

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR LIFE SCIENCES INDUSTRY

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 Technician/Assistant

SECTOR: LIFE SCIENCES

SUB-SECTOR: PHARMACEUTICAL AND BIOPHARMACEUTICAL

OCCUPATION: RESEARCH AND DEVELOPMENT

REFERENCE ID: LFS/Q0509

ALIGNED TO: NCO-2004/NIL

Lab technician, also known as Lab Assistant, is responsible provide all the required technical support to ensure laboratory activities are carried out while adhering to correct procedures and health and safety guidelines. They also ensure that all the necessary equipment's, materials etc. are readily available and match the desired standards.

Brief Job Description: The Lab Technician will set up the lab equipment and apparatus for smooth execution of experiments and tests. The role holder will also provide all the required technical support to ensure laboratory activities are carried out while adhering to correct procedures and health and safety guidelines. They also ensure that all the necessary equipment's, materials etc. are readily available and match the desired standards.

Personal Attributes: The individual should have good knowledge of the Pharmaceutical industry. He/ she should have good analytical skills and should demonstrate the ability to understand and predict the future demand. He/she should demonstrate good estimation skills.

Job Details

Qualifications Pack Code	LFS/Q0509		
Job Role	Lab Technician/Assistant		
Credits(NSQF)	TBD	Version number	1.0
Sector	Life Sciences	Drafted on	15/12/14
Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	25/02/15
Occupation	Research & Development	Next review date	01/06/17
NSQC Clearance on	20/07/2015		

Job Role	Lab Technician/Assistant
Role Description	Responsible for setting up the lab equipment and apparatus for smooth execution of experiments and tests. The role holder will also provide all the required technical support to ensure laboratory activities are carried out while adhering to correct procedures and health and safety guidelines. They also ensure that all the necessary equipment's, materials etc. are readily available and match the desired standards.
NSQF level	3
Minimum Educational Qualifications	10+2
Maximum Educational Qualifications	Diploma in Chemistry/ D.Pharma/ B.Sc in Chemistry (Preferable)
Training (Suggested but not mandatory)	On the job training
Minimum Job Entry Age	18 Years
Experience	0-1 years of experience in the related field
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> LFS/N0530: Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis. LFS/N0531: Carry out washing, processing and drying of the glassware/plastic ware for experimentation LFS/N0532: Carry out preparation of solution and reagents

	<p>4 LFS/N0533: Ensure appropriate measures are taken while opening of chemicals to be used in analysis</p>
	<p>5 LFS/N0534: Maintain records of lab usage, storage of chemicals, labels, date of opening and closing</p> <p>6 LFS/N0560: Reprocess the instruments before carrying out experiments</p> <p>7 LFS/N0101: Maintain a healthy, safe and secure working environment in the life sciences facility</p> <p>8 LFS/N0103: Ensure cleanliness in the work area</p> <p>Optional N.A.</p>
Performance Criteria	As described in the relevant NOS units

Keywords /Terms	Description
Core Skills/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 NOS, these include communication related skills that are applicable to most job roles.
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 NOS they are looking for.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Organisational Context	Organisational Context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Scope	Scope is the 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 the quality of performance required.
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.

Acronyms

Sub-Sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Unit Code	Unit Code is a unique identifier for an NOS unit, which can be denoted with an 'N'.
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Keywords /Terms	Description
NOS	National Occupational Standard(s)
NSQF	National Skill Qualifications Framework
NCO-2004	National Classification of Occupations-2004
OS	Occupational Standard(s)
QP	Qualifications Pack
SOP	Standard Operating Procedures
OHSAS	International Occupational Health And Safety Management System
ISO	International Organization for Standardization
CIP	Cleaning In Process
SIP	Sterilisation In Process

LFS/N0531 : Carry out washing, processing and drying of the glassware/plastic ware for experimentation

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of a Lab Technician to make the equipment's ready for use for experiment and ensuring clean surroundings .

LFS/N0531 : Carry out washing, processing and drying of the glassware/plastic ware for experimentation

National Occupational Standard	Unit Code	LFS/N0531
	Unit Title (Task)	Carry out washing, processing and drying of the glassware/plastic ware for experimentation
	Description	This NOS is about a Lab Technician reviewing cleanliness of the laboratory equipment's and surroundings
	Scope	The units covers the following :- <ul style="list-style-type: none"> Processing the glassware/plastic ware for experimentation
	Performance Criteria (PC) w.r.t the Scope	
	Element	Performance Criteria
	Processing the glassware for experimentation	<p>PC1. washing and cleaning the glassware with different solutions and types of water to ensure complete cleaning and removing of dirt</p> <p>PC2. ensure glass and plastic ware used for experimentation to be scrupulously clean</p> <p>PC3. use deionized distilled water as the final rinse in the cleansing process</p> <p>PC4. sterilize contaminated laboratory ware before cleansing</p> <p>PC5. monitor proper operation and supply of the distilled and deionized water sources</p> <p>PC6. select detergent which is compatible with area water and leaves behind no undesirable residues on the cleansed laboratory ware and equipment</p> <p>PC7. check cleansed laboratory ware and equipment for acid / reagent residues</p> <p>PC8. inspect washed laboratory ware and equipment for cleanliness</p> <p>PC9. code all laboratory ware and equipment to cleansing specifications required for laboratory studies.</p> <p>PC10. use autoclave for drying and sterilization of the glassware before further use.</p> <p>PC11. support seniors in monitoring batch fermentation process</p>
	Knowledge and Understanding (K)	
	A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. proper procedure for selecting the material/product and performing quality checks without affecting the material</p> <p>KA2. characteristics of the product/material</p> <p>KA3. availability and use of monitoring and measuring devices</p> <p>KA4. implications of inaccurate measuring and testing instruments and equipment</p> <p>KA5. the reason and impact of the occurrence of problems</p> <p>KA6. measures, steps and possible solutions that have been taken/identified to address the previous problems</p> <p>KA7. the correct method for carrying out corrective actions outlined for each problem</p>

LFS/N0531 : Carry out washing, processing and drying of the glassware/plastic ware for experimentation

<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. knowledge of autoclave and water wash applications KB2. familiar with laboratory safety manual. KB3. knowledge of standard operating procedures for laboratory chemicals KB4. knowledge of pharmaceutical GLPs and regulatory requirements KB5. knowledge of preparation and testing of reagent water in the laboratory KB6. testing equipment and related test methods and purpose of tests KB7. quality requirements of materials and effect of variation on process performance KB8. typical instrument faults and related causes, including recognition of signs and symptoms of faulty lab instruments and apparatus /early warning signs of potential problems. KB9. common causes of variation and corrective action required.</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. excellent written communication skills SA2. recording details of work done using written/typed report or computer based record/electronic mail SA3. maintain proper records as per given format</p> <p>Reading and understanding skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. read and understand manuals, sops, health and safety instructions, memos, reports, job cards etc. SA5. read images, graphs, diagrams SA6. understand the various coding systems as per company norms</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. communication with upstream and downstream teams 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</p>
<p>B. Professional Skills</p>	<p>Plan and Organise</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. plan and organise the work activities to ensure their timely completion</p>

LFS/N0531 : Carry out washing, processing and drying of the glassware/plastic ware for experimentation

	Critical Thinking
	SB2. apply, analyse and evaluate the information gathered from the observation, experience, reasoning or communication as a guide to thought and action
	Decision Making
	Not Applicable
	Customer Centricity
	Not Applicable
	Problem Solving
	Not Applicable
	Analytical Thinking
Not Applicable	

LFS/N0531 : Carry out washing, processing and drying of the glassware/plastic ware for experimentation

NOS Version Control

NOS Code	LFS/N0531		
Credits(NSQF)	TBD	Version number	1.0
Industry	Life Sciences	Drafted on	15/12/14
Industry Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	25/02/15
Occupation	R&D	Next review date	01/06/17



LFS/N0530 : Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis.

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of a Lab Technician/Assistant to help setting up for experiment and maintains a protocol and procedures within the organisation and maintenance of stock.

LFS/N0530 : Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis.

National Occupational Standard	Unit Code	LFS/N0530
	Unit Title (Task)	Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis.
	Description	This NOS unit is about a lab technician maintaining equipment 's at the right time , assist in laboratory testing and maintain safety standards
	Scope	The unit/task covers the following: <ul style="list-style-type: none"> • Help in set up of the experiment • Ensure adherence to protocol and procedures • Carry out inspection and maintenance of equipment and materials
	Performance Criteria (PC) w.r.t the Scope	
	Element	Performance Criteria
	Help in set up of the experiment.	To be competent, the user/individual on the job must be able to: <p>PC1. to ensure the reagents, glassware, equipment is available at the right time.</p> <p>PC2. to assist in laboratory tests in order to produce reliable and precise data to support scientific investigations</p> <p>PC3. to prepare specimens and samples as per the guidelines and required for the experiment</p> <p>PC4. to set up and operate standard laboratory equipment, for example centrifuges, titrators, pipetting machines and PH meters</p>
	Ensure protocol and procedures	PC5. to carry out routine tasks accurately and maintain strict adherence to SOPs PC6. to follow and ensure strict safety procedures and safety checks are followed PC7. keeping up to date with technical developments, especially those which can save time and improve reliability
	Carry out inspection and maintenance of equipment and materials	PC8. maintaining and repairing equipment and laboratory apparatus as a part of routine activities PC9. coordinating work in the laboratory to ensure efficient use is made of expensive pieces of equipment. PC10. ensuring the laboratory is well-stocked and resourced
	Knowledge and Understanding (K)	
A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	The user/individual on the job needs to know and understand: <p>KA1. organizational coding system of finished material, compounds and company manual</p> <p>KA2. chemicals used in the industry and their function</p> <p>KA3. different quality management systems (ISO-9000, ISO-14001, OHSAS-18000), good laboratory and manufacturing practices</p> <p>KA4. strong understanding of quality systems and procedures</p>	

LFS/N0530 : Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis.

	<p>KA5. material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure</p> <p>KA6. importance of identifying non-conforming products and storage of the same</p> <p>KA7. risk and impact of not following defined procedures/work instructions</p> <p>KA8. escalation matrix for reporting identified issues, hazards and breakage</p> <p>KA9. health, safety and environment guidelines, legislation and regulations as applicable and impact of non-conformance/poor practices</p> <p>KA10. personal protection (which protective equipment to be used and how)</p> <p>KA11. potential hazards, actions to minimize the same and basic disaster management</p> <p>KA12. awareness of various documentation requirement, Job Aids, SOPs as per the organizational policies.</p>
<p>B Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. knowledge of chemistry, measuring units and simple chemical calculation and principles of the process</p> <p>KB2. knowledge of various methods of preparation of solutions and reagents.</p> <p>KB3. knowledge on different standard reference material related to apparatus and chemical handling</p> <p>KB4. operational knowledge of laboratory equipment and instruments such as centrifuge, agitators, rheometer, chemical balance scales, spectrometer, colorimeter, and other equipment.</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. excellent written communication skills</p> <p>SA2. recording details of work done using written/typed report or computer based record/electronic mail</p> <p>SA3. maintain proper records as per given format</p> <p>Reading and understanding skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. read and understand manuals, SOPs, health and safety instructions, memos, reports, job cards etc.</p> <p>SA5. read images, graphs, diagrams</p> <p>SA6. understand the various coding systems as per company norms</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. disclose information only to those who have the right and need to know it</p>

LFS/N0530 : Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis.

	SA8. communicate confidential and sensitive information discretely to authorized person as per SOP
B. Professional Skills	Plan and Organize
	The user/individual on the job needs to know and understand how to:
	SB1. plan and prioritize work, including taking responsibility for completing one's own work assignment
	SB2. multi-task and adapt to effectively support multiple activities at one time
	SB3. take responsibility for completing one's own work assignment
	Problem Solving
	The user/individual on the job needs to know and understand how to:
	SB4. seek clarification on problems from others
	SB5. identify, define and resolve problems using a structured methodology
	SB6. apply basic sciences (chemistry), mathematics, statistics to work-related requirements
	SB7. explore new ways of doing things
	Analytical Thinking
	The user/individual on the job needs to know and understand how to:
SB8. ability to identify, define and resolve problems using a structured methodology	
SB9. suggest improvements(if any) in process based on experience	
SB10. ability to prioritize needs and effectively schedule work to effectively support multiple projects at one time	
SB11. arithmetic and mechanical aptitude	
SB12. attention to detail	
SB13. planning skills with the ability to multi-task and adapt	
Customer Centricity	
Not Applicable	
Decision Making	
Not Applicable	
Critical Thinking	
Not Applicable	

LFS/N0530 : Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis.

NOS Version Control

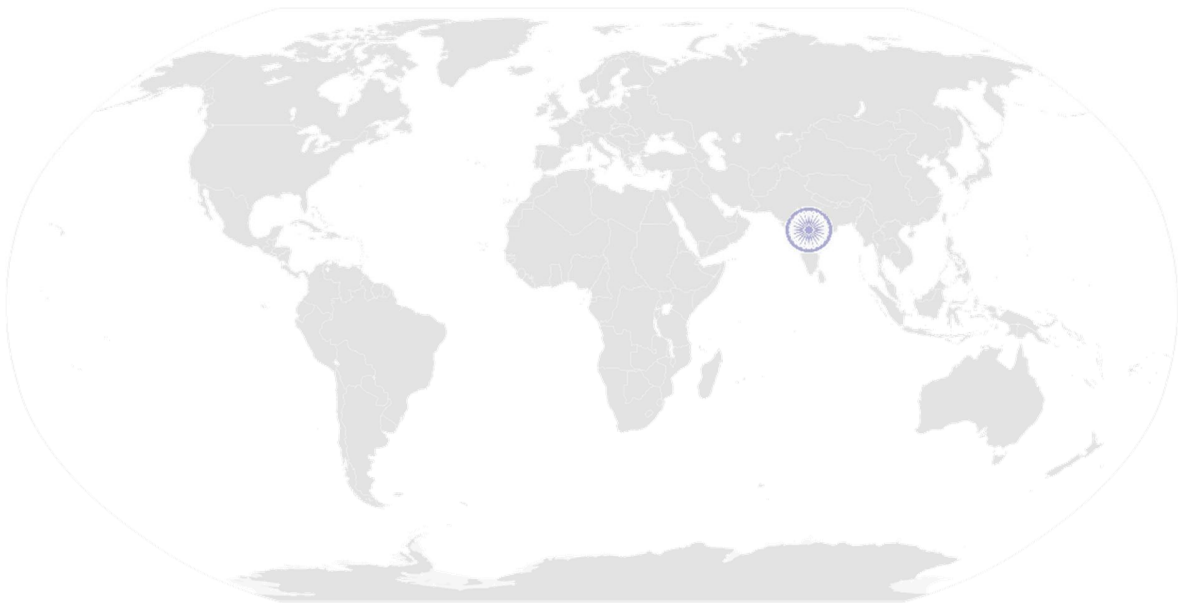
NOS Code	LFS/N0530		
Credits(NSQF)	TBD	Version number	1.0
Industry	Life Sciences	Drafted on	15/12/14
Industry Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	25/02/15
Occupation	R&D	Next review date	01/06/17



LFS/N0532 :

Carry out preparation of solution and reagents

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of a Lab Technician for maintaining standards for handling various solutions and ensuring safety.

LFS/N0532 :

Carry out preparation of solution and reagents

National Occupational Standard	Unit Code	LFS/N0532
	Unit Title (Task)	Carry out preparation of solution and reagents
	Description	This NOS is about a lab technician ensuring the safety ,maintain the standards as per SOP and preparing the solutions as per the guidelines.
	Scope	The unit covers the following: <ul style="list-style-type: none"> Preparing solution and reagents
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Preparing solution and reagents	To be competent, the user/individual on the job must be able to <ul style="list-style-type: none"> PC1. to be well informed about the various reagents and associated specifications to be used in the laboratory PC2. ensure proper procedure is followed in reagent preparation PC3. ensure proper mixing of chemicals PC4. ensure safety by ensuring separation of incompatible chemicals and reagents PC5. preparation of media and buffer for fermentation experiments PC6. ensure purified water requirements are specified for clinical laboratory testing procedures PC7. ensure the solution is prepared as a percentage by weight, volume or moles and knowledge of all formulae respectively as specified by the lab chemists PC8. prepare working solutions from concentrated stock solutions PC9. measure the strength of solutions and weigh them as per guidelines
	Knowledge and Understanding (K)	
	A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. risk and impact of not following defined procedures/work instructions KA2. escalation matrix for reporting identified issues, hazards and breakage KA3. awareness of various documentation requirement, Job Aids, SOPs as per the organizational policies. KA4. the levels of hygiene required by workplace and importance of maintaining the same KA5. procedures for reporting any unresolved issues and hazards KA6. reporting incidents where standard operating procedures are not followed KA7. the importance of complete and accurate documentation KA8. proper procedure for selecting the material/product and performing quality checks without affecting the material

LFS/N0532 :

Carry out preparation of solution and reagents

	<p>KA9. characteristics of the product/material</p> <p>KA10. availability and use of monitoring and measuring devices</p> <p>KA11. implications of inaccurate measuring and testing instruments and equipment</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KA12. testing equipment and related test methods and purpose of tests</p> <p>KA13. quality requirements of materials and effect of variation on process performance</p> <p>KA14. typical instrument faults and related causes, including recognition of signs and symptoms of faulty lab instruments and apparatus /early warning signs of potential problems.</p> <p>KA15. common causes of variation and corrective action required.</p> <p>KA16. operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. excellent written communication skills</p> <p>SA2. recording details of work done using written/typed report or computer based record/electronic mail</p> <p>SA3. maintain proper records as per given format</p>
	Reading skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. read and understand manuals, SOPs, health and safety instructions, memos, reports, job cards etc.</p> <p>SA5. read images, graphs, diagrams</p> <p>SA6. understand the various coding systems as per company norms</p>
	Oral Communication (Listening and Speaking skills)
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. disclose information only to those who have the right and need to know it</p> <p>SA8. communicate confidential and sensitive information discretely to authorized person as per SOP</p> <p>SA9. communicate confidential and sensitive information discretely to authorized person as per SOP</p>
C. Professional Skills	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p>

LFS/N0532 :

Carry out preparation of solution and reagents

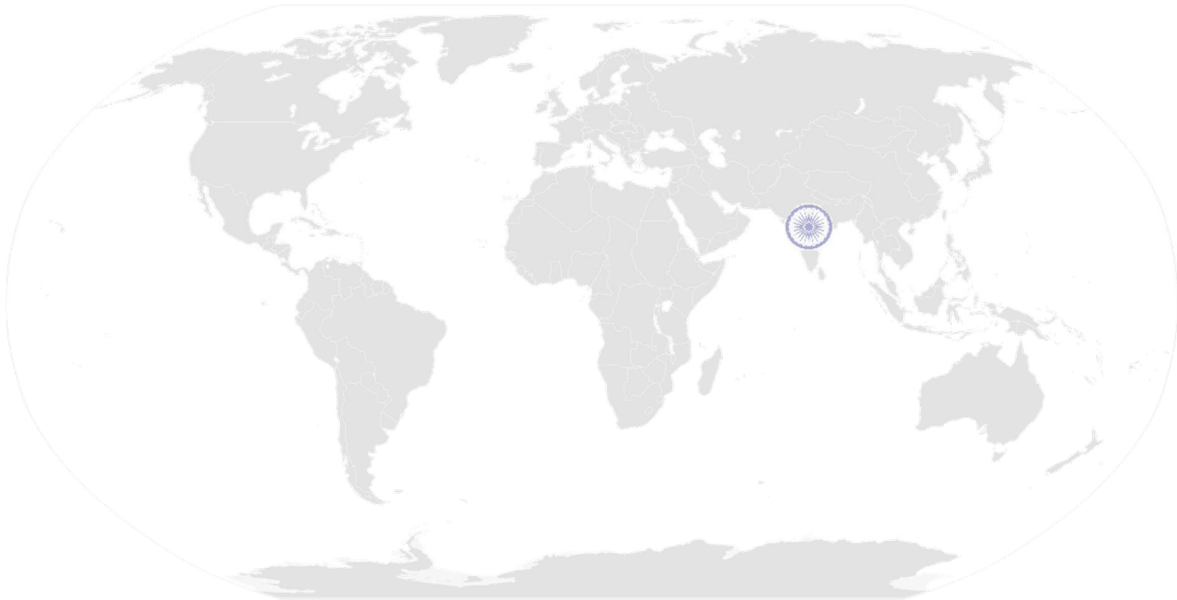
	SA10. plan and prioritize work, including taking responsibility for completing one's own work assignment
	SA11. multi-task and adapt to effectively support multiple activities at one time
	SA12. take responsibility for completing one's own work assignment
	Problem Solving
	The user/individual on the job needs to know and understand how to:
	SA13. seek clarification on problems from others
	SA14. identify, define and resolve problems using a structured methodology
	SA15. apply basic sciences (chemistry), mathematics, statistics to work-related requirements
	SA16. explore new ways of doing things
	Analytical Thinking
	The user/individual on the job needs to know and understand how to:
	SA17. ability to identify, define and resolve problems using a structured methodology
SA18. suggest improvements(if any) in process based on experience	
SA19. ability to prioritize needs and effectively schedule work to effectively support multiple projects at one time	
SA20. arithmetic and mechanical aptitude	
SA21. attention to detail	
SA22. planning skills with the ability to multi-task and adapt	
Decision Making	
Not Applicable	
Customer Centricity	
Not Applicable	
Critical Thinking	
Not Applicable	

LFS/N0532 :

Carry out preparation of solution and reagents

NOS Version Control

NOS Code	LFS/N0532		
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Industry	Life Sciences	Drafted on	15/12/14
Industry Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	25/02/15
Occupation	R&D	Next review date	01/06/17



LFS/N0533 : Ensure appropriate measures are taken while opening of chemicals to be used in analysis

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of a Lab Technician for handling of chemicals , their proper labelling and stocking .

LFS/N0533 : Ensure appropriate measures are taken while opening of chemicals to be used in analysis

National Occupational Standard	Unit Code	LFS/N0533
	Unit Title (Task)	Ensure appropriate measures are taken while opening of chemicals to be used in analysis
	Description	This NOS is about a Lab Technician ensuring that the chemicals are dealt with proper care and a proper stock is maintained of the concerned chemicals.
	Scope	The unit covers the following: <ul style="list-style-type: none"> Handling of chemicals before, after experiments, transferring them in smaller containers and labelling them
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Handling of chemicals	To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. display commitment to handle and use the chemical properly from initial receipt to ultimate disposal. PC2. new chemicals shall be obtained only if the supervisor has determined that the use of the new chemical is necessary PC3. carry out labeling and packaging of chemical containers in accordance with applicable regulations PC4. ensure all chemical containers are dated PC5. move the received chemicals to the designated storage area PC6. store large bottles of acids and other hazardous substances on a shelf that is no more than three feet above floor level PC7. acid-resistant trays should be placed under bottles of mineral acids PC8. ensure appropriate safety eyewear and other personal protective equipment to be used PC9. while transferring chemicals one must ensure containers are properly labeled and know what to do in the event of a release or spill PC10. wear appropriate personal protective equipment (PPE) PC11. ensure incompatible chemicals are kept away from each other.
	Knowledge and Understanding (K)	
	B. Organisational Context (Knowledge of the Company/ Organisation and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. different quality management systems (ISO-9000, ISO-14001, OHSAS-18000), good laboratory and manufacturing practices KA2. material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure KA3. importance of identifying non-conforming products and storage of the same KA4. risk and impact of not following defined procedures/work instructions KA5. escalation matrix for reporting identified issues, hazards and breakage

LFS/N0533 : Ensure appropriate measures are taken while opening of chemicals to be used in analysis

	KA6. types of documentation in organization, importance of maintaining the same and different methods of recording information
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. should have general hazard information and the appropriate training</p> <p>KB2. practical experience with equipment, computer system, cleaning and reprocessing equipment's.</p> <p>KB3. knowledge of proper procedures of carrying out maintenance on laboratory instruments and equipment's as well environmental monitoring in Lab.</p> <p>KB4. knowledge of general housekeeping, storage and use of equipment, and maintenance.</p> <p>KB5. knowledge of wet chemical processing systems and equipment including cleaning processing systems and equipment</p> <p>KB6. basic understanding of microbiology is advantageous but not a pre-requisite</p> <p>KB7. knowledge of drying equipment and process, temperature controls, storage conditions and requirements.</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. excellent written communication skills</p> <p>SA2. recording details of work done using written/typed report or computer based record/electronic mail</p> <p>SA3. maintain proper records as per given format</p>
	Reading skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. read and understand manuals, SOPs, health and safety instructions, memos, reports, job cards etc.</p> <p>SA5. read images, graphs, diagrams</p> <p>SA6. understand the various coding systems as per company norms</p>
	Oral Communication (Listening and Speaking skills)
<p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. disclose information only to those who have the right and need to know it</p> <p>SA8. communicate confidential and sensitive information discretely to authorized person as per SOP</p> <p>SA9. communicate confidential and sensitive information discretely to authorized person as per SOP</p>	
	Plan and Organize

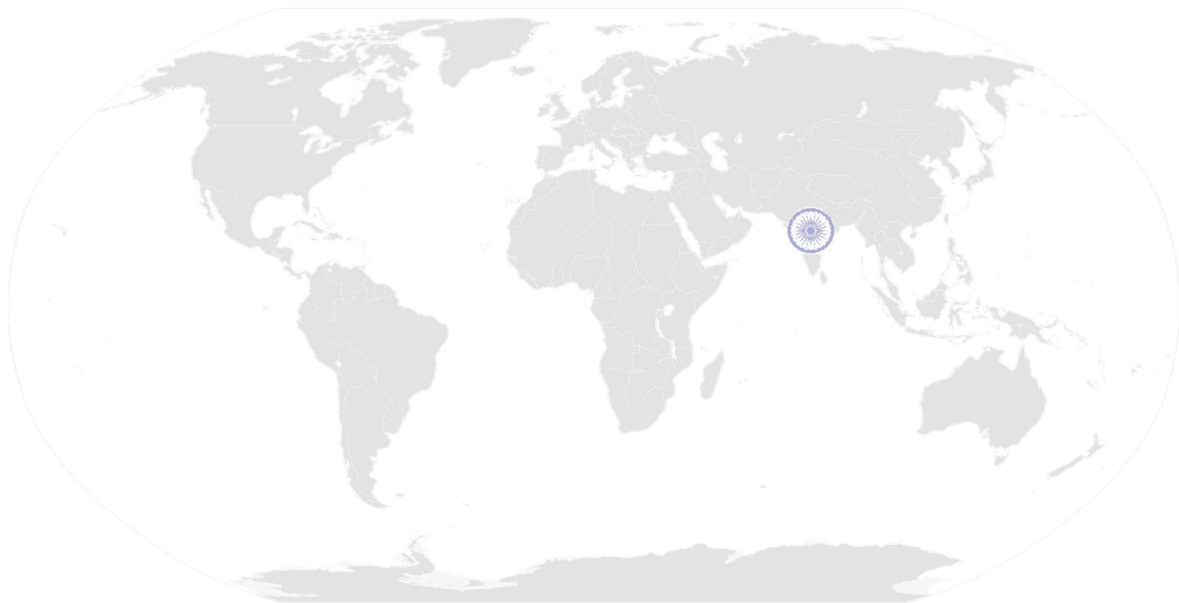
LFS/N0533 : Ensure appropriate measures are taken while opening of chemicals to be used in analysis

B. Professional Skills	The user/individual on the job needs to know and understand how to:
	SB1. plan and prioritize work, including taking responsibility for completing one's own work assignment
	SB2. multi-task and adapt to effectively support multiple activities at one time
	SB3. take responsibility for completing one's own work assignment
	Problem Solving
	The user/individual on the job needs to know and understand how to:
	SB4. seek clarification on problems from others
	SB5. identify, define and resolve problems using a structured methodology
	SB6. apply basic sciences (chemistry), mathematics, statistics to work-related requirements
	SB7. explore new ways of doing things
	Analytical Thinking
	The user/individual on the job needs to know and understand how to:
	SB8. ability to identify, define and resolve problems using a structured methodology
SB9. suggest improvements(if any) in process based on experience	
SB10. ability to prioritize needs and effectively schedule work to effectively support multiple projects at one time	
SB11. arithmetic and mechanical aptitude	
SB12. attention to detail	
SB13. planning skills with the ability to multi-task and adapt	
Decision Making	
Not Applicable	
Critical Thinking	
Not Applicable	
Customer Centricity	
Not Applicable	

LFS/N0533 : Ensure appropriate measures are taken while opening of chemicals to be used in analysis

NOS Version Control

NOS Code	LFS/N0533		
Credits(NSQF)	TBD	Version number	1.0
Industry	Life Sciences	Drafted on	15/12/14
Industry Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	25/02/15
Occupation	R&D	Next review date	01/06/17



LFS/N0534 : Maintain records of lab usage, storage of chemicals, labels, date of opening and closing

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of a lab technician to prepare proper reports for future usage and maintain relations with various vendors.

LFS/N0534 : Maintain records of lab usage, storage of chemicals, labels, date of opening and closing

National Occupational Standard	Unit Code	LFS/N0534
	Unit Title (Task)	Maintain records of lab usage, storage of chemicals, labels, date of opening and closing
	Description	This NOS is about a Lab Technician maintaining the written record, ensuring their availability when needed.
	Scope	The unit covers the following: <ul style="list-style-type: none"> To maintain laboratory records.
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	To maintain laboratory records.	To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. cataloguing recordings and making them available when requested (if the department houses audiovisual resources) PC2. to ensure that all the quality manuals are readily available for reference PC3. to ensure that SOPs for each of the experiments is available PC4. to ensure document control by maintaining master log, effective archiving and constant updating of laboratory log. PC5. maintain various records sample log book, registers, quality control data, incident reports, results of internal and external audits etc. PC6. maintain instrument printouts of maintenance records PC7. maintain test specific reports PC8. ensure proper storing and archiving practices for all relevant documentation. PC9. carry out labeling of samples and reagents as per SOPs.
	Knowledge and Understanding (K)	
	A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. procedures for reporting any unresolved issues and hazards KA2. reporting incidents where standard operating procedures are not followed KA3. the importance of complete and accurate documentation KA4. proper procedure for selecting the material/product and performing quality checks without affecting the material KA5. characteristics of the product/material KA6. availability and use of monitoring and measuring devices KA7. implications of inaccurate measuring and testing instruments and equipment KA8. implications (impact on internal/external customers) of defective products, materials or components
	B. Technical Knowledge	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. familiar with laboratory safety manual.

LFS/N0534 : Maintain records of lab usage, storage of chemicals, labels, date of opening and closing

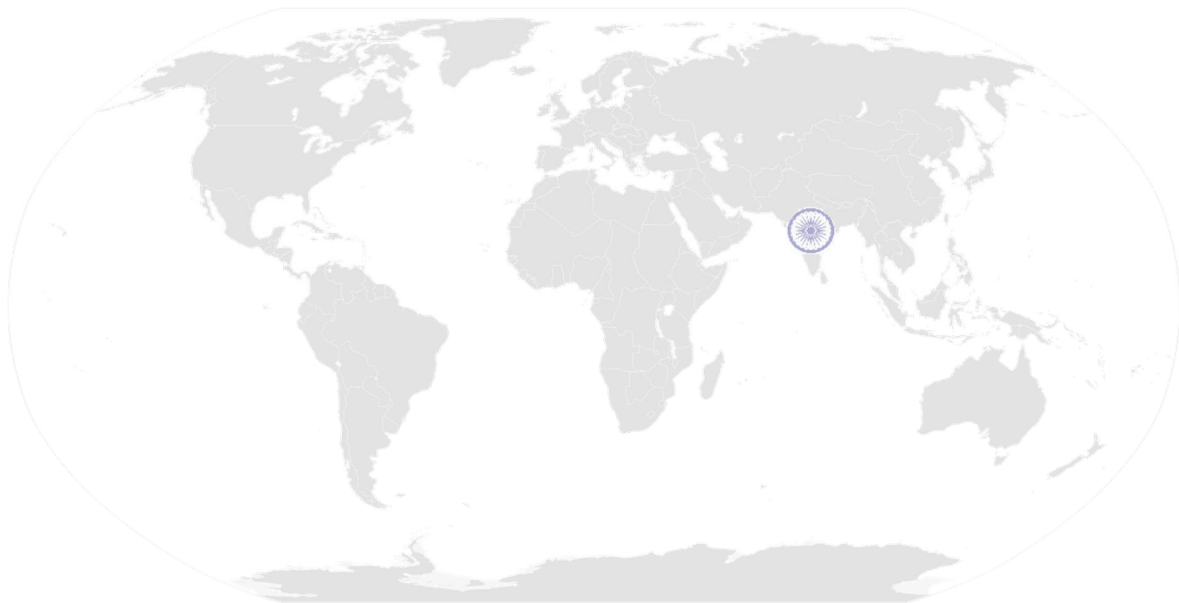
	<p>KB2. knowledge of standard operating procedures for laboratory chemicals</p> <p>KB3. knowledge of pharmaceutical GLPs and regulatory requirements</p> <p>KB4. knowledge of preparation and testing of reagent water in the laboratory</p> <p>KB5. testing equipment and related test methods and purpose of tests</p> <p>KB6. quality requirements of materials and effect of variation on process performance</p> <p>KB7. typical instrument faults and related causes, including recognition of signs and symptoms of faulty lab instruments and apparatus /early warning signs of potential problems.</p> <p>KB8. common causes of variation and corrective action required.</p> <p>KB9. familiar with laboratory safety manual.</p> <p>KB10. knowledge of standard operating procedures for laboratory chemicals</p> <p>KB11. knowledge of pharmaceutical GLPs and regulatory requirements</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. maintain proper and concise records as per given format</p> <p>SA2. good english written skills</p> <p>SA3. record and communicate details of work done to appropriate people using written/typed report or computer based record/electronic mail</p>
	Reading skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. read and understand manuals, SOPs, health and safety instructions, memos, reports, job cards etc.</p> <p>SA5. read images, graphs, diagrams</p>
	Oral Communication (Listening and Speaking skills)
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. communication with upstream and downstream teams</p> <p>SA7. communicate with job owners like sample originating section, supplier etc.</p> <p>SA8. work in a team and other behavioural skills required to support the small group activities (e.g. quality Circle, Cross Functional Team, Suggestion Scheme)</p>
	Plan and Organize

LFS/N0534 : Maintain records of lab usage, storage of chemicals, labels, date of opening and closing

B. Professional Skills	The user/individual on the job needs to know and understand how to:
	SB1. plan and prioritize work, including taking responsibility for completing one's own work assignment
	SB2. multi-task and adapt to effectively support multiple activities at one time
	SB3. take responsibility for completing one's own work assignment
	Problem Solving
	The user/individual on the job needs to know and understand how to:
	SB4. seek clarification on problems from others
	SB5. identify, define and resolve problems using a structured methodology
	SB6. apply basic sciences (chemistry), mathematics, statistics to work-related requirements
	SB7. explore new ways of doing things
Analytical Thinking	
The user/individual on the job needs to know and understand how to:	
SB8. ability to identify, define and resolve problems using a structured methodology	
SB9. suggest improvements(if any) in process based on experience	
SB10. ability to prioritize needs and effectively schedule work to effectively support multiple projects at one time	
SB11. arithmetic and mechanical aptitude	
SB12. attention to detail	
SB13. planning skills with the ability to multi-task and adapt	
Critical Thinking	
Not Applicable	
Decision Making	
Not Applicable	
Customer Centricity	
Not Applicable	

LFS/N0534 : Maintain records of lab usage, storage of chemicals, labels, date of opening and closing
NOS Version Control

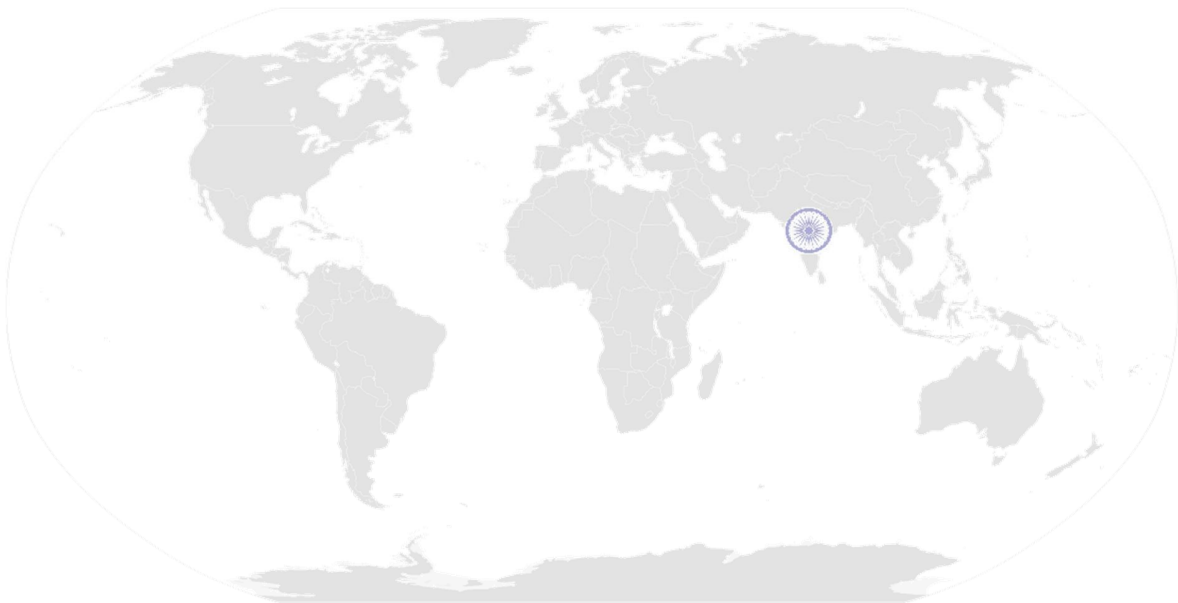
NOS Code	LFS/N0534		
Credits(NSQF)	TBD	Version number	1.0
Industry	Life Sciences	Drafted on	15/12/14
Industry Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	25/02/15
Occupation	R&D	Next review date	01/06/17



LFS/N0560 :

Reprocess the instruments before carrying out experiments

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required of a lab technician for maintaining proper cleanliness and ensuring proper packaging & storage of chemicals.

LFS/N0560 :
Reprocess the instruments before carrying out experiments

National Occupational Standard	Unit Code	LFS/N0560
	Unit Title (Task)	Reprocess the instruments before carrying out experiments
	Description	This NOS is about a Lab Technician maintaining cleanliness and packaging and storage of the sterile instruments
	Scope	The unit covers the following: <ul style="list-style-type: none"> To perform cleaning of the instruments before reprocessing To Inspect instrument post cleaning To perform sterile packaging, sterilization and storage To ensure quality assurance
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	To perform cleaning of the instruments before reprocessing	To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. to carry out manual cleaning PC2. to observe correct protocols for instrument cleaning PC3. carry out CIP and SIP for ultrasonic equipment/ fermenter and other equipment PC4. use automatic washer for complex instruments
	To Inspect instrument post cleaning	<ul style="list-style-type: none"> PC5. to replace damaged instrument PC6. return any instrument with visible soil or residual debris for further cleaning
	To perform sterile packaging, sterilization and storage	<ul style="list-style-type: none"> PC7. perform sterile packaging to maintain the sterility of processed instruments and allow for aseptic opening at point of use. PC8. to perform steam sterilization for sterilizing instruments, trays, and cassettes PC9. to store sterile packages in a manner that reduces the potential for contamination
	To ensure quality assurance	<ul style="list-style-type: none"> PC10. to routinely verify sterility assurance of processed instruments PC11. to use physical, chemical and biological indicators for quality assurance
Knowledge and Understanding (K)		
B. Organisational Context (Knowledge of the Company/ Organisation and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. strong understanding of quality systems and procedures KA2. material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure KA3. importance of identifying non-conforming products and storage of the same KA4. risk and impact of not following defined procedures/work instructions KA5. escalation matrix for reporting identified issues, hazards and breakage 	

LFS/N0560 :

Reprocess the instruments before carrying out experiments

	<p>KA6. health, safety and environment guidelines, legislation and regulations as applicable and impact of non-conformance/poor practices</p> <p>KA7. personal protection (which protective equipment to be used and how)</p> <p>KA8. potential hazards, actions to minimize the same and basic disaster management</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. should have general hazard information and the appropriate training</p> <p>KB2. practical experience with equipment, computer system, cleaning and reprocessing equipment.</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. maintain proper and concise records as per given format</p> <p>SA2. good English written skills</p> <p>SA3. record and communicate details of work done to appropriate people using written/typed report or computer based record/electronic mail</p> <p>Reading skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. read and understand manuals, SOPs, health and safety instructions, memos, reports, job cards etc.</p> <p>SA5. read images, graphs, diagrams</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. communication with upstream and downstream teams</p> <p>SA7. communicate with job owners like sample originating section, supplier etc.</p> <p>SA8. work in a team and other behavioural skills required to support the small group activities (E.g. Quality Circle, Cross Functional Team, Suggestion Scheme)</p>
<p>B. Professional Skills</p>	<p>Plan and Organize</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. plan and prioritize work, including taking responsibility for completing one's own work assignment</p> <p>SB2. multi-task and adapt to effectively support multiple activities at one time</p> <p>SB3. take responsibility for completing one's own work assignment</p> <p>Problem Solving</p>

LFS/N0560 :

Reprocess the instruments before carrying out experiments

	The user/individual on the job needs to know and understand how to:
	SB4. seek clarification on problems from others
	SB5. identify, define and resolve problems using a structured methodology
	SB6. apply basic sciences (chemistry), mathematics, statistics to work-related requirements
	SB7. explore new ways of doing things
	Analytical Thinking
	The user/individual on the job needs to know and understand how to:
	SB8. ability to identify, define and resolve problems using a structured methodology
	SB9. suggest improvements(if any) in process based on experience
	SB10. ability to prioritize needs and effectively schedule work to effectively support multiple projects at one time
SB11. arithmetic and mechanical aptitude	
SB12. attention to detail	
SB13. planning skills with the ability to multi-task and adapt	
Decision Making	
Not Applicable	
Critical Thinking	
Not Applicable	
Customer Centricity	
Not Applicable	

LFS/N0560 :

Reprocess the instruments before carrying out experiments

NOS Version Control

NOS Code	LFS/N0560		
Credits(NSQF)	TBD	Version number	1.0
Industry	Life Sciences	Drafted on	15/12/14
Industry Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	25/02/15
Occupation	R&D	Next review date	01/06/17



LFS/N0101 : Maintain a healthy, safe and secure working environment in the life sciences facility

National Occupational Standard



Overview

This Occupational Standard describes the knowledge, understanding and skills required for a Lab Technician to assist in maintaining a healthy, safe and secure working environment in the life sciences facility

LFS/N0101 : Maintain a healthy, safe and secure working environment in the life sciences facility

National Occupational Standard	Unit Code	LFS/N0101
	Unit Title (Task)	Maintain a healthy, safe and secure working environment in the life sciences facility
	Description	This NOS unit is about the Lab Technician monitoring the working environment and making sure that it meets the requirements for health, safety and security in the pharmaceutical/contract research/biopharmaceutical facility/manufacturing/testing/analysis/research laboratory.
	Scope	<p>The unit/task covers the following:</p> <p>Ensuring healthy, safe and secure working environment:</p> <ul style="list-style-type: none"> Self monitor and adhere to safety principles and standards and report any identified breaches in health, safety, and security policies and procedures to the designated person Identify and recommend opportunities for improving health, safety, and security to the designated person <p>Managing emergency procedures:</p> <ul style="list-style-type: none"> Illness Accidents Fires Other reasons to evacuate the premises Breaches of security
Performance Criteria (PC) w.r.t. the Scope		
Element	Performance Criteria	
Ensuring healthy, safe and secure working environment	<p>to be competent, the user/individual on the job must be able to:</p> <p>PC1. observe and comply with your company's current health, safety and security policies and procedures</p> <p>PC2. while carrying out work, use appropriate safety gears like head gear, masks, gloves and other accessories as mentioned in the guidelines</p> <p>PC3. report any identified breaches in health, safety, and security policies and procedures to the designated person</p> <p>PC4. responsible for maintaining discipline at the storage area</p> <p>PC5. identify and correct any hazards that you can deal with safely, competently and within the limits of your authority</p> <p>PC6. adhere and comply to storage and handling guidelines for hazardous material</p> <p>PC7. identify and recommend opportunities for improving health, safety, and security to the designated person</p> <p>PC8. complete any health, safety and security activities like safety drills and prepare records legibly and accurately</p>	
Managing emergency procedures	<p>PC9. report any hazards that you are not competent to deal with to the relevant person in line with organizational procedures and warn other people who may be affected</p> <p>PC10. follow your company's emergency procedures promptly, calmly, and efficiently</p>	
Knowledge and Understanding (K)		

LFS/N0101 : Maintain a healthy, safe and secure working environment in the life sciences facility

<p>A. Organisational Context (Knowledge of the Company/ Organisation and its processes)</p>	<p>you need to know and understand:</p> <p>KA1. legislative requirements and company's procedures for health, safety and security and your role and responsibilities in relation to this</p> <p>KA2. what is meant by a hazard, including the different types of health and safety hazards that can be found in the workplace</p> <p>KA3. how and when to report hazards</p> <p>KA4. limits of your responsibility for dealing with hazards</p> <p>KA5. your organization's emergency procedures for different emergency situations and the importance of following these</p> <p>KA6. the importance of maintaining high standards of health, safety and security</p> <p>KA7. implications that any non-compliance with health, safety and security may have on individuals and the organization</p> <p>KA8. health hazards and its implications if any in the production process</p>
<p>B. Technical Knowledge</p>	<p>you need to know and understand:</p> <p>KB1. different types of breaches in health, safety and security and how and when to report these</p> <p>KB2. evacuation procedures for workers and visitors</p> <p>KB3. how to summon medical assistance and the emergency services, where necessary</p> <p>KB4. how to use the health, safety and accident reporting procedures and the importance of these</p> <p>KB5. different types of occupational health hazards</p> <p>KB6. knowledge of chemical substances, their characteristics and required precaution and safety measures</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing skills</p> <p>You need to know and understand:</p> <p>SA1. complete accurate, well written work with attention to detail</p> <p>Reading skills</p> <p>You need to know and understand:</p> <p>SA2. read instructions, guidelines, procedures, rules and service level agreements</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>You need to know and understand:</p> <p>SA3. listen effectively and orally communicate information accurately</p>
<p>B. Professional Skills</p>	<p>Decision making</p>

LFS/N0101 : Maintain a healthy, safe and secure working environment in the life sciences facility

	You need to know and understand:
	SB1. make decisions on suitable courses of action
	Plan and Organise
	The user/individual on the job needs to know and understand how to:
	SB2. plan and organize your work to meet health, safety and security requirements
	Problem solving
	You need to know and understand:
	SB3. apply problem solving approaches in different situations
	Analytical thinking
	You need to know and understand:
	SB4. analyse data and activities
	Critical thinking
You need to know and understand:	
SB5. apply balanced judgments to different situations	
Customer Centricity	
Not Applicable	

LFS/N0101 : Maintain a healthy, safe and secure working environment in the life sciences facility
NOS Version Control

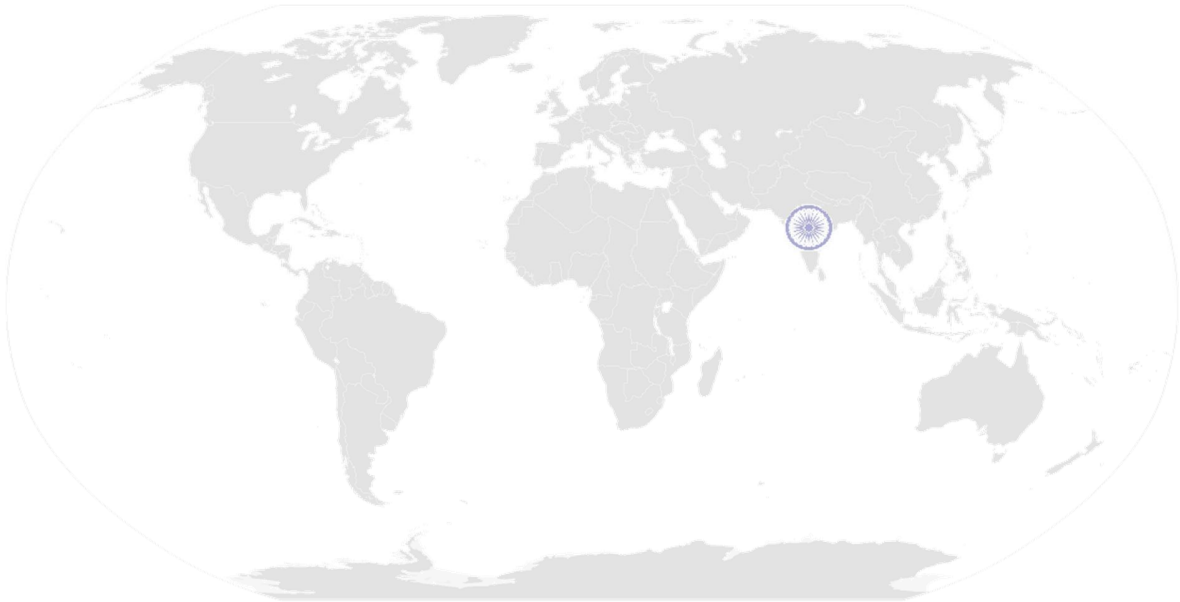
NOS Code	LFS/N0101		
Credits(NSQF)	TBD	Version number	1.0
Industry	Life Sciences	Drafted on	26/06/14
Industry Sub-sector	Pharmaceuticals and Biopharmaceuticals	Last reviewed on	15/05/15
Occupation	Manufacturing, Quality, Supply Chain, R&D	Next review date	01/06/16



LFS/N0103 :

Ensure cleanliness in the work area

National Occupational Standard



Overview


This Occupational Standard describes the knowledge, understanding and skills required of a Lab Technician to ensure cleanliness in the work area by carrying out housekeeping for respective area

LFS/N0103 : Ensure cleanliness in the work area

National Occupational Standard	Unit Code	LFS/N0103
	Unit Title (Task)	Ensure cleanliness in the work area
	Description	This OS unit is about the Lab Technician to carry out housekeeping activities for respective area
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> • Pre housekeeping activities • Operations • Post housekeeping activities
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Pre housekeeping activities	To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. inspect the area while taking into account various surfaces PC2. identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain PC3. ensure that the cleaning equipment is in proper working condition PC4. select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person PC5. plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces PC6. inform the affected people about the cleaning activity PC7. display the appropriate signage for the work being conducted PC8. ensure that there is adequate ventilation for the work being carried out PC9. wear the personal protective equipment required for the cleaning method and materials being used
	Operations	<ul style="list-style-type: none"> PC10. use the correct cleaning method for the storage area, type of soiling and surface PC11. deal with accidental damage, if any, caused while carrying out the work PC12. report to the appropriate person any difficulties in carrying out your work PC13. identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill

LFS/N0103 :

Ensure cleanliness in the work area

<p>Post housekeeping activities</p>	<p>PC14. ensure that there is no oily substance on the floor to avoid slippage</p> <p>PC15. ensure that no scrap material is lying around</p> <p>PC16. maintain and store housekeeping equipment and supplies</p> <p>PC17. follow workplace procedures to deal with any accidental damage caused during the cleaning process</p> <p>PC18. ensure that, on completion of the work, the area is left clean and dry and meets requirements</p> <p>PC19. return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored</p> <p>PC20. dispose the waste garnered from the activity in an appropriate manner</p> <p>PC21. dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly</p> <p>PC22. maintain schedules and records for housekeeping duty</p> <p>PC23. replenish any necessary supplies or consumables</p> 
<p>Knowledge and Understanding (K)</p>	
<p>A. Organisational Context (Knowledge of the Company/ Organisation and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. levels of hygiene required by storage area and importance of maintaining the same</p> <p>KA2. methodology for storage area inspection with methods and materials required for cleaning variety of surfaces and equipment</p> <p>KA3. the method to check the treated surface and equipment on completion of cleaning</p> <p>KA4. procedures for reporting any unidentified soiling</p> <p>KA5. escalation procedures for soils or stains that could not be removed</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. role of different materials, chemicals and equipment</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. record and communicate details of work done to appropriate people using written/typed report or computer based record/electronic mail</p> <p>Reading skills</p>

LFS/N0103 :

Ensure cleanliness in the work area

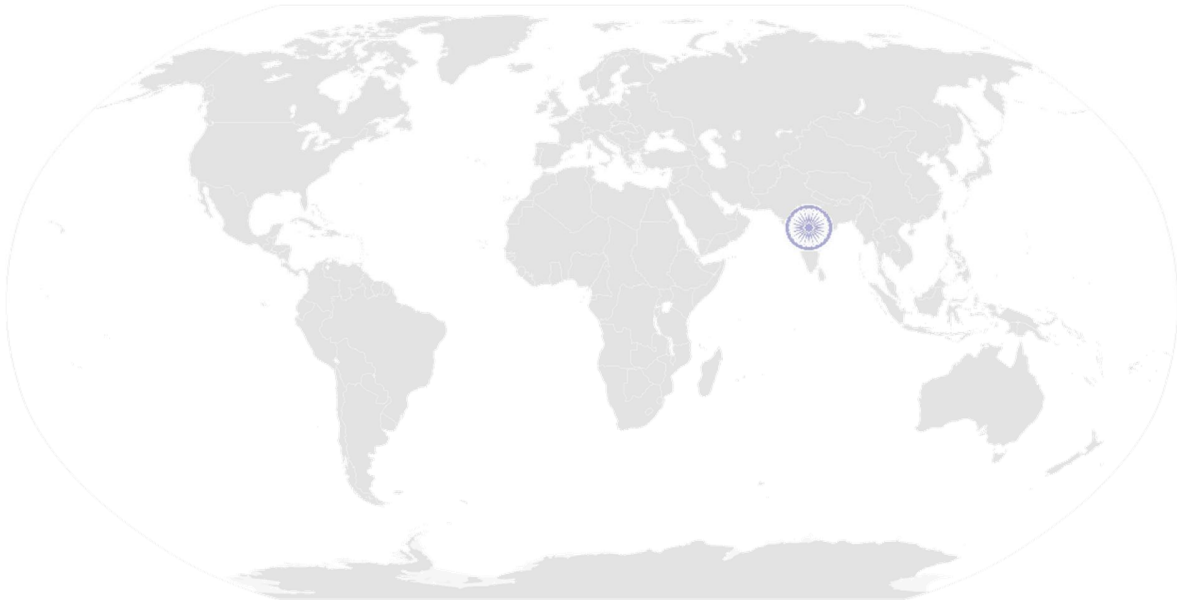
	The user/individual on the job needs to know and understand how to: SA2. understand the various coding systems as per company norms
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA3. communicate with upstream and downstream teams SA4. disclose information only to those who have the right and need to know it.
B. Professional Skills	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB1. suggest improvements(if any) in process based on experience SB2. pay attention to detail
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. plan assigned work in order to achieve deadlines
	Decision Making
	Not Applicable
	Critical Thinking
	Not Applicable
	Problem Solving
	Not Applicable
	Customer Centricity
	Not Applicable

LFS/N0103 :

Ensure cleanliness in the work area

NOS Version Control

NOS Code	LFS/N0103		
Credits(NSQF)	TBD	Version number	1.0
Industry	Life Sciences	Drafted on	22/12/14
Industry Sub-sector	Pharmaceutical and Biopharmaceutical	Last reviewed on	15/05/15
Occupation	Manufacturing, Quality, Supply Chain, R&D	Next review date	01/06/16



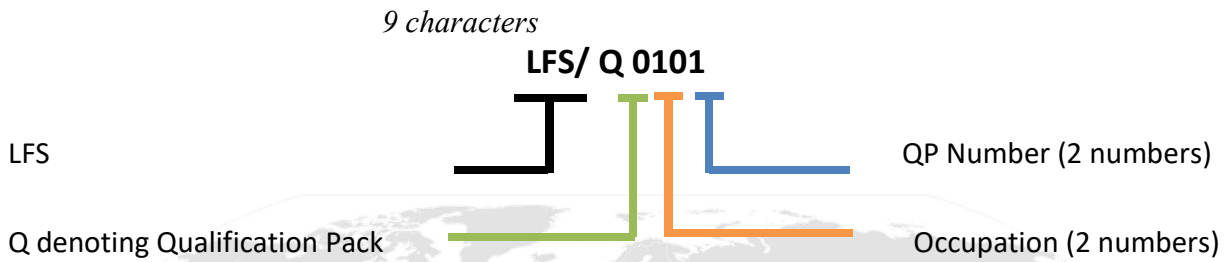
LFS/N0103 :

Ensure cleanliness in the work area

Annexure

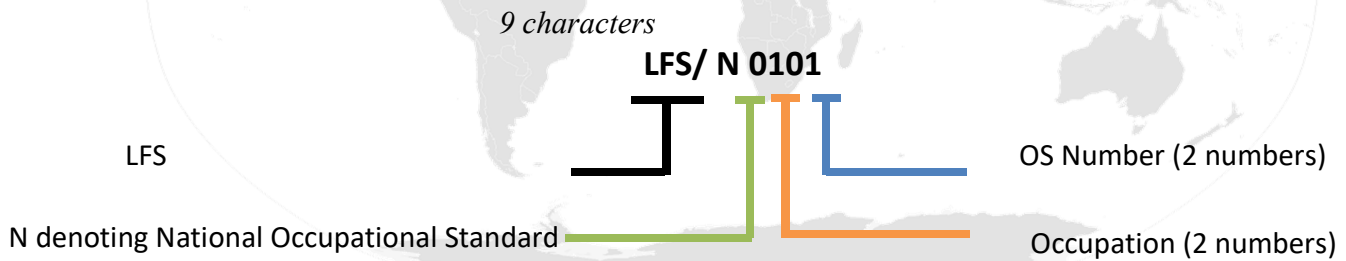
Nomenclature for QP and NOS

Qualifications



Occupational Standard

An example of NOS with 'N'



Qualifications Pack for Lab Technician/Assistant

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

Pharmaceutical and Biopharmaceutical and Contract Research	01-10
Pharmaceutical	11-20
Biopharmaceutical	21-30
Contract Research	31-40

Sequence	Description	Example
Three letters	Industry name	LFS
Slash	/	/
Next letter	Whether QP or NOS	Q/N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

Qualifications Pack for Lab Technician /Assistant

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Lab Technician /Assistant
Qualification Pack LFS/Q0509
Sector Skill Council Life Sciences Sector Skill Development Council

Guidelines for Assessment:

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create *unique question papers for theory part for each candidate at each examination/training center* (as per assessment criteria below)
4. Individual assessment agencies will create *unique evaluations for skill practical for every student at each examination/training center* based on this criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 50% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessment outcome	Assessment criteria of outcome	Total Marks (800)	Marks Allocation		
			Out of	Theory	Practical
LFS/N0531 (Carry out washing, processing and drying of the glassware/plastic ware for experimentation)	PC1. washing and cleaning the glassware with different solutions and types of water to ensure complete cleaning and removing of dirt	100	10	5	5
	PC2. ensure glass and plastic ware used for experimentation to be scrupulously clean		10	5	5
	PC3. use deionized distilled water as the final rinse in the cleansing process		10	5	5
	PC4. sterilize contaminated laboratory ware before cleansing		10	5	5
	PC5. monitor proper operation and supply of the distilled		10	5	5

Qualifications Pack for Lab Technician /Assistant

	and deionized water sources				
	PC6. select detergent which is compatible with area water and leaves behind no undesirable residues on the cleansed laboratory ware and equipment		10	5	5
	PC7. check cleansed laboratory ware and equipment for acid / reagent residues		10	5	5
	PC8. inspect washed laboratory ware and equipment for cleanliness.		10	5	5
	PC9. code all laboratory ware and equipment to cleansing specifications required for laboratory studies.		7	4	3
	PC10. use autoclave for drying and sterilization of the glassware before further use.		7	3	4
	PC11. support seniors in monitoring batch fermentation process		6	3	3
	Total		100	50	50
LFS/ N0530 (Help the lab/QC Chemists/ Research Associates in performing the experiments and analysis)	PC1. to ensure the reagents, glassware, equipment is available at the right time.	100	10	5	5
	PC2. to assist in laboratory tests in order to produce reliable and precise data to support scientific investigations		10	5	5
	PC3. to prepare specimens and samples as per the		10	5	5

Qualifications Pack for Lab Technician /Assistant

	guidelines and required for the experiment				
	PC4. to set up and operate standard laboratory equipment, for example centrifuges, titrators, pipetting machines and ph meters		10	5	5
	PC5. to carry out routine tasks accurately and maintain strict adherence to sops		10	5	5
	PC6. to follow and ensure strict safety procedures and safety checks are followed		10	5	5
	PC7. keeping up to date with technical developments, especially those which can save time and improve reliability		10	5	5
	PC8. maintaining and repairing equipment and laboratory apparatus as a part of routine activities		10	5	5
	PC9. coordinating work in the laboratory to ensure efficient use is made of expensive pieces of equipment.		10	5	5
	PC10. ensuring the laboratory is well-stocked and resourced		10	5	5
	Total		100	50	50
LFS/N0532 (Carry out preparation of solution and reagents)	PC1. to be well informed about the various reagents and associated specifications to be used in the laboratory	100	10	5	5

Qualifications Pack for Lab Technician /Assistant

	PC2. ensure proper procedure is followed in reagent preparation		12	5	7
	PC3. ensure proper mixing of chemicals		11	5	6
	PC4. ensure safety by ensuring separation of incompatible chemicals and reagents		10	5	5
	PC5. preparation of media and buffer for fermentation experiments		10	5	5
	PC6. ensure purified water requirements are specified for clinical laboratory testing procedures		11	5	6
	PC7. ensure the solution is prepared as a percentage by weight, volume or moles and knowledge of all formulae respectively as specified by the lab chemists		11	5	6
	PC8. prepare working solutions from concentrated stock solutions		12	5	7
	PC9. measure the strength of solutions and weigh them as per guidelines		13	5	8
	Total		100	45	55
LFS/N0533 (Ensure appropriate measures are taken while opening of chemicals to be used in analysis)	PC1. display commitment to handle and use the chemical properly from initial receipt to ultimate disposal.	100	9	4	5
PC2. new chemicals shall be obtained only if the supervisor has determined that the use of the new chemical is necessary	9		4	5	
PC3. carry out labeling and packaging of chemical	9		4	5	

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	containers in accordance with applicable regulations				
	PC4. ensure all chemical containers are dated		9	4	5
	PC5. move the received chemicals to the designated storage area		9	4	5
	PC6. store large bottles of acids and other hazardous substances on a shelf that is no more than three feet above floor level		9	4	5
	PC7. acid-resistant trays should be placed under bottles of mineral acids		10	5	5
	PC8. ensure appropriate safety eyewear and other personal protective equipment to be used while transferring chemicals one must ensure containers are properly labeled and know what to do in the event of a release or spill		9	4	5
	PC9. while transferring chemicals one must ensure containers are properly labeled and know what to do in the event of a release or spill.		9	4	5
	PC10. wear appropriate Personal Protective Equipment (PPE)		9	4	5
	PC11. ensure incompatible chemicals are kept away from each other.		9	4	5
	Total		100	45	55
LFS/N0534 (Maintain records of lab usage, storage of chemicals, labels,	PC1. cataloguing recordings and making them available when requested (if the department houses audiovisual resources)		12	5	7

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date of opening and closing)	PC2. to ensure that all the quality manuals are readily available for reference	10	5	5
	PC3. to ensure that SOPs for each of the experiments is available	12	5	7
	PC4. to ensure document control by maintaining master log, effective archiving and constant updating of laboratory log.	12	5	7
	PC5. maintain various records sample log book, registers, quality control data, incident reports, results of internal and external audits etc.	12	5	5
	PC6. maintain instrument printouts of maintenance records	10	5	7
	PC7. maintain test specific reports	12	5	7
	PC8. ensure proper storing and archiving practices for all relevant documentation.	10	5	5
	PC9. carry out labeling of samples and reagents as per SOPs.	10	5	5
	Total	100	45	55
LFS/N0560 (Reprocess the instruments before carrying out experiments)	PC1. to carry out manual cleaning	9	4	5
	PC2. to observe correct protocols for instrument cleaning	9	4	5
	PC3. carry out CIP and SIP for ultrasonic equipment/ fermenter and other equipments	9	4	5
	PC4. use automatic washer for complex instruments	9	4	5
	PC5. to replace damaged instrument	9	4	5

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	PC6. return any instrument with visible soil or residual debris for further cleaning		9	5	4
	PC7. perform Sterile packaging to maintain the sterility of processed instruments and allow for aseptic opening at point of use		9	4	5
	PC8. to perform steam sterilization for sterilizing instruments, trays, and cassettes		8	4	4
	PC9. to store sterile packages in a manner that reduces the potential for contamination		11	5	6
	PC10. to routinely verify sterility assurance of processed instruments		10	5	5
	PC11. to use physical, chemical and biological indicators for quality assurance		8	4	4
	Total		100	47	53
LFS/N0101 (Maintain a healthy, safe and secure working environment in the life sciences facility)	PC1. observe and comply with your company's current health, safety and security policies and procedures	100	10	5	5
	PC2. while carrying out work, use appropriate safety gears like head gear, masks, gloves and other accessories as mentioned in the guidelines		10	5	5
	PC3. report any identified breaches in health, safety, and security		10	5	5

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	<p>policies and procedures to the designated person</p> <p>PC4. responsible for maintaining discipline at the shop-floor area</p> <p>PC5. identify and correct any hazards that you can deal with safely, competently and within the limits of your authority</p> <p>PC6. adhere and comply to storage and handling guidelines for hazardous material</p> <p>PC7. identify and recommend opportunities for improving health, safety, and security to the designated person</p> <p>PC8. complete any health, safety and security records legibly and accurately</p> <p>PC9. report any hazards that you are not competent to deal with to the relevant person in line with organizational procedures and warn other people who may be affected</p> <p>PC10. follow your company's emergency procedures promptly, calmly, and efficiently</p>				
			10	5	5
			10	5	5
			10	5	5
			10	5	5
			10	4	6
			10	4	6
			10	5	5
	Total		100	48	52
LFS/N0103 (Ensure cleanliness in the work area)	PC1. inspect the area while taking into account various surfaces	100	5	2	3
	PC2. identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain		5	2	3

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PC3. ensure that the cleaning equipment is in proper working condition	5	2	3
PC4. select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person	4	2	2
PC5. plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces	4	2	2
PC6. inform the affected people about the cleaning activity	4	2	2
PC7. display the appropriate signage for the work being conducted	5	2	3
PC8. ensure that there is adequate ventilation for the work being carried out	5	2	3
PC9. wear the personal protective equipment required for the cleaning method and materials being used	5	2	3
PC10. use the correct cleaning method for the work area, type of soiling and surface	4	2	2
PC11. deal with accidental damage, if any, caused while carrying out the work	5	2	3
PC12. report to the appropriate person any difficulties in carrying out your work	4	2	2
PC13. identify and report to the appropriate person any additional cleaning required that is outside	4	2	2

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	one's responsibility or skill				
	PC14. ensure that there is no oily substance on the floor to avoid slippage		4	2	2
	PC15. ensure that no scrap material is lying around		4	2	2
	PC16. maintain and store housekeeping equipment and supplies		4	2	2
	PC17. follow workplace procedures to deal with any accidental damage caused during the cleaning process		4	2	2
	PC18. ensure that, on completion of the work, the area is left clean and dry and meets requirements		5	2	3
	PC19. return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored		5	2	3
	PC20. dispose the waste garnered from the activity in an appropriate manner		5	2	3
	PC21. dispose of used and unused solutions according to manufacturer's instructions, and clean the equipment thoroughly		5	2	3
	PC22. maintain schedules and records for housekeeping duty		5	2	3
	Total		100	44	56
					100