external customers) of defective products, materials or components |
| **Skills (S)** | |
| **A. Core Skills/ Generic Skills** | **Writing Skills**<br>The user/ individual on the job needs to know and understand how to:<br>SA1. Construct simple sentences and express ideas clearly through written communication<br>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company<br>SA3. Write simple letters, mails, etc<br>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes |
| | **Reading and Understanding Skills**<br>The user/individual on the job needs to know and understand how to:<br>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc<br>SA6. Read images, graphs, diagrams<br>SA7. Understand the various coding systems as per company norms |
| | **Oral Communication (Listening and Speaking skills)**<br>The user/individual on the job needs to know and understand how to:<br>SA8. Express statements, opinions or information clearly so that others can hear and understand<br>SA9. Respond appropriately to any queries<br>SA10. Communicate with supervisor<br>SA11. Communicate with upstream and downstream teams<br>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme) |

| | |
|---|---|
| | **Integrity** |
| | The user/individual on the job needs to know and understand how to:<br>SA13. Practice honesty with respect to company property and time<br>SA14. Communicate with people in a form and manner and using language that is open and respectful<br>SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust |
| | **Motivation** |
| | The user/individual on the job needs to know and understand how to:<br>SA16. Take responsibility for completing one's own work assignment<br>SA17. Take initiative to enhance/learn skills in ones's area of work<br>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.<br>SA19. Is open to new ways of doing things<br>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |
| | **Reliability** |
| | The user/individual on the job needs to know and understand how to:<br>SA21. Avoid absenteeism<br>SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations<br>SA23. Work in disciplined factory environment<br>SA24. Be punctual |

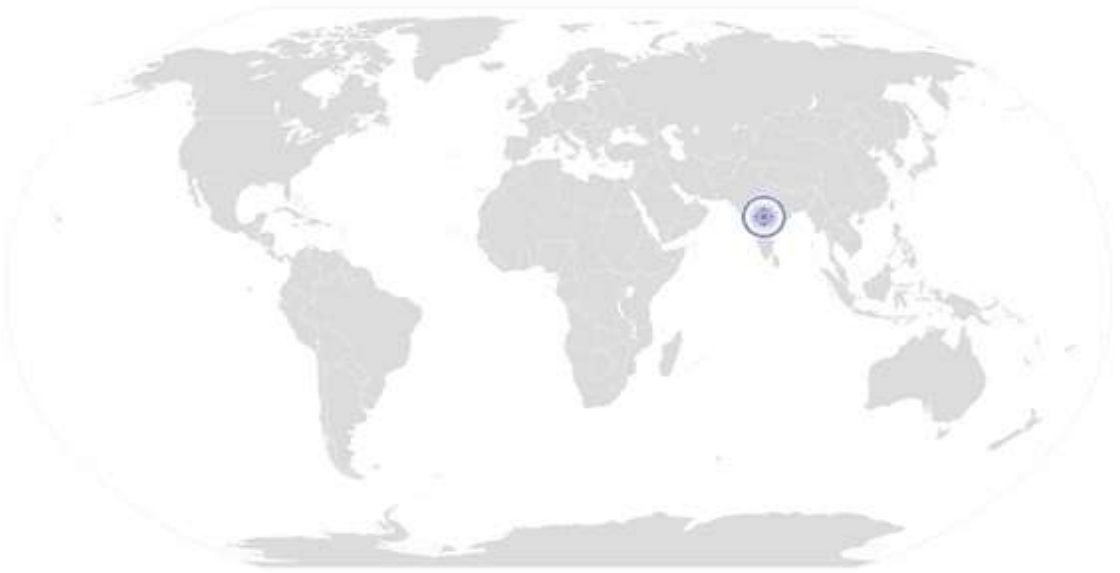
## NOS Version Control

| NOS Code | RSC / N 5003 | | |
|---|---|---|---|
| Credits(NSQF) | TBD | Version number | 1.0 |
| Industry | Rubber Manufacturing | Drafted on | 04/06/14 |
| Industry Sub-sector | Tyre and NonTyre | Last reviewed on | 14/06/14 |
| Occupation | Lab Chemist | Next review date | 14/06/15 |



Back to QP

# National Occupational Standard



## Overview

**This unit is about problem identification and escalation**

National Occupational Standard

| Unit Code | RSC / N 5004 |
|---|---|
| Unit Title (Task) | To carry out problem identification and escalation |
| Description | This unit is about problem identification and escalation |
| Scope | This unit/task covers the following:<br>• Identify problems across:<br>- Raw materials<br>- Compounds<br>- Product<br>- Equipment<br>- Others<br>• Identify solutions to problems<br>• Take corrective action<br>• Escalation of unresolved identified problems |

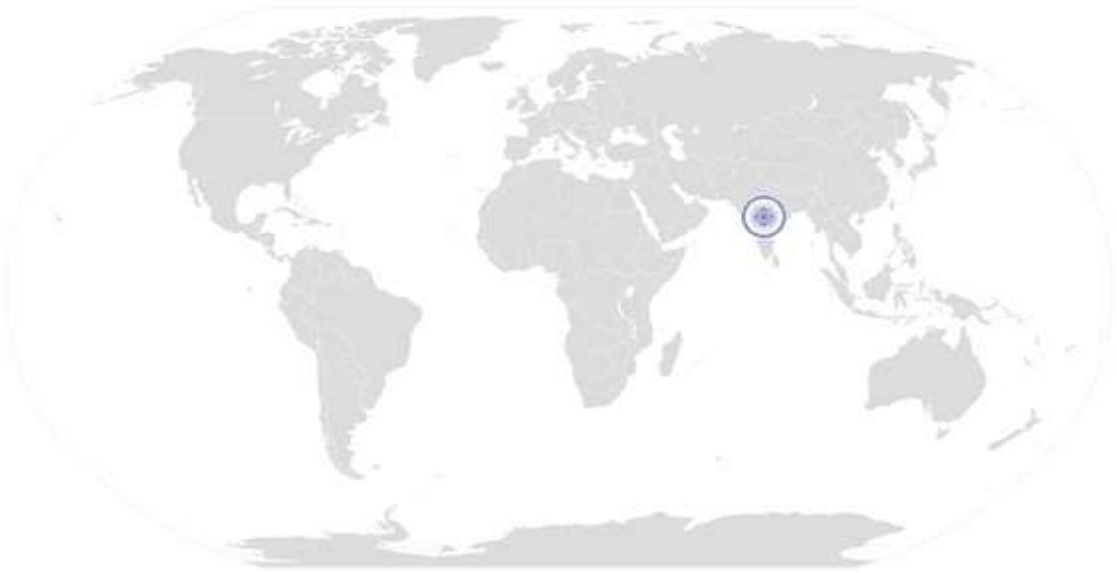
| Performance Criteria (PC) w.r.t. the Scope | |
|---|---|
| **Element** | **Performance Criteria** |
| **Problem Identification** | To be competent, the user/individual on the job must be able to:<br>PC1. Identify defects/indicators of problems<br>PC2. Identify any wrong practices that may lead to problems<br>PC3. Identify practices that may impact the final product quality<br>PC4. Identify if the problem has occurred before<br>PC5. Identify other operations that might be impacted by the problem<br>PC6. Ensure that no delays are caused as a result of failure to escalate problems |
| **Necessary Action** | PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required)<br>PC8. Consider possible reasons for identification of problems<br>PC9. Consider applicable corrections and formulate corrective action<br>PC10. Formulate action in a timely manner<br>PC11. Communicate problem/remedial action to appropriate parties<br>PC12. Take corrective action in a timely manner<br>PC13. Take corrective action for problems identified according to the company procedures<br>PC14. Report/document problem and corrective action in an appropriate manner<br>PC15. Monitor corrective action<br>PC16. Evaluate implementation of corrective action taken to determine if the |

| | |
|---|---|
| | problem has been resolved<br>PC17. Ensure that corrective action selected is viable and practical<br>PC18. Ensure that correct solution is identified to an identified problem<br>PC19. Take corrective action for problems identified according to the company procedures<br>PC20. Ensure that no delays are caused as a result of failure to take necessary action |
| **Problem Escalation** | PC21. Escalate problem as per laid down escalation matrix<br>PC22. Escalate the problem within stipulated time<br>PC23. Escalate the problem in an appropriate manner<br>PC24. Ensure that no delays are caused as a result of failure to escalate problems |
| **Knowledge and Understanding (K)** | |
| **B. Technical Knowledge** | The user/individual on the job needs to know and understand:<br>KB1. Indicators of problems<br>KB2. The working of the equipment and accessories( if applicable)<br>KB3. The impact of operations on the user and equipment( if applicable)<br>KB4. The impact of operations on the final product ( if applicable)<br>KB5. The effect of not rectifying the problems identified<br>KB6. The reason for the occurrence of previous problems<br>KB7. Measures and steps that have been taken to address the previous problems<br>KB8. Possible solutions for various problems<br>KB9. The correct method for carrying out corrective actions outlined for each problem<br>KB10. The impact of not carrying out the corrective actions<br>KB11. The documentation procedure for recording such problems, as per company norms<br>KB12. The escalation matrix for reporting problems<br>KB13. Escalation matrix for reporting unresolved problems<br>KB14. The time frame within which in which each problem needs to be escalated<br>KB15. Manner in which each problem needs to be escalated |
| **Skills (S)** | |
| **A. Core Skills/ Generic Skills** | **Writing Skills**<br>The user/ individual on the job needs to know and understand how to:<br>SA1. Construct simple sentences and express ideas clearly through written communication<br>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company<br>SA3. Write simple letters, mails, etc<br>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as |

| | |
|---|---|
| | estimation and approximation, for practical purposes |
| | **Reading and Understanding Skills** |
| | The user/individual on the job needs to know and understand how to:<br>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc<br>SA6. Read images, graphs, diagrams<br>SA7. Understand the various coding systems as per company norms |
| | **Oral Communication (Listening and Speaking skills)** |
| | The user/individual on the job needs to know and understand how to:<br>SA8. Express statements, opinions or information clearly so that others can hear and understand<br>SA9. Respond appropriately to any queries<br>SA10. Communicate with supervisor<br>SA11. Communicate with upstream and downstream teams<br>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme) |
| | **Integrity** |
| | The user/individual on the job needs to know and understand how to:<br>SA13. Practice honesty with respect to company property and time<br>SA14. Communicate with people in a form and manner and using language that is open and respectful<br>SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust |
| | **Motivation** |
| | The user/individual on the job needs to know and understand how to:<br>SA16. Take responsibility for completing one's own work assignment<br>SA17. Take initiative to enhance/learn skills in ones's area of work<br>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.<br>SA19. Is open to new ways of doing things<br>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. |
| | **Reliability** |
| | The user/individual on the job needs to know and understand how to:<br>SA21. Avoid absenteeism<br>SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations<br>SA23. Work in disciplined factory environment<br>SA24. Be punctual |

## NOS Version Control

| NOS Code | RSC / N 5004 | | |
|---|---|---|---|
| Credits(NSQF) | TBD | Version number | 1.0 |
| Industry | Rubber Manufacturing | Drafted on | 04/06/14 |
| Industry Sub-sector | Tyre and NonTyre | Last reviewed on | 14/06/14 |
| Occupation | Lab Chemist | Next review date | 14/06/15 |



Back to QP

# CRITERIA FOR ASSESSMENT OF TRAINEES

**Job Role** Lab Supervisor

**Qualification Pack** RSC/ Q 0301

**Sector Skill Council** Rubber Skill Development Council

## Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria

5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

| | | | Marks Allocation | | |
|---|---|---|---|---|---|
| **NOS** | **Elements** | **Performance Criteria** | **Total** | **Theory** | **Practical** |
| RSC / N 0305 Supervise the Lab preparati | Equipment readiness | PC1. Ensure the set up of appropriate equipment/apparatus to be used for testing correctly as per IS / ISO / International Standard such as ASTM etc and SOP | 7 | 3 | 4 |
| | | PC2. Ensure that all the test equipments are duly calibrated and are operational | 11 | 6 | 5 |
| | | PC3. Ensure daily , weekly, monthly and annual cheecks are conducted on every testing equipment for accuracy and readiness for testing | 5 | 5 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| on w.r.t tools, equipment, material and manpower | | PC4. Consuct gauge R&R study for reputability and reproducibility | 2 | 2 | 0 |
| | | PC5. Ensure annual maintenance of testing equipment by outside vendors/ equipment supplier . | 2 | 2 | 0 |
| | | PC6. Identify defective equipment/apparatus and take action as per SOP | 11 | 4 | 7 |
| | | PC7. Ensure that calibration schedule of the equipments is complied well | 2 | 2 | 0 |
| | | PC8. Ensure the availability of testing related glass wares | 2 | 2 | 0 |
| | | PC9. Ensure that all services such as steam , water ,electricity, Nitrogen and Oxygen cylinders , pressurized air are available at all times | 4 | 2 | 2 |
| | Sample appropriateness | PC10. Monitor that the proper system for sampling is followed for all incoming samples to Lab in timely manner | 6 | 3 | 3 |
| | | PC11. Ensure that the sampling procedure is strictly followed in terms of ID on samples, size /quantity of sample, reason why the sample is being sent and the source of the sample | 10 | 6 | 4 |
| | | PC12. Ensure all samples delivered to lab are recorded with details of sample code/name , batch number, date /shift , from location, reason why | 7 | 3 | 4 |
| | | PC13. Ensure that the paper document received along with the samples are with all relevant details and duly signed by the sender | 2 | 2 | 0 |
| | | PC14. All samples received must be recorded in the log book, maintain individual log books and identifying source /type of material/ suspicious material | 3 | 0 | 3 |
| | | PC15. Identify the defect/problem in inappropriate sample and report it to the related department head | 5 | 2 | 3 |
| | | PC16. Ensure that the reagents and materials used for testing are of standard quality and procured from approved source. | 2 | 2 | 0 |
| | Sample Testing | PC17. Ensure that test procedures for each testing requirement are available in writing and duly signed . | 2 | 2 | 0 |
| | | PC18. Ensure that test methods confirms to the required quality and accuracy of testing. | 2 | 2 | 0 |
| | | PC19. Return the sample to the source once the testing is complete and the results discussed , material released and NO more testing is required | 2 | 2 | 0 |
| | Health & Safety | PC20. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes). | 4 | 2 | 2 |
| | | PC21. Arrange for hospitalization in case of accident | 1 | 1 | 0 |
| | | PC22. Manage first aid, general medication etc. of the team members | 1 | 1 | 0 |
| | | PC23. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety | 4 | 2 | 2 |

| | | | | | |
|---|---|---|---|---|---|
| | | department | | | |
| | | PC24. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards | 1 | 1 | 0 |
| | Record Maintenance and Reporting | PC25. Ensure all samples received are properly recorded in the forms/formats/log books/computers to ensure traceability | 1 | 0 | 1 |
| | | PC26. In case the sample sizes are inadequate, ensure prompt communication to get fresh sample Paper /computer documents must be complete and traceable in all respect | 1 | 1 | 0 |
| | | | 100 | 60 | 40 |
| RSC / N 0306 Supervise the lab testing operations | Sample Testing | PC1. Ensure that test procedures for each testing requirement are available in writing –applicable current revisions must be available | 7 | 4 | 3 |
| | | PC2. Carry out tests ASTM or as per company SOP: | 19 | 4 | 15 |
| | | PC3. Ensure that test methods confirms to the required quality and accuracy of testing. | 21 | 5 | 16 |
| | | PC4. Ensure that the approved materials confirm to the specifications and standard | 14 | 4 | 10 |
| | | PC5. Ensure that Gage studies are conducted regularly to ensure repeatability and reproducibility of test and person conducting the test | 7 | 3 | 4 |
| | | PC6. Return the sample to the source if the testing is complete and the results discussed and NO more testing is required | 2 | 2 | 0 |
| | | PC7. Ensure NO short cuts are employed while testing and the testing and test results reported are true with NO manipulations | 6 | 3 | 3 |
| | Health & Safety | PC8. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes). | 9 | 4 | 5 |
| | | PC9. Arrange for hospitalization in case of accident | 1 | 1 | 0 |
| | | PC10. Manage first aid, general medication etc. of the team members | 1 | 1 | 0 |
| | | PC11. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department | 6 | 2 | 4 |
| | | PC12. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards. | 3 | 3 | 0 |
| | | PC13. Have shower and eye washing equipmenet in case any chemical burnt /other other mishaps | 4 | 4 | 0 |
| | | | 100 | 40 | 60 |
| RSC / N | Record | PC1. Ensure all test results are properly recorded in the forms/formats/log books/computers | 17 | 9 | 8 |

| | | | | | |
|---|---|---|---|---|---|
| 0307 Conduct post-testing supervisory operations | Maintenance and Reporting | PC2. Report test results in the same units as requested or as decided by plant technical | 8 | 8 | 0 |
| | | PC3. All raw material/compound /cement /component tested if found OK then communicate that it can be released for further processing through proper follow up on release procedure. | 13 | 4 | 9 |
| | | PC4. In case the results are off, ensure prompt communication, material held up and quarantined and the LAB manager informed for further actions | 8 | 8 | 0 |
| | | PC5. Paper /computer documents must be complete and traceable in all respect | 14 | 8 | 6 |
| | | PC6. Ensure complete traceability of source of sample to test results to its usage /rejection as per decison – Ensure NO open ended decisions or actions | 16 | 8 | 8 |
| | Health & Safety | PC7. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes). | 10 | 5 | 5 |
| | | PC8. Arrange for hospitalization in case of accident | 1 | 1 | 0 |
| | | PC9. Manage first aid, general medication etc. of the team members | 1 | 1 | 0 |
| | | PC10. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department | 4 | 2 | 2 |
| | | PC11. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards. | 2 | 2 | 0 |
| | | PC12. Have shower and eye washing equipmenet in case any chemical burnt /other other mishaps | 6 | 4 | 2 |
| | | | 100 | 60 | 40 |
| RSC/N5001 To Carry Out Housekeeping | Pre housekeeping activities | PC1. Inspect the area while taking into account various surfaces | 3 | 3 | 0 |
| | | PC2. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain | 3 | 3 | 0 |
| | | PC3. Ensure that the cleaning equipment is in proper working condition | 3 | 3 | 0 |
| | | PC4. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person | 3 | 3 | 0 |
| | | PC5. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces | 3 | 3 | 0 |
| | | PC6. Inform the affected people about the cleaning activity | 2 | 2 | 0 |
| | | PC7. Display the appropriate signage for the work being conducted | 3 | 3 | 0 |
| | | PC8. Ensure that there is adequate ventilation for the work being carried out | 3 | 3 | 0 |
| | | PC9. Wear the personal protective equipment required for the cleaning method and materials being used | 3 | 3 | 0 |
| | Operatio | PC10. Use the correct cleaning method for the work area, type of soiling and surface | 3 | 3 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| | ns | PC11. Carry out cleaning activity without disturbing others | 3 | 3 | 0 |
| | | PC12. Deal with accidental damage, if any, caused while carrying out the work | 3 | 3 | 0 |
| | | PC13. Report to the appropriate person any difficulties in carrying out your work | 3 | 3 | 0 |
| | | PC14. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill | 3 | 3 | 0 |
| | Post housekeeping activities | PC15. Ensure that there is no oily substance on the floor to avoid slippage | 9 | 3 | 6 |
| | | PC16. Ensure that no scrap material is lying around | 9 | 3 | 6 |
| | | PC17. Maintain and store housekeeping equipment and supplies | 3 | 3 | 0 |
| | | PC18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process | 3 | 3 | 0 |
| | | PC19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements | 8 | 2 | 6 |
| | | PC20. Return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored | 3 | 3 | 0 |
| | | PC21. Dispose the waste garnered from the activity in an appropriate manner | 9 | 3 | 6 |
| | | PC22. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly | 9 | 3 | 6 |
| | General | PC23. Maintain schedules and records for housekeeping duty | 3 | 3 | 0 |
| | | PC24. Replenish any necessary supplies or consumables | 3 | 3 | 0 |
| | | | 100 | 70 | 30 |
| RSC/N5002 To Carry Out Reporting And Documentation | Reporting | PC1. Report data/problems/incidents as applicable in a timely manner | 12 | 8 | 4 |
| | | PC2. Report to the appropriate authority as laid down by the company | 12 | 8 | 4 |
| | | PC3. Follow reporting procedures as prescribed by the company | 12 | 8 | 4 |
| | Recording and Documentation | PC4. Identify documentation to be completed relating to one's role | 10 | 6 | 4 |
| | | PC5. Record details accurately an appropriate format | 16 | 6 | 10 |
| | | PC6. Complete all documentation within stipulated time according to company procedure | 14 | 4 | 10 |
| | | PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly | 6 | 4 | 2 |
| | | PC8. Make sure documents are available to all appropriate authorities to inspect | 6 | 4 | 2 |
| | Information | PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures | 6 | 6 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| | Security | PC10. Inform the appropriate authority of requests for information received | 6 | 6 | 0 |
| | | | 100 | 60 | 40 |
| RSC/N5003 To Carry Out Quality Checks | Inspection | PC1. Ensure that total range of checks are regularly and consistently performed | 24 | 10 | 14 |
| | | PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required | 24 | 10 | 14 |
| | Analysis | PC3. Identify non-conformities to quality assurance standards | 6 | 4 | 2 |
| | | PC4. Identify potential causes of non-conformities to quality assurance standards | 5 | 3 | 2 |
| | | PC5. Identify impact on final product due to non-conformance to company standards | 5 | 3 | 2 |
| | | PC6. Evaluating the need for action to ensure that problems do not recur | 6 | 4 | 2 |
| | | PC7. Suggest corrective action to address problem | 5 | 3 | 2 |
| | | PC8. Review effectiveness of corrective action | 5 | 3 | 2 |
| | Reporting | PC9. Interpret the results of the quality check correctly | 4 | 4 | 0 |
| | | PC10. Take up results of the findings with QC in charge/appropriate authority. | 3 | 3 | 0 |
| | | PC11. Take up the results of the findings within stipulated time | 3 | 3 | 0 |
| | | PC12. Record of results of action taken | 3 | 3 | 0 |
| | | PC13. Record adjustments not covered by established procedures for future reference | 3 | 3 | 0 |
| | | PC14. Review effectiveness of action taken | 2 | 2 | 0 |
| | | PC15. Follow reporting procedures where the cause of defect cannot be identified | 2 | 2 | 0 |
| | | | 100 | 60 | 40 |
| RSC/N5004 To Carry Out Problem Identification And Escalation | Problem Identification | PC1. Identify defects/indicators of problems | 7 | 4 | 3 |
| | | PC2. Identify any wrong practices that may lead to problems | 6 | 3 | 3 |
| | | PC3. Identify practices that may impact the final product quality | 6 | 3 | 3 |
| | | PC4. Identify if the problem has occurred before | 5 | 3 | 2 |
| | | PC5. Identify other operations that might be impacted by the problem | 6 | 4 | 2 |
| | | PC6. Ensure that no delays are caused as a result of failure to escalate problems | 5 | 3 | 2 |
| | Necessary Action | PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required) | 8 | 5 | 3 |
| | | PC8. Consider possible reasons for identification of problems | 8 | 5 | 3 |
| | | PC9. Consider applicable corrections and formulate corrective action | 3 | 3 | 0 |
| | | PC10. Formulate action in a timely manner | 3 | 3 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| | | PC11. Communicate problem/remedial action to appropriate parties | 7 | 5 | 2 |
| | | PC12. Take corrective action in a timely manner | 2 | 2 | 0 |
| | | PC13. Take corrective action for problems identified according to the company procedures | 2 | 2 | 0 |
| | | PC14. Report/document problem and corrective action in an appropriate manner | 8 | 5 | 3 |
| | | PC15. Monitor corrective action | 2 | 2 | 0 |
| | | PC16. Evaluate implementation of corrective action taken to determine if the problem has been resolved | 2 | 2 | 0 |
| | | PC17. Ensure that corrective action selected is viable and practical | 2 | 2 | 0 |
| | | PC18. Ensure that correct solution is identified to an identified problem | 2 | 2 | 0 |
| | | PC19. Take corrective action for problems identified according to the company procedures | 1 | 1 | 0 |
| | | PC20. Ensure that no delays are caused as a result of failure to take necessary action | 1 | 1 | 0 |
| | Problem Escalation | PC21. Escalate problem as per laid down escalation matrix | 4 | 3 | 1 |
| | | PC22. Escalate the problem within stipulated time | 4 | 3 | 1 |
| | | PC23. Escalate the problem in an appropriate manner | 3 | 2 | 1 |
| | | PC24. Ensure that no delays are caused as a result of failure to escalate problems | 3 | 2 | 1 |
| | | | 100 | 70 | 30 |