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

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Introduction

Qualifications Pack-Lab Chemist-Rubber

SECTOR: RUBBER INDUSTRY

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

OCCUPATION: Lab Chemist

REFERENCE ID: RSC/Q2301

ALIGNED TO: NCO-2015/2113.0622

Brief Job Description: A Lab Chemist-Rubber is responsible to conduct the laboratory testing of raw-materials, chemicals, compounds as well as physical and chemical testing of semi-finished and finished rubber products for quality as per laid down methods and specifications including SQC data compilation Cp and CpK. He is also expected to prepare statistical data of test results to facilitate establishing process specifications, control process variation and help in maintaining uniformity in the semi finished and finished products.

Personal Attributes: This job requires the individual to work independently and with integrity. He should be a quick learner and must have good technical and interpersonal skills. He must be able to interpret findings in a cohesive manner. He must be able to interpret findings and take necessary corrective actions.

Job Details

Qualifications Pack Code	**RSC/Q2301**		
Job Role	**Lab Chemist-Rubber**		
Credits(NSQF)	**TBD**	**Version number**	**2.0**
Sector	**Rubber Manufacturing**	**Drafted on**	**20/03/2013**
Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**25/12/2017**
Occupation	**Lab Chemist**	**Next review date**	**25/12/2021**
NSQC Clearance on			

Job Role	**Lab Chemist-Rubber**
Role Description	A Lab Chemist-Rubber is responsible to conduct the laboratory testing of raw-materials, chemicals, compounds as well as physical and chemical testing of semi-finished and finished rubber products for quality as per laid down methods and specifications including SQC data compilation Cp and CpK.
NSQF level	5
Minimum Educational Qualifications*	Class XIIth Pass in Science stream
Maximum Educational Qualifications*	
Prerequisite License or Training	-
Minimum Job Entry Age	18 years
Experience	-
Applicable National Occupational Standards (NOS)	**Compulsory:** 1. RSC/N2302 - Collect rubber sample and prepare equipment 2. RSC/N2303 - Conduct testing of rubber products at various stages of production 3. RSC/N2304 -Analysis, Reporting and Recording of Test Results 4. RSC/N5001 - Carry out housekeeping in rubber product manufacturing 5. RSC/N5002 -Carry out reporting and documentation 6. RSC/N5003 -Carry out quality checks 7. RSC/N5004 - Carry out problem identification and escalation 8. RSC/N5007 - Carry out health and safety
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.
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Occupational Standards (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.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
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.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
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.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
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 collecting samples and preparing equipments to carry out lab testing of raw-materials, chemicals, compounds, semi-finished and finished rubber products.

National Occupational Standard

Unit Code	RSC/N2302
Unit Title (Task)	**Collect rubber sample and prepare equipment**
Description	This unit is about collecting samples and preparing equipments to carry out lab testing of raw-materials, chemicals, compounds, semi-finished and finished rubber products.
Scope	This unit/task covers the following: • Sample Collection • Sample integrity • Equipment preparation and calibration of instruments to be used in the testing process. • Ensuring housekeeping and safety in the lab testing area
Performance Criteria (PC) w.r.t. the Scope	
Sample collection	To be competent, the user/individual on the job must be able to : PC1. Draw sample of the material from the lot to be tested as per standard procedures (SOP) PC2. Sampling to be done as per process flow sheet with control points PC3. Identify the sample by labeling/numbering as per SOP and recording in the log book /PC and assigning a sequential local lab number (category wise) PC4. Inspect the sample for visual defects including it has to free form any FM etc and approve the sample dimensionally PC5. Ensure that sample is suitable for test/analysis PC6. Process sample should be collected after the process is established not from beginning of the process start PC7. Take / collect sample as per SOP only. Sample may be in form of raw material process material or ready product used in processing.
Sample integrity	PC8. Identify the defect/problem in inappropriate sample PC9. Identify factors that affect the integrity of sample (eg. temperature, moisture, contamination, contact with liquids PC10. Ensure samples are well protected and are free from picking up any moisture, foreign matter etc PC11. Maintain integrity of the sample as per SOP. PC12. Identify and store sample for future/further testing as per SOP.
Equipment readiness	PC13. Identify the most appropriate equipment for testing as per the SOP PC14. Set up appropriate equipment/apparatus to be used for testing correctly as per SOP / IS / ISO / International Standard PC15. Calibrate /verify/validate the testing equipment periodically as per SOP and see monitoring sticker is available in respective equipment PC16. Identify defective equipment/apparatus and steps to be taken as per SOP PC17. Keep hand tools like gloves, knife , emery paper, sample cutter etc ready before starting the tests
Housekeeping and Safety	PC18. Ensure Health & safety in laboratory PC19. Ensure availability of safety accessories including eye wash station PC20. Ensure availability of raw materials/laboratory reagents Material Safety Data Sheet (MSDS) in the laboratory PC21. Handle the equipment properly

	PC22. Ensure samples and chemicals are carefully handled to avoid accidental spillage of chemicals. PC23. Use safety equipment such as fire extinguishers, fire blankets, and eye-wash stations. PC24. Escalate matters in case of any accidents, spills etc. PC25. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational standards (SOP)
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: KA1. Company's quality policies and acceptance standards for raw materials, processed and final product. KA2. Organisational/ National and International Coding system of raw material, compounds and products KA3. Chemicals used in the industry and their function including MSDS KA4. Different quality management systems KA5. Principles of good laboratory practices applicable in the workplace KA6. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure KA7. Quality and damage checks to be done and importance of the same KA8. Importance of identifying non-conforming products and storage of the same KA9. Risk and impact of not following defined procedures/work instructions KA10. Escalation matrix for reporting identified issues KA11. Types of documentation in organization and importance of the same KA12. Records to be maintained and implications of non-maintenance of the same KA13. Company manual and from where to attain it KA14. Importance of housekeeping & good shop floor practices (e.g.3S/5S) KA15. Health, Safety and Environment guidelines, legislation and regulations as applicable KA16. Personal protection(Which protective equipment to be used and how) KA17. Impact of poor practices on health, safety and environment KA18. Potential hazards and actions to minimize the same KA19. Escalation matrix and escalation procedure for reporting hazards. KA20. The usage of different fire extinguisher KA21. Impact of various practices on cost, quality, productivity, delivery and safety KA22. Handover/ Takeover the equipment/ work area as per company's SOP
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Knowledge of basic chemistry and simple mathematical calculations KB2. Knowledge on different standard reference from National and International material KB3. Role of different raw materials in rubber compounding, processing/ product manufacturing and performance KB4. Understanding of role of the testing equipments including setting KB5. Testing equipments and related test methods and purpose of tests KB6. Calibration requirements for test equipment KB7. Procedures for storing samples KB8. Specifications of materials tested and its importance in the release system KB9. National/International standard test methods for different materials KB10. Preparation of standard chemical reagents for testing

	KB11. Standard method of drawing samples and preparing them for testing KB12. How to assess whether a sample is suitable for testing KB13. Methods/techniques used for labeling samples KB14. Procedure (SOP) to be followed in case the sample is unfit for test KB15. The methods that can be used for controlling test variables KB16. Implications (impact on internal/external customers) of defective products, materials or components. KB17. The Material Safety Data Sheets (MSDS) for all the materials used for the experiments that one is conducting. KB18. Procedures for storing and retention period for samples KB19. Factors that adversely affect integrity of the sample KB20. Use of Computer/application software KB21. Units of measurement KB22. 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** The user/ individual on the job needs to know and understand how to: SA1. Record and communicate details of work done to appropriate people using written/typed report or computer based record/electronic mail SA2. Maintain proper records as per given format
	Reading Skills SA3. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA4. Read images, graphs, diagrams SA5. Understand the various coding systems as per company norms
	Oral Communication SA6. Communication with upstream and downstream teams SA7. Communicate with job owners like sample originating section, supplier etc. SA8. Work in a team and other behavioral skills required to support the small group activities (Eg. Quality Circle, Cross Functional Team, Suggestion Scheme) SA9. Disclose information only to those who have the right and need to know it. SA10. Communicate confidential and sensitive information discretely to authorized person as per SOP
	Life Skills **Integrity** SA11. Practice honesty with respect to company property and time SA12. Communicate with people in a form and manner and using language that is open and respectful SA13. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust **Motivation** SA14. Take responsibility for completing one's own work assignment SA15. Take initiative to enhance/learn skills in ones's area of work SA16. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.

	SA17. Is open to new ways of doing things SA18. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. **Reliability** SA19. Avoid absenteeism SA20. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA21. Be punctual
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one. SB3. Make changes in cycle time due to improved process. SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management SB5. Consult the peer group and superiors to arrive at a favourable decision. SB6. Use of standard available problem solving techniques for decision making SB7. Review and analyze the process steps to check on system non adherence and non conformity SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making SB9. Take a calculated risk with minimum losses
	Plan and Organize
	SB10. Organize samples and records properly SB11. Communicate results as per organizational procedure SB12. Perform analysis in given time line
	Customer Centricity
	SB13. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB14. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB15. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB16. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB17. Work towards fulfilling the customers requirement as per their demand. SB18. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB19. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB20. Maintain good/cordial relation with customers. SB21. Work on the feedback received from customer regarding the product.

	Problem Solving
	SB22. Interpret quality for tested samples SB23. Apply problem-solving approaches in different situations SB24. Application of statistics SB25. Use of computer/application software
	Analytical Thinking
	SB26. Proper collection of waste material SB27. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	Critical Thinking
	SB28. Identify any issues affecting the material, equipment or surroundings SB29. Escalate issues that cannot be solved as per the troubleshooting/company manual SB30. Apply appropriate technique/method for various types of products to meet desired purpose SB31. Interpret data and analyse results SB32. Suggest improvements(if any) in process/product/materials based on experience

NOS Version Control

NOS Code	**RSC/N2302**		
Credits(NSQF)	**TBD**	**Version number**	**2.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**20/03/2013**
Industry Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**25/12/2017**
Occupation	**Lab Chemist**	**Next review date**	**25/12/2021**

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National Occupational Standard

Overview

This unit is about carrying out lab testing of raw-materials, chemicals, compounds, semi-finished and finished rubber products.

National Occupational Standard

Unit Code	RSC/N2303
Unit Title (Task)	**Conduct testing of rubber products at various stages of production**
Description	This unit is about carrying out lab testing of raw-materials, chemicals, compounds, semi-finished and finished rubber products.
Scope	This unit/task covers the following: • Sample testing • Testing for raw material • Testing for batch release • Testing for cured compound • Testing for finished products • Ensuring housekeeping and safety in the lab testing area
Performance Criteria (PC) w.r.t. the Scope	
Sample testing	PC1. Ensure that the reagents and materials used for testing are of standard quality and procured from approved source. PC2. Identify appropriate tests or follow guidelines given PC3. Carry out tests as per SOP. PC4. Ensure that test methods conform to the required quality and accuracy of testing.
Testing for raw material	PC5. Carry out testing for raw material as per requirement: PC6. Specify Gravity, Volatile loss, Moisture, Particle size, Surface Area, Assay, Ash Content, Melting Point, Boiling Point, Softening Point, pH as per type of Raw Material including specific tests (as mentioned in RM Specification)and/or plant specification PC7. Carry out Volumetric, Gravimetric or Instrumental tests as per type of RM PC8. Visual examination of RM including tests with respect to appearance /color and odour
Testing for batch release	PC9. Carry out testing for batch release as per the requirement: PC10. Carry out testing as per specific Gravity, Dispersion, Cure characteristic properties, Rheometry, Mooney Viscosity, Mooney Scorch, Hardness, Tensile, Elongation at break, Modulus, Tear strength, Rebound Resilience, as per SOP
Testing for cured compound	PC11. Carry out testing for cured compound as per requirement: Specific Gravity, Dispersion, Cure characteristic properties, Rheometry, Mooney viscosity, Hardness, Tensile, Elongation, Modulus, Tear, low temperature properties, ozone resistance, aging properties, abrasion resistance, rebound resilience, set properties, electrical properties, Tear resistance, Dispersion, Heat build up, swelling as per requirement /Standards
Testing for finished products	PC12. Carry out testing for finished products as per requirement/guidelines provided: PC13. Carry out testing as per specific gravity, Stress-Strain properties (TS, M300, EB, Tear) ,Abrasion Resistance (Volume Loss),Set properties (compression, Tension, permanent etc.),Fatigue test (crack initiation, crack growth),Rebound Resilience, Hardness Testing (Shore A/Shore D),Hysteresis properties, PC14. Carry out testing as per swelling properties, Aging (hot air, humid, salt, oxygen bomb),Low temperature properties, Adhesion (Fabric-Rubber, Rubber-Rubber, Rubber-Metal), Electrical properties, Dimension and checks,

	Endurance, Uniformity, X-Ray analysis, in accordance IS / ISO / International Standards and SOP
Housekeeping and Safety	PC15. Ensure Health & safety in laboratory PC16. Ensure availability of safety accessories including eye wash station PC17. Ensure availability of raw materials/laboratory reagents Material Safety Data Sheet (MSDS) in the laboratory PC18. Handle the equipment properly PC19. Ensure samples and chemicals are carefully handled to avoid accidental spillage of chemicals. PC20. Conduct the experiments wearing the appropriate attire such as safety goggles, gloves, closed toe shoes, long pants, tied hair PC21. Use safety equipment such as fire extinguishers, fire blankets, and eye-wash stations. PC22. Escalate matters in case of any accidents, spills etc. PC23. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational standards (SOP)
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: KA1. Company's quality policies and acceptance standards for raw materials, processed and final product. KA2. Organisational/ National/ international Coding system of raw material, compounds and products KA3. Chemicals used in the industry and their function KA4. Different quality management systems KA5. Principles of good laboratory practices applicable in the workplace KA6. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure KA7. Quality and damage checks to be done and importance of the same KA8. Importance of identifying non-conforming products and storage of the same KA9. Risk and impact of not following defined procedures/work instructions KA10. Escalation matrix for reporting identified issues KA11. Types of documentation in organization and importance of the same KA12. Records to be maintained and implications of non-maintenance of the same KA13. Company manual and from where to attain it KA14. Importance of housekeeping & good shop floor practices (e.g.3S/5S) KA15. Health, Safety and Environment guidelines, legislation and regulations as applicable KA16. Personal protection(Which protective equipment to be used and how) KA17. Impact of poor practices on health, safety and environment KA18. Potential hazards and actions to minimize the same KA19. Escalation matrix and escalation procedure for reporting hazards. KA20. The usage of different fire extinguisher KA21. Impact of various practices on cost, quality, productivity, delivery and safety KA22. Handover/ Takeover the equipment/ work area as per company's SOP
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Knowledge of basic chemistry and simple mathematical calculations KB2. Knowledge on different standard reference material

	KB3. Role of different raw materials in rubber compounding, processing/ product manufacturing and performance KB4. Understanding of role of the testing equipments KB5. Testing equipments and related test methods and purpose of tests KB6. Calibration requirements for test equipment KB7. Procedures for storing samples KB8. Specifications of materials tested and its importance in the release system KB9. National/International standard test methods for different materials KB10. Preparation of standard chemical reagents for testing KB11. Standard method of drawing samples and preparing them for testing KB12. How to assess whether a sample is suitable for testing KB13. Methods/techniques used for labeling samples KB14. Procedure (SOP) to be followed in case the sample is unfit for test KB15. The methods that can be used for controlling test variables KB16. Implications (impact on internal/external customers) of defective products, materials or components. KB17. The Material Safety Data Sheets (MSDS) for all the materials used for the experiments that one is conducting. KB18. Procedures for storing and retention period for samples KB19. Factors that adversely affect integrity of the sample KB20. Statistical analysis of test data KB21. How to obtain and interpret records, charts, specifications, equipment manuals, history/technical support reports and other documents KB22. Methods and techniques involved in evaluating information KB23. Use of Computer/application software KB24. Units of measurement KB25. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster
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	SB26. Proper collection of waste material SB27. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
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	SB28. Identify any issues affecting the material, equipment or surroundings SB29. Escalate issues that cannot be solved as per the troubleshooting/company manual SB30. Apply appropriate technique/method for various types of products to meet desired purpose SB31. Interpret data and analyse results SB32. Suggest improvements(if any) in process/product/materials based on experience

NOS Version Control

NOS Code	**RSC/N2303**		
Credits(NSQF)	**TBD**	**Version number**	**2.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**20/03/2013**
Industry Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**25/12/2017**
Occupation	**Lab Chemist**	**Next review date**	**25/12/2021**

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National Occupational Standard

Overview

This unit is about carrying out analysis, reporting and recording of test results.

National Occupational Standard

Unit Code	RSC/N2304
Unit Title (Task)	Analysis, Reporting and Recording of Test Results
Description	This unit is about carrying out analysis, reporting and recording of test results.
Scope	This unit/task covers the following: • Data Logging and data interpretation • Reporting and Record Keeping • Ensuring housekeeping and safety in the lab testing area • Proper material disposal
Performance Criteria (PC) w.r.t. the Scope	
Data analysis	To be competent, the user/individual on the job must be able to : PC1. Keep tools and accessories ready before starting the analysis PC2. Ensure that the accuracy and periodicity of the data captured in records is as per SOP PC3. Identify appropriate technique in evaluating result PC4. Interpret the results correctly using the identified technique(s)
Recording and Reporting	PC5. Record and maintain data as per company standards (SOP) PC6. Ensure that reports/records are accurate and clear PC7. Release or Hold the raw material as per finding for further processing. PC8. Take up the results of the findings with supplier/QC in-charge/appropriate authority. PC9. Ensure regular exchange of raw material testing, in process testing and end products testing to facilitate prompt action for establishing proves specifications, controlling processes and maintaining uniformity in the processes PC10. Inform concerned persons for rectifications, if needed in specified time limit
Housekeeping and Safety	PC11. Ensure Health & safety in laboratory PC12. Ensure availability of safety accessories including eye wash station PC13. Ensure availability of raw materials/laboratory reagents Material Safety Data Sheet (MSDS) in the laboratory PC14. Handle the equipment properly PC15. Ensure samples and chemicals are carefully handled to avoid accidental spillage of chemicals. PC16. Conduct the experiments wearing the appropriate attire such as safety goggles, gloves, closed toe shoes, long pants, tied hair PC17. Use safety equipment such as fire extinguishers, fire blankets, and eye-wash stations. PC18. Escalate matters in case of any accidents, spills etc. PC19. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational standards (SOP)
Material disposal	PC20. Carry out disposal of waste and left over tested material safely as per SOP PC21. Dispose all materials used in the experiment safely as per Health and Safety management system of the company
Knowledge and Understanding (K)	

RSC/N2304 **Analysis, Reporting and Recording of Test Results**

A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. Company's quality policies and acceptance standards for raw materials, processed and final product. KA2. Organisational Coding system of raw material, compounds and products KA3. Chemicals used in the industry and their function KA4. Different quality management systems KA5. Principles of good laboratory practices applicable in the workplace KA6. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure KA7. Quality and damage checks to be done and importance of the same KA8. Importance of identifying non-conforming products and storage of the same KA9. Risk and impact of not following defined procedures/work instructions KA10. Escalation matrix for reporting identified issues KA11. Types of documentation in organization and importance of the same KA12. Records to be maintained and implications of non-maintenance of the same KA13. Company manual and from where to attain it KA14. Importance of housekeeping & good shop floor practices (e.g.3S/5S) KA15. Health, Safety and Environment guidelines, legislation and regulations as applicable KA16. Personal protection(Which protective equipment to be used and how) KA17. Impact of poor practices on health, safety and environment KA18. Potential hazards and actions to minimize the same KA19. Escalation matrix and escalation procedure for reporting hazards. KA20. The usage of different fire extinguisher KA21. Impact of various practices on cost, quality, productivity, delivery and safety KA22. Handover/ Takeover the equipment/ work area as per company's SOP
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Knowledge of basic chemistry and simple mathematical calculations KB2. Knowledge on different standard reference material KB3. Role of different raw materials in rubber compounding, processing/ product manufacturing and performance KB4. Understanding of role of the testing equipments KB5. Testing equipments and related test methods and purpose of tests KB6. Procedures for storing samples KB7. Specifications of materials tested and its importance in the release system KB8. National/International standard test methods for different materials KB9. Preparation of standard chemical reagents for testing KB10. Standard method of drawing samples and preparing them for testing KB11. Methods/techniques used for labeling samples KB12. The methods that can be used for controlling test variables KB13. Implications (impact on internal/external customers) of defective products, materials or components. KB14. The Material Safety Data Sheets (MSDS) for all the materials used for the experiments that one is conducting. KB15. Procedures for storing and retention period for samples KB16. Factors that adversely affect integrity of the sample KB17. Statistical analysis of test data KB18. How to obtain and interpret records, charts, specifications, equipment manuals, history/technical support reports and other documents

	KB19. Methods and techniques involved in evaluating information KB20. Use of Computer/application software KB21. Units of measurement KB22. 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**
	The user/ individual on the job needs to know and understand how to: SA1. Record and communicate details of work done to appropriate people using written/typed report or computer based record/electronic mail SA2. Maintain proper records as per given format
	Reading Skills
	SA3. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA4. Read images, graphs, diagrams SA5. Understand the various coding systems as per company norms
	Oral Communication
	SA6. Communication with upstream and downstream teams SA7. Communicate with job owners like sample originating section, supplier etc. SA8. Disclose information only to those who have the right and need to know it. SA9. Communicate confidential and sensitive information discretely to authorized person as per SOP
	Life Skills
	Integrity SA10. Communicate with people in a form and manner and using language that is open and respectful SA11. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust **Motivation** SA12. Take responsibility for completing one's own work assignment SA13. Take initiative to enhance/learn skills in ones's area of work SA14. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA15. Is open to new ways of doing things SA16. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. **Reliability** SA17. Avoid absenteeism SA18. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA19. Be punctual
B. Professional Skills	**Decision Making**

	The user/individual on the job needs to know and understand how to: SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one. SB3. Make changes in cycle time due to improved process. SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management SB5. Consult the peer group and superiors to arrive at a favourable decision. SB6. Use of standard available problem solving techniques for decision making SB7. Review and analyze the process steps to check on system non adherence and non conformity SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making SB9. Take a calculated risk with minimum losses
	Plan and Organize
	SB10. Organize samples and records properly SB11. Communicate results as per organizational procedure SB12. Perform analysis in given time line
	Customer Centricity
	SB13. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB14. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB15. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB16. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB17. Work towards fulfilling the customer's requirement as per their demand. SB18. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB19. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB20. Maintain good/cordial relation with customers. SB21. Work on the feedback received from customer regarding the product.
	Problem Solving
	SB22. Interpret quality for tested samples SB23. Apply problem-solving approaches in different situations SB24. Application of statistics SB25. Use of computer/ application software
	Analytical Thinking

	SB26. Proper collection of waste material SB27. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	Critical Thinking
	SB28. Identify any issues affecting the material, equipment or surroundings SB29. Escalate issues that cannot be solved as per the troubleshooting/company manual SB30. Apply appropriate technique/method for various types of products to meet desired purpose SB31. Interpret data and analyse results SB32. Suggest improvements(if any) in process/product/materials based on experience

NOS Version Control

NOS Code	RSC/N2303		
Credits(NSQF)	TBD	Version number	2.0
Industry	Rubber Manufacturing	Drafted on	20/03/2013
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	25/12/2017
Occupation	Lab Chemist	Next review date	25/12/2021

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National Occupational Standard

Overview

This unit is about carrying out housekeeping

National Occupational Standard

Unit Code	RSC/N5001
Unit Title (Task)	Carry out housekeeping in rubber product manufacturing
Description	This unit is about carrying out housekeeping activities
Scope	This unit/task covers the following: • Preparing for housekeeping activities • Carry out housekeeping operations • Post housekeeping activities • General

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: PC1. Inspect the area while taking into account various surfaces PC2. Inspect the working table and the surrounding areas for usable rubber cut ends /strips PC3. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain PC4. Ensure that the cleaning equipment is in proper working condition PC5. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person PC6. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces PC7. Inform the affected people about the cleaning activity PC8. Display the appropriate signage for the work being conducted PC9. Ensure that there is adequate ventilation for the work being carried out PC10. Wear the personal protective equipment required for the cleaning method and materials being used
Operations	PC11. Use the correct cleaning method for the work area, type of soiling and surface PC12. Carry out cleaning activity without disturbing others PC13. Deal with accidental damage, if any, caused while carrying out the work PC14. Report to the appropriate person any difficulties in carrying out your work PC15. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill
Post housekeeping activities	PC16. Ensure that there is no oily substance on the floor to avoid slippage PC17. Ensure that no scrap material is lying around PC18. Ensure all re usable rubber cut ends strips left over samples are collected in appropriate bins PC19. Maintain and store housekeeping equipment and supplies PC20. Follow workplace procedures to deal with any accidental damage caused during the cleaning process PC21. Ensure that, on completion of the work, the area is left clean and dry and meets requirements PC22. Return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored PC23. Dispose the waste garnered from the activity in an appropriate manner

	PC24. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly
General	PC25. Maintain schedules and records for housekeeping duty PC26. Replenish any necessary supplies or consumables
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	KA1. Importance of learning proper procedures and techniques KA2. Implications of not following the organizational requirement for approval for undertaking the specific task KA3. Importance of completing the activities as per the schedule KA4. Implications of not following the defined procedures/work instructions KA5. Importance of team work KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable KA7. Actions to be taken in case of non-conformity to behavioral standards of the organization KA8. Impact of poor practices on the individual's and organization's performance KA9. Importance of optimal utilization of resources KA10. Importance of providing feedback for improvement KA11. Importance of indigenous knowledge for evolving/adopting operation specific practices KA12. Rectification/solution of problems/conflicts for the smooth functioning of the organization KA13. Importance of documentation/reporting as per guidelines and procedures KA14. Knowledge of do's and don'ts (company's HR instructions) KA15. Importance of attending trouble shooting KA16. Importance of subject learning/ training KA17. Importance of Product and its application

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The levels of hygiene required by workplace and why it is important to maintain them during your work KB2. How to inspect a work area to decide what cleaning it needs KB3. Methods and materials that used for cleaning variety of surfaces KB4. The types of cleansing agents that are not to be mixed together KB5. The correct method for cleaning equipment and/or machinery used during your work KB6. The importance of personal protective equipment KB7. Appropriate personal protective equipment for the work area, cleaning equipment, tools, materials and chemicals used KB8. The correct sequence for cleaning the work area KB9. The time taken by the treatment to work KB10. The importance of following manufacturer's instructions on cleaning agents KB11. The most appropriate place to carry out test cleans and why this should be done before applying treatments KB12. The importance of applying treatments evenly and the effect of not doing this KB13. Process of cleaning the surfaces without causing injury or damage KB14. The method to check the treated surface and equipment on completion of cleaning KB15. Procedures for reporting any unidentified soiling KB16. Procedures for disposing off waste KB17. Procedures for disposing off or storing personal protective equipment 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: SA1. Construct simple sentences and express ideas clearly through written communication SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company SA3. Write simple letters, mails, etc 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 Skills** SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms **Oral Communication** SA8. Express statements, opinions or information clearly so that others can hear and understand SA9. Respond appropriately to any queries SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams SA12. Communicate with people in a form and manner and using language that is

	open and respectful
	Life Skills
	Integrity SA13. Practice honesty with respect to company property and time SA14. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust **Motivation** SA15. Take responsibility for completing one's own work assignment SA16. Take initiative to enhance/learn skills in one's area of work SA17. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA18. Is open to new ways of doing things SA19. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. **Reliability** SA20. Avoid absenteeism SA21. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA22. Work in disciplined factory environment SA23. Be punctual
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one. SB3. Make changes in cycle time due to improved process. SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management SB5. Consult the peer group and superiors to arrive at a favourable decision. SB6. Use of standard available problem solving techniques for decision making SB7. Review and analyze the process steps to check on system non adherence and non conformity SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making SB9. Take a calculated risk with minimum losses
	Plan and Organize
	SB10. Plan and organize the factors of production to execute the business plan SB11. Fix up tasks and allotment of the same

	SB12. Assign tasks to suitable persons SB13. Motivate them for better output and time bound completion of tasks
	Customer Centricity
	SB14. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB15. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB16. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB17. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB18. Work towards fulfilling the customers requirement as per their demand. SB19. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB20. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB21. Maintain good/cordial relation with customers. SB22. Work on the feedback received from customer regarding the product.
	Problem Solving
	SB23. Interpret quality for sheet SB24. Application of basic sciences (chemistry), mathematics SB25. Application of statistics SB26. Use of computer/ application software SB27. Suggest improvements(if any) in process/product/materials based on results and experience
	Analytical Thinking
	SB28. Proper collection of waste material SB29. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	Critical Thinking
	SB30. Seek clarification on problems from others SB31. Apply problem-solving approaches in different situations SB32. Refer anomalies to the line manager SB33. Identify any issues affecting the material, equipment or surroundings SB34. Escalate issues that cannot be solved as per the troubleshooting/company manual

NOS Version Control

NOS Code	**RSC/N5001**		
Credits(NSQF)	**TBD**	**Version number**	**2.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**20/03/2013**
Industry Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**25/12/2017**
Occupation	**Lab Chemist**	**Next review date**	**25/12/2021**

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National Occupational Standard

Overview

This unit is about reporting and documentation

National Occupational Standard

Unit Code	RSC/N5002
Unit Title (Task)	Carry out reporting and documentation
Description	This unit is about carrying out reporting and documentation
Scope	This unit/task covers the following: • Reporting of data/problem/incidents etc • Documentation • 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: PC1. Report data/problems/incidents as applicable in a timely manner PC2. Report to the appropriate authority as laid down by the company PC3. Follow reporting procedures as prescribed by the company
Recording and Documentation	PC4. Identify documentation to be completed relating to one's role PC5. Record details accurately an appropriate format PC6. Complete all documentation within stipulated time according to company procedure PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly PC8. Ensure documents are available to all appropriate authorities to inspect
Information Security	PC9. Respond to the requests for information in an appropriate manner whilst following organizational procedures PC10. Inform the appropriate authority of requests for information received

Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	KA1. Importance of learning proper procedures and techniques KA2. Implications of not following the organizational requirement for approval for undertaking the specific task KA3. Importance of completing the activities as per the schedule KA4. Implications of not following the defined procedures/work instructions KA5. Importance of team work KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable KA7. Actions to be taken in case of non-conformity to behavioral standards of the organization KA8. Impact of poor practices on the individual's and organization's performance KA9. Importance of optimal utilization of resources KA10. Importance of providing feedback for improvement KA11. Importance of indigenous knowledge for evolving/adopting operation specific practices KA12. Rectification/solution of problems/conflicts for the smooth functioning of the organization KA13. Importance of documentation/reporting as per guidelines and procedures KA14. Knowledge of do's and don'ts (company's HR instructions) KA15. Importance of attending trouble shooting

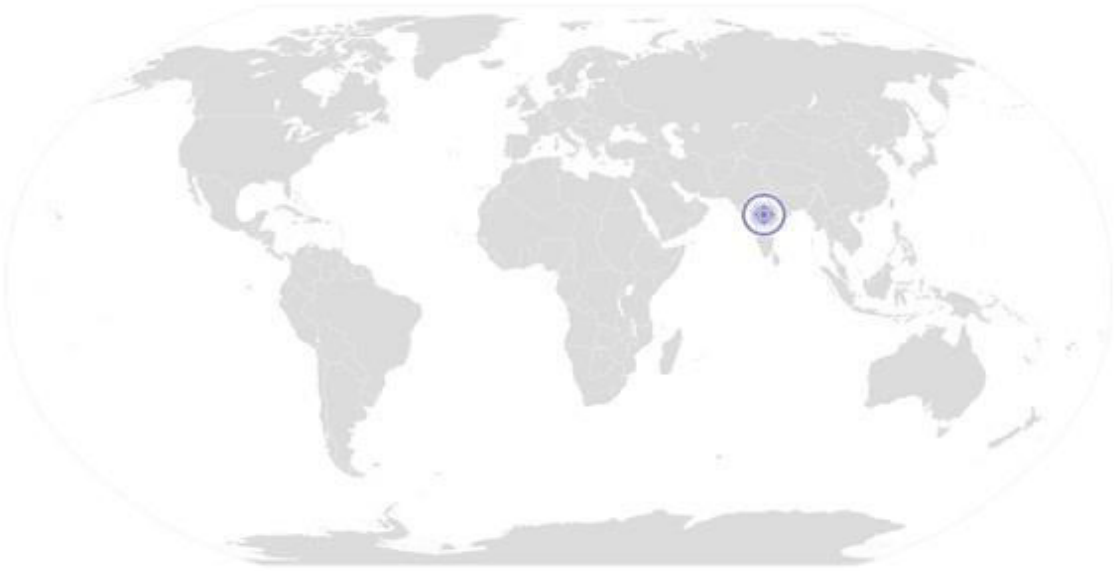
	KA16. Importance of subject learning/ training KA17. Importance of Product and its application
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB 1. Different methods of recording information KB 2. Various documents that need to be maintained KB 3. Company procedure for filling/maintaining up the documents KB 4. Procedures for reporting to the appropriate authority KB 5. Procedures for recording damage, breakages etc KB 6. Reporting incidents where standard operating procedures are not followed KB 7. The importance of complete and accurate documentation KB 8. How to maintain complete documentation accurately and within agreed timescales KB 9. The importance of ensuring that the documents are correct KB 10. The actions to be taken if the documents are not correct KB 11. The importance of maintaining the security and confidentiality of recorded information KB 12. Procedures to maintain confidentiality of information KB 13. The appropriate method for responding to requests for information KB 14. 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: SA1. Construct simple sentences and express ideas clearly through written communication SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company SA3. Write simple letters, mails, etc 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 Skills
	SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication
	SA8. Express statements, opinions or information clearly so that others can hear and understand SA9. Respond appropriately to any queries SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams
	Life Skills

	Integrity SA12. Practice honesty with respect to company property and time SA13. Communicate with people in a form and manner and using language that is open and respectful SA14. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust **Motivation** SA15. Take responsibility for completing one's own work assignment SA16. Take initiative to enhance/learn skills in ones's area of work SA17. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA18. Is open to new ways of doing things SA19. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. **Reliability** SA20. Avoid absenteeism SA21. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA22. Work in disciplined factory environment SA23. Be punctual
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one. SB3. Make changes in cycle time due to improved process. SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management SB5. Consult the peer group and superiors to arrive at a favourable decision. SB6. Use of standard available problem solving techniques for decision making SB7. Review and analyze the process steps to check on system non adherence and non conformity SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making SB9. Take a calculated risk with minimum losses
	Plan and Organize
	SB10. Plan and organize the factors of production to execute the business plan SB11. Fix up tasks and allotment of the same SB12. Assign tasks to suitable persons SB13. Motivate them for better output and time bound completion of tasks

	Customer Centricity
	SB14. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB15. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB16. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB17. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB18. Work towards fulfilling the customer's requirement as per their demand. SB19. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB20. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB21. Maintain good/cordial relation with customers. SB22. Work on the feedback received from customer regarding the product.
	Problem Solving
	SB23. Interpret quality for sheet SB24. Application of basic sciences (chemistry), mathematics SB25. Application of statistics SB26. Use of computer/application software SB27. Suggest improvements(if any) in process/product/materials based on results and experience
	Analytical Thinking
	SB28. Proper collection of waste material SB29. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	Critical Thinking
	SB30. Seek clarification on problems from others SB31. Apply problem-solving approaches in different situations SB32. Refer anomalies to the line manager SB33. Identify any issues affecting the material, equipment or surroundings SB34. Escalate issues that cannot be solved as per the troubleshooting/company manual

NOS Version Control

NOS Code	RSC/N5002		
Credits(NSQF)	TBD	Version number	2.0
Industry	Rubber Manufacturing	Drafted on	20/03/2013
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	25/12/2017
Occupation	Lab Chemist	Next review date	25/12/2021



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National Occupational Standard

Overview

This unit is about carrying out quality checks

National Occupational Standard

Unit Code	RSC/N5003
Unit Title (Task)	Carry out quality checks
Description	This unit is about carrying out quality control activities
Scope	This unit/task covers the following: • Carrying out quality checks and inspect to identify problems • Analysis and take corrective actions • 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: PC1. Ensure that total range of checks are regularly and consistently performed PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required
Analysis	PC3. Identify non-conformities to quality assurance standards PC4. Identify potential causes of non-conformities to quality assurance standards PC5. Identify impact on final product due to non-conformance to company standards PC6. Evaluating the need for action to ensure that problems do not recur PC7. Suggest corrective action to address problem PC8. Review effectiveness of corrective action
Reporting	PC9. Interpret the results of the quality check correctly PC10. Take up results of the findings with QC in charge/appropriate authority. PC11. Take up the results of the findings within stipulated time PC12. Record of results of action taken PC13. Record adjustments not covered by established procedures for future reference PC14. Review effectiveness of action taken PC15. Follow reporting procedures where the cause of defect cannot be identified

Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	KA1. Importance of learning proper procedures and techniques KA2. Implications of not following the organizational requirement for approval for undertaking the specific task KA3. Importance of completing the activities as per the schedule KA4. Implications of not following the defined procedures/work instructions KA5. Importance of team work KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable KA7. Actions to be taken in case of non-conformity to behavioral standards of the organization KA8. Impact of poor practices on the individual's and organization's performance KA9. Importance of optimal utilization of resources KA10. Importance of providing feedback for improvement KA11. Importance of indigenous knowledge for evolving/adopting operation specific practices KA12. Rectification/solution of problems/conflicts for the smooth functioning of the

	organization KA13. Importance of documentation/reporting as per guidelines and procedures KA14. Knowledge of do's and don'ts (company's HR instructions) KA15. Importance of attending trouble shooting KA16. Importance of subject learning/ training KA17. Importance of Product and its application
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The importance of quality control procedures KB2. Relevance and importance of activities and how they contribute to the achievement of the quality objectives, KB3. Proper procedure for selecting the material/product and performing quality checks without affecting the material KB4. Availability of work instructions, as necessary, KB5. Characteristics of the product/material KB6. Use of suitable equipment KB7. Availability and use of monitoring and measuring devices, KB8. Requirements of records KB9. Importance of maintaining accurate up-to-date records KB10. The need to report within the stipulated time KB11. Implications of inaccurate measuring and testing instruments and equipment KB12. The cost of non-conformance to quality standards KB13. Implications (impact on internal/external customers) of defective products, materials or components
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills** The user/ individual on the job needs to know and understand how to: SA1. Construct simple sentences and express ideas clearly through written communication SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company SA3. Write simple letters, mails, etc 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 Skills SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication SA8. Express statements, opinions or information clearly so that others can hear SA9. and understand SA10. Respond appropriately to any queries SA11. Communicate with supervisor SA12. Communicate with upstream and downstream teams SA13. Communicate with people in a form and manner and using language that is open and respectful

	Life Skills
	Integrity SA14. Practice honesty with respect to company property and time SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust **Motivation** SA16. Take responsibility for completing one's own work assignment SA17. Take initiative to enhance/learn skills in ones's area of work 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 SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. **Reliability** SA21. Avoid absenteeism SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA23. Work in disciplined factory environment SA24. Be punctual
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one. SB3. Make changes in cycle time due to improved process. SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management SB5. Consult the peer group and superiors to arrive at a favourable decision. SB6. Use of standard available problem solving techniques for decision making SB7. Review and analyze the process steps to check on system non adherence and non conformity SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making SB9. Take a calculated risk with minimum losses
	Plan and Organize
	SB10. Plan and organize the factors of production to execute the business plan SB11. Fix up tasks and allotment of the same SB12. Assign tasks to suitable persons SB13. Motivate them for better output and time bound completion of tasks
	Customer Centricity

	SB14. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB15. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB16. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB17. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB18. Work towards fulfilling the customers requirement as per their demand. SB19. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB20. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB21. Maintain good/cordial relation with customers. SB22. Work on the feedback received from customer regarding the product.
	Problem Solving
	SB23. Interpret quality for sheet SB24. Application of basic sciences (chemistry), mathematics SB25. Application of statistics SB26. Use of computer/ application software SB27. Suggest improvements(if any) in process/product/materials based on results and experience
	Analytical Thinking
	SB28. Proper collection of waste material SB29. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	Critical Thinking
	SB30. Seek clarification on problems from others SB31. Apply problem-solving approaches in different situations SB32. Refer anomalies to the line manager SB33. Identify any issues affecting the material, equipment or surroundings SB34. Escalate issues that cannot be solved as per the troubleshooting/company manual

NOS Version Control

NOS Code	RSC/N5003		
Credits(NSQF)	TBD	Version number	2.0
Industry	Rubber Manufacturing	Drafted on	20/03/2013
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	25/12/2017
Occupation	Lab Chemist	Next review date	25/12/2021

Back to QP

National Occupational Standard

Overview

This unit is about problem identification and escalation

National Occupational Standard

Unit Code	RSC/N5004
Unit Title (Task)	Carry out problem identification and escalation
Description	This unit is about problem identification and escalation

Scope	This unit/task covers the following:
	• Identify problems across:
	  ○ Raw materials
	  ○ Compounds
	  ○ Product
	  ○ Equipment
	  ○ Others
	• Identify solutions to problems and take corrective action
	• 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: PC1. Identify defects/indicators of problems PC2. Identify any wrong practices that may lead to problems PC3. Identify practices that may impact the final product quality PC4. Identify if the problem has occurred before PC5. Identify other operations that might be impacted by the problem 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) PC8. Consider possible reasons for identification of problems PC9. Evaluate applicable corrections and formulate corrective action PC10. Formulate action in a timely manner PC11. Communicate problem/remedial action to appropriate parties PC12. Take corrective action in a timely manner PC13. Take corrective action for problems identified according to the company procedures PC14. Report/document problem and corrective action in an appropriate manner PC15. Monitor corrective action PC16. Evaluate implementation of corrective action taken to determine if the problem has been resolved PC17. Ensure that corrective action selected is viable and practical PC18. Ensure that correct solution is identified to an identified problem PC19. Take corrective action for problems identified according to the company procedures 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 PC22. Escalate the problem within stipulated time PC23. Escalate the problem in an appropriate manner

	PC24. Ensure that no delays are caused as a result of failure to escalate problems
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	KA1. Importance of learning proper procedures and techniques KA2. Implications of not following the organizational requirement for approval for undertaking the specific task KA3. Importance of completing the activities as per the schedule KA4. Implications of not following the defined procedures/work instructions KA5. Importance of team work KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable KA7. Actions to be taken in case of non-conformity to behavioral standards of the organization KA8. Impact of poor practices on the individual's and organization's performance KA9. Importance of optimal utilization of resources KA10. Importance of providing feedback for improvement KA11. Importance of indigenous knowledge for evolving/adopting operation specific practices KA12. Rectification/solution of problems/conflicts for the smooth functioning of the organization KA13. Importance of documentation/reporting as per guidelines and procedures KA14. Knowledge of do's and don'ts (company's HR instructions) KA15. Importance of attending trouble shooting KA16. Importance of subject learning/ training KA17. Importance of Product and its application
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Indicators of problems KB2. The working of the equipment and accessories(if applicable) KB3. The impact of operations on the user and equipment(if applicable) KB4. The impact of operations on the final product (if applicable) KB5. The effect of not rectifying the problems identified KB6. The reason for the occurrence of previous problems KB7. Measures and steps that have been taken to address the previous problems KB8. Possible solutions for various problems KB9. The correct method for carrying out corrective actions outlined for each problem KB10. The impact of not carrying out the corrective actions KB11. The documentation procedure for recording such problems, as per company norms KB12. The escalation matrix for reporting problems KB13. Escalation matrix for reporting unresolved problems KB14. The time frame within which in which each problem needs to be escalated KB15. Manner in which each problem needs to be escalated
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills** The user/ individual on the job needs to know and understand how to: SA1. Construct simple sentences and express ideas clearly through written communication SA2. Fill up appropriate technical forms, process charts, activity logs in required

	format of the company SA3. Write simple letters, mails, etc 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 Skills
	SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication
	SA8. Express statements, opinions or information clearly so that others can hear SA9. and understand SA10. Respond appropriately to any queries SA11. Communicate with supervisor SA12. Communicate with upstream and downstream teams SA13. Communicate with people in a form and manner and using language that is open and respectful
	Life Skills
	Integrity SA14. Practice honesty with respect to company property and time SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust **Motivation** SA16. Take responsibility for completing one's own work assignment SA17. Take initiative to enhance/learn skills in ones's area of work 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 SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. **Reliability** SA21. Avoid absenteeism SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA23. Work in disciplined factory environment SA24. Be punctual
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods. SB2. Handle equipment/apparatus SB3. Handle rubber compound SB4. Handle chemicals and laboratory reagents

	SB5. Handle rubber products SB6. Complex sample components SB7. Perform computer operations
	Plan and Organize
	SB8. Plan and organize the factors of production to execute the business plan SB9. Fix up tasks and allotment of the same SB10. Assign tasks to suitable persons SB11. Motivate them for better output and time bound completion of tasks
	Customer Centricity
	SB12. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB13. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB14. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB15. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB16. Work towards fulfilling the customer's requirement as per their demand. SB17. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB18. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB19. Maintain good/cordial relation with customers. SB20. Work on the feedback received from customer regarding the product.
	Problem Solving
	SB21. Interpret quality for sheet SB22. Application of basic sciences (chemistry), mathematics SB23. Application of statistics SB24. Use of computer/ application software SB25. Suggest improvements(if any) in process/product/materials based on results and experience
	Analytical Thinking
	SB26. Proper collection of waste material SB27. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	Critical Thinking
	SB28. Handle equipment/rubber sheet SB6. seek clarification on problems from others SB29. Apply problem-solving approaches in different situations SB30. Refer anomalies to the line manager SB31. Identify any issues affecting the material, equipment or surroundings SB32. Escalate issues that cannot be solved as per the troubleshooting/company manual

NOS Version Control

NOS Code	**RSC/N5004**		
Credits(NSQF)	**TBD**	**Version number**	**2.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**20/03/2013**
Industry Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**25/12/2017**
Occupation	**Lab Chemist**	**Next review date**	**25/12/2021**

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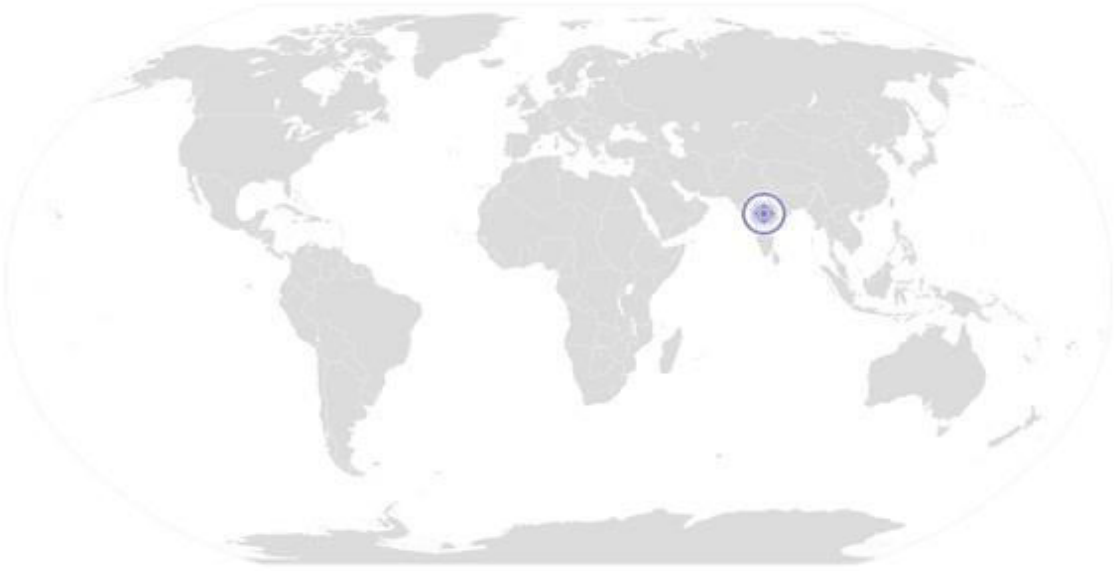
National Occupational Standard



Overview

This unit is about health & safety

National Occupational Standard

Unit Code	RSC/N5007
Unit Title (Task)	**Carry Out Health & Safety**
Description	This unit is about maintaining health and safety of self and others at workplace.
Scope	This unit/task covers the following: • Maintain a clean and efficient workplace • Render appropriate emergency procedures • Maintain standard safety procedures at the workplace • Participate in safety awareness campaigns • Understand potential sources of accidents • Use safety gears to avoid accidents
Performance Criteria (PC)	
Maintain a clean and efficient workplace	To be competent, the individual on the job must be able to: PC1. Undertake basic safety checks before operation of all machinery and equipment and report hazards to the appropriate supervisor PC2. Identify the work for which protective clothing or equipment is required and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy. PC3. Read and understand the hazards of use and contamination mentioned on the labels of chemicals, utilities etc PC4. Assess the risk prior to performing manual handling jobs and work is carried out according to currently recommended safe practices. PC5. Use equipment and materials safely and correctly and return the same to designated storage when not in use PC6. Dispose off waste safely and correctly in a designated area PC7. Recognize the risk to bystanders and take action to reduce risk associated with jobs in the workplace PC8. Perform work in a manner which minimizes environmental damage PC9. Monitor closely all procedures and work instructions for controlling risk PC10. Report any accidents, incidents or problems without delay to an appropriate person and take immediate necessary action to reduce further danger.
Render appropriate emergency procedures	PC11. Follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency. PC12. Follow emergency procedures as per company standards and workplace requirements. PC13. Use Emergency equipment in accordance with manufacturers' specifications and workplace requirements. PC14. Provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques. PC15. Recover (if practical), clean, inspect/test, refurbish, replace and store the first

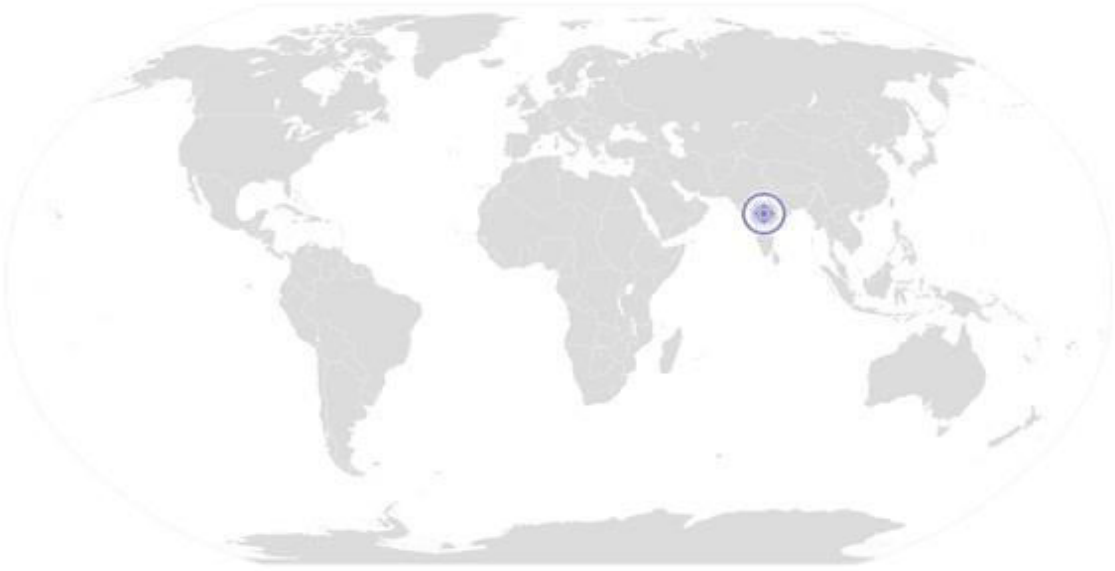
	aid equipment as appropriate PC16. Dispose off medical waste in accordance with workplace requirements PC17. Report details of first aid administered in accordance with work place procedures.
Maintain standard safety procedures at the workplace	PC18. Comply with general safety procedures PC19. Follow standard safety procedures while handling equipment, hazardous material or tool PC20. Check parts of the workplace and take preventive actions like spraying and other steps to protect from leakages, water logging, pests, fire, pollution, etc. PC21. Ensure no accidents and damages at the workplace, reporting of any breach of company safety procedure PC22. Keep the workplace organized, swept, clean and hazard free
Participate in safety awareness campaigns	PC23. Attend fire drills and other safety related workshops organized at the workplace PC24. Awareness about first aid, evacuation and emergency procedures PC25. Ensuring all safety procedures are followed without neglecting any event
Understand potential sources of accidents	PC26. Avoid accidents while using hazardous chemicals, machines, sharp tools and equipment
Use safety gears to avoid accidents	PC27. Use safety materials such as protective gear, goggles, caps, shoes, etc. (as applicable with workplace) PC28. Handle heavy and hazardous materials with care and using appropriate tools and handling equipment such as trolleys, ladders
Knowledge and Understanding (K)	
A. Organizational context	The individual on the job needs to know and understand: KA1. Policies on incentives, delivery standards, and personnel management. KA2. Occupational safety and health policy followed KA3. Emergency evacuation procedure KA4. Medical Policy KA5. Company laws and acts
B. Technical knowledge	The individual on the job needs to know and understand: KB1. The risks to health and safety and the measures to be taken to control those risks in the area of work KB2. Workplace procedures and requirements for the handling of workplace injuries/illnesses. KB3. Basic emergency first aid procedure KB4. Local emergency services KB5. Reporting on accidents, incidents and problems to appropriate authorities. KB6. How to use machines as per standard operating procedure KB7. How to maintain work area safe and secure

	KB8. Use of hazardous materials, tools and equipments KB9. Emergency evacuation and first aid procedures to be followed KB10. Personal hygiene and fitness requirements KB11. General duties under the relevant health and safety legislation KB12. What personal protective equipment and clothing should be worn and how it is cared for KB13. The correct and safe way to use materials and equipment required for work KB14. The importance of good housekeeping in the workplace KB15. Safe disposal methods for waste KB16. Methods for minimizing environmental damage during work
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The individual on the job needs to know and understand how to: SA1. Record data which are required for record keeping purpose SA2. Report problems to the appropriate person in a timely manner SA3. Write descriptions and details about incidents in reports
	Reading Skills
	SA4. Read instruction manuals for hand tools and equipment SA5. Read instructions on work orders and procedures
	Oral Communication
	SA6. Receive instructions and seek advice from superiors SA7. Communicate clearly and effectively with others
B. Professional Skills	**Decision Making**
	To be competent, the individual must be able to: SB1. Take a decision for any change/issue based on earlier successes(documented previous history)on similar issues SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material/chemical is developed replacing existing one. SB3. Make changes in cycle time due to improved process. SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management SB5. Consult the peer group and superiors to arrive at a favourable decision. SB6. Use of standard available problem solving techniques for decision making SB7. Review and analyze the process steps to check on system non adherence and non conformity SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making SB9. Take a calculated risk with minimum losses

	Plan and Organize
	SB10. Schedule daily activities and drawing up priorities; allocate start times, estimation of completion times and materials, equipment and assistance required for completion.
	Customer Centricity
	SB11. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB12. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB13. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB14. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB15. Work towards fulfilling the customers requirement as per their demand. SB16. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB17. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB18. Maintain good/cordial relation with customers. SB19. Work on the feedback received from customer regarding the product.
	Problem Solving
	SB20. Use first aid treatment in case of any injury/accident.
	Analytical Thinking
	SB21. Monitor and maintain the condition of tools and equipment SB22. Assess situation & identify appropriate control measures
	Critical Thinking
	SB23. Act, communicate and report in emergency situation

NOS Version Control

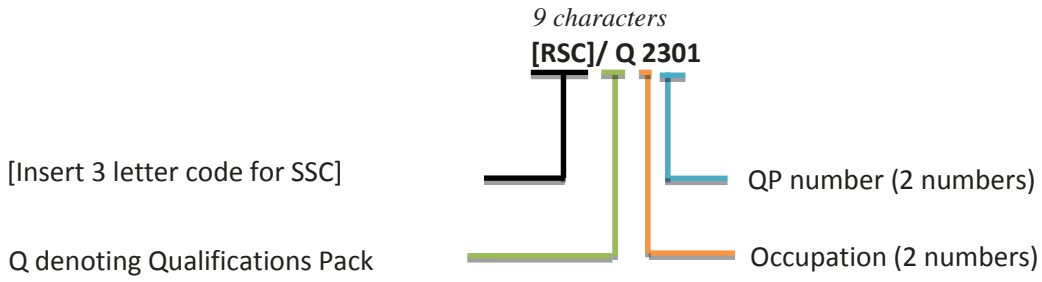
NOS Code	**RSC/N5007**		
Credits(NSQF)	**TBD**	**Version number**	**2.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**20/03/2013**
Industry Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**25/12/2017**
Occupation	**Lab Chemist**	**Next review date**	**25/12/2021**



Annexure

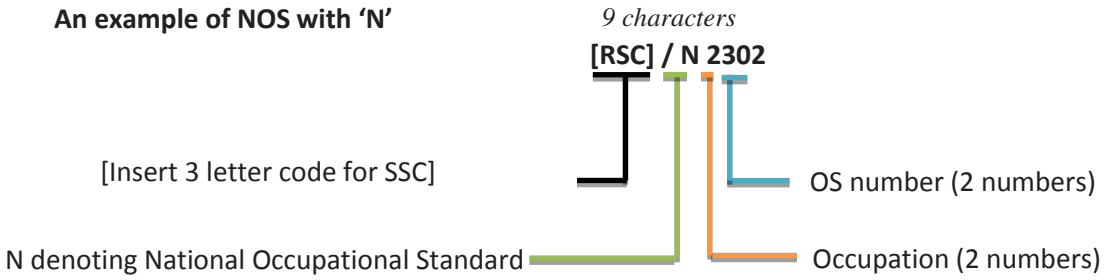
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Latex	**02-34**
Non-tyre	**12-12**
Rubber Manufacturing	**28-28**
Tyre	**02-36**
Tyre & Non -Tyre	**01-37**

Sequence	Description	Example
Three letters	Industry name	[RSC]
Slash	/	/
Next letter	Whether **Q**P or NOS	N
Next two numbers	Occupation code	23
Next two numbers	OS number	02

Criteria For Assessment Of Trainees

Job Role: Lab Chemist-Rubber
Qualification Pack Code: RSC/Q2301
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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS Total Marks: 700				Marks Allocation	
Assessment outcomes	**Assessment Criteria for outcomes**	**Total Marks**	**Out Of**	**Theory**	**Skills Practical**
RSC/N2302 Collect rubber sample and prepare equipment	PC1. Draw sample of the material from the lot to be tested as per standard procedures (SOP)	100	4	4	0
	PC2. Sampling to be done as per process flow sheet with control points		2	0	2
	PC3. Identify the sample by labeling/numbering as per SOP and recording in the log book /PC and assigning a sequential local lab number (category wise)		5	3	2
	PC4. Inspect the sample for visual defects including it has to free form any FM etc and approve the sample dimensionally		6	3	3
	PC5. Ensure that sample is suitable for test/analysis		3	0	3
	PC6. Process sample should be collected after the process is not Established from beginning of the process start		2	0	2
	PC7. Take/collect sample as per SOP only. Sample may in form of raw material process material or ready product used in processing.		5	3	2
	PC8. Identify the defect/problem in inappropriate sample		6	3	3
	PC9. Identify factors that affect the integrity of sample (eg. temperature, moisture, contamination, contact with liquids		6	3	3
	PC10. Ensure samples are well protected and are free from picking up any moisture, foreign matter etc		5	3	2

	PC11. Maintain integrity of the sample as per SOP.		2	0	2
	PC12. Identify and store sample for future/further testing as per SOP.		5	3	2
	PC13. Identify the most appropriate equipment for testing as per the SOP		5	3	2
	PC14. Set up appropriate equipment/apparatus to be used for testing correctly as per SOP / IS / ISO / International Standard		7	4	3
	PC15.Calibrate /verify/validate the testing equipment periodically as per SOP and see monitoring sticker is available in respective equipment		7	4	3
	PC16. Identify defective equipment/apparatus and steps to be taken as per SOP		6	3	3
	PC17. Keep hand tools like gloves, knife , emery paper, sample cutter etc ready before starting the tests		6	3	3
	PC18. Ensure Health & safety in laboratory		1	0	1
	PC19. Ensure availability of safety accessories including eye wash station		1	0	1
	PC20. Ensure availability of raw materials/laboratory reagents Material Safety Data Sheet (MSDS) in the laboratory		2	0	2
	PC21. Handle the equipment properly		2	1	1
	PC22. Ensure samples and chemicals are carefully handled to avoid accidental spillage of chemicals.		4	2	2
	PC23. Use safety equipment such as fire extinguishers, fire blankets, and eye-wash stations.		2	1	1
	PC24. Escalate matters in case of any accidents, spills etc.		3	2	1
	PC25. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational standards (SOP)		3	2	1
	Total		**100**	**50**	**50**
RSC/N2303 Conduct testing of rubber products at various stages of production)	PC1. Ensure that the reagents and materials used for testing are of standard quality and procured from approved source.	100	4	4	0
	PC2. Identify appropriate tests or follow guidelines given		3	3	0
	PC3. Carry out tests as per SOP.		4	4	0
	PC4. Ensure that test methods conform to the required quality and accuracy of testing.		3	3	0
	PC5. Carry out testing for raw material as per requirement:		7	5	2
	PC6. Specify Gravity, Volatile loss, Moisture, Particle size, Surface Area, Assay, Ash Content, Melting Point, Boiling Point, Softening Point, pH as per type of Raw Material including specific tests (as mentioned in RM Specification)and/or plant specification		6	4	2
	PC7. Carry out Volumetric, Gravimetric or Instrumental tests as per type of RM		4	4	0
	PC8. Visual examination of RM including tests with respect to appearance /color and odour		8	5	3
	PC9. Carry out testing for batch release as per the requirement:		5	4	1
	PC10. Carru out testing as per specific Gravity, Dispersion, Cure charteristic properties, Rheometry, Mooney Viscosity, Mooney Scorch, Hardness, Tensile, Elongation at break, Modulus, Tear strength, Rebound Resilience, as per SOP		5	4	1

	PC11. Carry out testing for cured compound as per requirement: Specific Gravity, Dispersion, Cure charteristic properties, Rheometry, Mooney viscosity, Hardness, Tensile, Elongation, Modulus, Tear, low temperature properties, ozone resistance, aging properties, abrasion resistance, rebound resilience, set properties, electrical properties, Tear resistance, Dispersion, Heat build up, swelling as per requirement /Standards		9	6	3
	PC12. Carry out testing for finished products as per requirement/guidelines provided:		8	4	4
	PC13. Carry out testing as per specific gravity, Stress-Strain properties (TS, M300, EB, Tear) ,Abrasion Resistance (Volume Loss),Set properties (compression, Tension, permanent etc.),Fatigue test (crack initiation, crack growth),Rebound Resilience, Hardness Testing (Shore A/Shore D),Hysteresis properties,		6	4	2
	PC14. Carry out testing as per swelling properties, Aging (hot air, humid, salt, oxygen bomb),Low temperature properties, Adhesion (Fabric-Rubber, Rubber-Rubber, Rubber-Metal), Electrical properties, Dimension and checks, Endurance, Uniformity, X-Ray analysis, in accordance IS / ISO / International Standards and SOP		6	4	2
	PC15. Ensure Health & safety in laboratory		1	0	1
	PC16. Ensure availability of safety accessories including eye wash station		1	0	1
	PC17. Ensure availability of raw materials/laboratory reagents Material Safety Data Sheet (MSDS) in the laboratory		2	0	2
	PC18. Handle the equipment properly		3	2	1
	PC19. Ensure samples and chemicals are carefully handled to avoid accidental spillage of chemicals.		4	2	2
	PC20. Conduct the experiments wearing the appropriate attire such as safety goggles, gloves, closed toe shoes, long pants, tied hair		3	2	1
	PC21. Use safety equipment such as fire extinguishers, fire blankets, and eye-wash stations.		3	2	1
	PC22. Escalate matters in case of any accidents, spills etc.		3	2	1
	PC23. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational standards (SOP)		2	2	0
	Total		**100**	**70**	**30**
RSC/N2304 (Analysis, Reporting and Recording of Test Results)	PC1. Keep tools and accessories ready before starting the analysis	100	9	6	3
	PC2. Ensure that the accuracy and periodicity of the data captured in records is as per SOP		6	6	0
	PC3. Identify appropriate technique in evaluating result		6	6	0
	PC4. Interpret the results correctly using the identified technique(s)		6	6	0
	PC5. Record and maintain data as per company standards (SOP)		9	6	3
	PC6. Ensure that reports/records are accurate and clear		8	5	3
	PC7. Release or Hold the raw material as per finding for further processing.		8	5	3
	PC8. Take up the results of the findings with supplier/QC in-charge/appropriate authority.		6	6	0
	PC9. Ensure regular exchange of raw material testing, in process testing and end products testing to facilitate prompt action for establishing proves specifications, controlling processes and maintaining uniformity		6	6	0

	in the processes				
	PC10. Inform concerned persons for rectifications, if needed in specified time limit		5	5	0
	PC11. Ensure Health & safety in laboratory		2	0	2
	PC12. Ensure availability of safety accessories including eye wash station		2	0	2
	PC13. Ensure availability of raw materials/laboratory reagents Material Safety Data Sheet (MSDS) in the laboratory		2	0	2
	PC14. Handle the equipment properly		2	1	1
	PC15. Ensure samples and chemicals are carefully handled to avoid accidental spillage of chemicals.		4	2	2
	PC16. Conduct the experiments wearing the appropriate attire such as safety goggles, gloves, closed toe shoes, long pants, tied hair		2	1	1
	PC17. Use safety equipment such as fire extinguishers, fire blankets, and eye-wash stations.		3	2	1
	PC18. Escalate matters in case of any accidents, spills etc.		3	2	1
	PC19. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational standards (SOP)		1	1	0
	PC20. Carry out disposal of waste and left over tested material safely as per SOP		5	2	3
	PC21. Dispose all materials used in the experiment safely as per Health and Safety management system of the company		5	2	3
	Total		**100**	**70**	**30**
RSC/N5001 Carry out housekeeping in rubber product manufacturing	PC1. Inspect the area while taking into account various surfaces		3	3	0
	PC2. Inspect the working table and the surrounding areas for usable rubber cut ends /strips		0	0	0
	PC3. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain	100	3	3	0
	PC4. Ensure that the cleaning equipment is in proper working condition		3	3	0
	PC5. 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
	PC6. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces		3	3	0
	PC7. Inform the affected people about the cleaning activity		2	2	0
	PC8. Display the appropriate signage for the work being conducted		3	3	0
	PC9. Ensure that there is adequate ventilation for the work being carried out		3	3	0
	PC10. Wear the personal protective equipment required for the cleaning method and materials being used		3	3	0
	PC11. Use the correct cleaning method for the work area, type of soiling and surface		3	3	0
	PC12. Carry out cleaning activity without disturbing others		3	3	0
	PC13. Deal with accidental damage, if any, caused while carrying out the work		3	3	0
	PC14. Report to the appropriate person any difficulties in carrying out your work		3	3	0
	PC15. Identify and report to the appropriate person any additional		3	3	0

	cleaning required that is outside one's responsibility or skill				
	PC16. Ensure that there is no oily substance on the floor to avoid slippage		9	3	6
	PC17. Ensure that no scrap material is lying around		9	3	6
	PC18. Ensure all re usable rubber cut ends strips left over samples are collected in appropriate bins		0	0	0
	PC19. Maintain and store housekeeping equipment and supplies		3	3	0
	PC20. Follow workplace procedures to deal with any accidental damage caused during the cleaning process		3	3	0
	PC21. Ensure that, on completion of the work, the area is left clean and dry and meets requirements		8	2	6
	PC22. 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
	PC23. Dispose the waste garnered from the activity in an appropriate manner		9	3	6
	PC24. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly		9	3	6
	PC25. Maintain schedules and records for housekeeping duty		3	3	0
	PC26. Replenish any necessary supplies or consumables		3	3	0
	Total		**100**	**70**	**30**
RSC/N5002 Carry Out Reporting And Documentation	PC1. Report data/problems/incidents as applicable in a timely manner	100	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
	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. Ensure documents are available to all appropriate authorities to inspect		6	4	2
	PC9. Respond to the requests for information in an appropriate manner whilst following organizational procedures		6	6	0
	PC10. Inform the appropriate authority of requests for information received		6	6	0
	Total		**100**	**60**	**40**
RSC/N5003 Carry out quality checks	PC1. Ensure that total range of checks are regularly and consistently performed	100	24	10	14
	PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required		24	10	14
	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
	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
	Total		**100**	**60**	**40**
RSC/N5004 Carry Out Problem Identification And Escalation	PC1. Identify defects/indicators of problems	100	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
	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. Evaluate 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
	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

	Total		**100**	**70**	**30**
RSC/N5007 - Carry Out Health and Safety	PC1. Undertake basic safety checks before operation of all machinery and equipment and report hazards to the appropriate supervisor	100	6	4	2
	PC2. Work for which protective clothing or equipment is required is identified and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy.		6	4	2
	PC3. Read and understand the hazards of use and contamination mentioned on the labels of chemicals, utilities etc		0	0	0
	PC4. Prior to performing manual handling jobs, risk is assessed and work is carried out according to currently recommended safe practices.		6	4	2
	PC5. Use equipment and materials safely and correctly and return the same to designated storage when not in use		0	0	0
	PC6.Dispose off waste safely and correctly in a designated area		6	4	2
	PC7. Risks to bystanders are recognized and action taken to reduce risk associated with jobs in the workplace		0	0	0
	PC8. Perform work in a manner which minimizes environmental damage		0	0	0
	PC9. All procedures and work instructions for controlling risk are followed closely.		0	0	0
	PC10. Report any accidents, incidents or problems without delay to an appropriate person and take immediate necessary action to reduce further danger.		0	0	0
	PC11.Follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency.		6	4	2
	PC12.Follow emergency procedures as per company standards and workplace requirements.		8	5	3
	PC13.Use Emergency equipment in accordance with manufacturers' specifications and workplace requirements.		8	5	3
	PC14. Provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques.		0	0	0
	PC15. Recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate		0	0	0
	PC16. Dispose off medical waste in accordance with workplace requirements		0	0	0
	PC17.Report details of first aid administered in accordance with work place procedures.		7	4	3
	PC18. Comply with general safety procedures		8	4	4
	PC 19. Follow standard safety procedures while handling equipment, hazardous material or tool		0	0	0
	PC20. Check parts of the workplace and take preventive actions like spraying and other steps to protect from leakages, water logging, pests, fire, pollution, etc.		8	5	3
	PC21. Ensure no accidents and damages at the workplace, reporting of any breach of company safety procedure		0	0	0
	PC22. Keep the workplace organized, swept, clean and hazard free		8	5	3
	PC23. Attend fire drills and other safety related workshops organized at the workplace		4	2	2
	PC24. Be aware of first aid, evacuation and emergency procedures		4	2	2
	PC25. Be alert of any events and do not be negligent to any safety		0	0	0

	procedures to be followed				
	PC26. Avoid accidents while using hazardous chemicals, machines, sharp tools and equipment		4	2	2
	PC27.Use safety materials such as protective gear, goggles, caps, shoes, etc.(as applicable with workplace)		4	2	2
	PC28. Handle heavy and hazardous materials with care and using appropriate tools and handling equipment such as trolleys, ladders		4	2	2
Total			**100**	**60**	**40**