UGEE CHEMICALS	UGEE Chemicals Quality Assurance General SOP	SOP Standard Operating Procedure

CHEMICAL USAGE CONTROL AND REAGENT PREPARATION

SOP #: UCL/IBDLAB/CD/Q/09.0	Issuance Date:	As of Last Signature	Global P&G HHC GCAS 98844301.
	Revision Date:	Maximum 2 years from Effective date	
	Effective Date:	20 working days from the issuance date	Page #: 1 of 15

PURPOSE

- To establish guidelines for the control of chemicals stock in the Quality Control Laboratory.
- Provides guidelines for the preparation of laboratory reagents

SCOPE

- This procedure applies to all chemicals and reagents used in the Quality Control Laboratories.

RESPONSIBILITY

- **Chemical Coordinator** is responsible for:
  - Maintain adequate stock level of all chemicals based on usage rate.
  - Ensure that issuance of laboratory chemicals is done as per First In First Out (FIFO) system.
  - Keep adequate records concerning, receipt logging & issuance of chemicals
  - Initiate purchase and receives supply of chemical
  - Proper check for expiry date for incoming chemicals, which should be specified by manufacturer or based on P&G SOP GCAS 98844301 requirement.
- **Laboratory Analyst** is responsible for ensuring:
  - Track chemical consumption when new chemical bottles are taken and when last quantity is consumed
  - Reading the SDS of the chemicals being handled for the reagent preparation
  - Follow the Hazard precautions that need to be taken.
  - Use the personal protective equipment required for the operation.
  - Document reagent preparation in the appropriate logbook
  - Log in prepared reagent in to expiration tracking sheet.
- **Laboratory Leader** is responsible for:
  - Ordering of Chemicals needed in the lab.
  - Make sure that chemicals are ordered for within one week of receiving Chemical consumption report from the Chemical Coordinator.

POTENTIAL RISKS

SOP OWNER	QA APPROVAL	HSE APPROVAL	AUTHORISATION
----------	----------NA----------	----------NA----------	----------
Adio Sakiru		-	Site QA: Alawode Olujide
Date: 10/08/2022			Date: 10/Aug/2022

- Refer to the appropriate JSA for the reagent to be prepared.

PPE REQUIRED

- Refer to the appropriate JSA for the reagent to be prepared.

PROCEDURE

RECEIPT OF CHEMICALS:

1 Verify the following from the chemical container.
   - Name of chemical.
   - Tamper proof seal.
   - Manufacture date.
   - Expiration date.
   - Hazard rating
   - Storage requirement
   - Total Quantity supplied
   - Condition of the chemical container

NOTE: All fuming chemicals (e.g., Dichloromethane, Ammonia Solution, Acetic Acid, Chloroform etc..) must be received in Glass Bottle only

2. All commercially prepared standard solutions must be accompanied with Certificate of Analysis.

LOGGING & LABELING:

3 Log in the chemical into the corresponding Chemicals Usage Form **(Attachment 3)**

4 Affix a label (Attachment 4) on the central container bearing the following information:
   - Ugee Chemicals ltd
   - Chemical Name
   - Date Manufactured/Received
   - Date of Opening
   - Expiry date
   - Storage Condition
   - Initials
   - QC. #

NOTE: The QC # is used to implement FIFO and for traceability. It is usually in this format: Chemical formula / abbreviation -# of consignment - # of container per consignment.

Example – label on Sodium Hydroxide Pellet Container

Chemical Name:	**Sodium Hydroxide**
Date Manu/Received:	**26-04-2017**
Date Opened:	**28-04-2018**
Expiry Date:	**28-04-2020**

Storage Condition	**Room temperature**
Initials:	**J.A**
QC Code:	**NAOH- 001-1**

ISSUANCE

5 Chemical Coordinator:

- Receive chemical supply in chemical consumption tracking
- Confirms stock level of chemical in stock.
- Chemical consumption sheet for expiring chemicals by first working day of every week and updated the lab leader. If chemical coordinator is on shift, he/she will update the lab leader by third working day of the week.
- Issue out quantity needed and notify lab leader to raise a purchase order.
- Receive chemical supply and document in chemical consumption tracking.

PREPARATION & STORAGE OF REAGENTS, STANDARDS AND KITS

6 Analyst on shift use all required Personal Protective equipment before start of reagent preparation.

7 Analyst on shift prepares reagents as specified in the compendia/test methods.

8 Store prepared reagent as specified in the compendia/test methods.

9 All kits used for analysis and calibration must be tracked in the chemical consumption sheet in order to monitor their expiry dates and will carry a label like other chemicals.

STANDARDIZATION:

10 Standardize the reagent as stated in the specified compendia/test method

11 Assign the right unit as stated in the compendia/test method

DOCUMENTATION:

12 Record the following into the reagent preparation notebook:

- Title of the prepared reagent
- Date of preparation and Batch number
- Appropriate QC code found on the container
- Brief description of the method of preparation
- Actual weights used for the preparation & standardization of reagent.
- Calculations showing standardization of the reagent
- Analyst who prepared the reagents signs the notebook.
- List of the equipment used.

LABELLING:

13 Affix a label with the information below on the reagent bottle/container (Attachment 6) and log in to Reagent Expiration Tracking Sheet (Attachment 5).

-- Solution Name
- Batch Number

- Normality
- Prepared by
- Standardized by
- Date of preparation
- Expiry date
- Storage condition
- Ref. Note book
- Initial/signature

HANDLING OF CHEMICAL SPILLAGE

All liquid spills must be handled in line with the Module spill procedures. The spill should be contained and handled as instructed on the chemical clearance form/ Safety Data sheet. Never flush the spill into the drain. Refer to JSP 001 for handling of chemical spills.

GENERAL EXPIRATION DATE GUIDELINES

14 These guidelines should be followed in the order listed (first A→then B→then C).

Refer to the guideline specified in the Global SOP GCAS 98844301 additional information.

A. Use the manufacturer's labeled expiration date if present for purchased chemicals.

B For prepared solutions where the expiration date is not specified in the method or compendium, or if the manufacturer's expiration date is not present, use the following guidelines.

Purchased Chemicals & Solutions	Expiration Date
Acids & Bases	4 years
Biological Reagents and enzymes	4 years
Buffers and Indicator Solutions	1 year
Bulk Column Packing	4 years
Derivatizing Agents	1 year
Derivatizing Agents in Sealed Ampules	4 years
Desiccants and absorbents	when no longer regenerable
Hygroscopic Compounds	1 year
Dionex EluGen cartridges	Best used by date + 1 year
Metals (Zn, Sn, Bi etc.) and other stable elements / compounds (charcoal, boiling chips, sand, silica).	No expiration date necessary
Organic Solvents, except peroxide formers	4 years
Aqueous Solutions of stable Salts	4 years
Non Aqueous solutions	2 years

Prepared Solutions	Expiration Date
Aqueous solutions of stable salt	1 year
Non- aqueous solution	6 Months
pH Buffer solution	1 Month
Indicator Solutions	No expiration date necessary

Aqueous solutions of unstable salt	Discard immediately after use
Dilute solutions of Acids & Bases	3 Months

C. If purchased chemicals are not applicable to the previous guidelines, use the label hazard code rating (not the NFPA rating) or CATS to determine the expiration date as follows:

1. Reactivity of 0, 1 or 2: 4 years.
2. Reactivity of 3 or 4: 1 year.

15 Analyst shall assign an expiration date based on this SOP.

REASON FOR UPDATE

VERSION 0: New SOP

SOP RELATED ATTACHMENTS

Attachment 1 – Qualification sheet
Attachment 2 – Model Answer Sheet
Attachment 3 – Chemical consumption tracking sheet
Attachment 4 – Stock Chemical Labels
Attachment 5 – Reagent Expiration Tracking Sheet
Attachment 6 – Reagent Label
Attachment 7 – Hazard symbols & Glossary
Attachment 8 – Step up Card