	UGEE CHEMICALS Plant General SOP	SOP Standard Operating Procedure

PEST CONTROL SOP

SOP No: UCL/IBDSITE/CD/Q/03.0	Issuance Date:	As at Last Signature	
	Revision Date:	Maximum 2 years from Effective Date	
	Effective Date:	20 working days from the issuance date	Page 1 of 15

PURPOSE

- This Standard Operating Procedure outlines the pest control program to be established and maintained to prevent infestation by rodents, insects and other vermin.

SCOPE

- This SOP defines the pest control program for Ugee Chemicals Plant, Ibadan.

RESPONSIBILITIES

- The Site Pest Control System Owner (PCO) will co-ordinate all activities of the pest control contractors.
- He/She will ensure that the pest control schedules are adhered to. He/she will communicate the schedules to everybody concerned for preparation of their areas. He/she will also ensure that all recommended improvement actions by the Contractor are followed through for continuous improvement and effectiveness of the program.
- All line managers, Team Leaders and area owners are responsible for preparing their areas for pest control visits (e.g., fumigation) in a manner that will preserve the quality and integrity of raw and pack materials, finished products, fixed assets, people and equipment. They will follow through on resolution of system outages
- The pest control contractor is responsible for executing the program according to this SOP. They will adhere to the pest control schedule for each control and maintenance activity. They will use only site-approved-pesticides and submit monthly reports on the program performance with recommended corrective actions aimed at permanently resolving any outages.

POTENTIAL RISKS:

Chemical inhalation, cuts, chemical reaction on skin, chemical splash.

PPE REQUIRED:

Cover all, cotton gloves, 3M nose mask, safety boot, safety googles

PROCEDURE

GENERAL

SOP OWNER	QA APPROVAL	HS&E APPROVAL	AUTHORISATION
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Kaosarat Olowookere		Adebiyi Adedoyin	Site QA: Alawode Olujide
Date: 12/08/2022	Date:	Date: 12/08/2022	Date: 12/08/2022

- Site will employ an Integrated Pest Management (IPM) approach that combines mechanical, cultural, biological and chemical techniques and tools like inspection, monitoring, habitat alteration (elimination of some favorable elements which make certain areas habitable for pests) to prevent, control, or eliminate a pest population.
- Any one observing increasing trend of insect or rodent activity could contact Site Pest Control Owner immediately so that the population can be investigated and systemic corrective actions can be taken.
    - All pesticides used will be approved as meeting all **regulatory** requirements.
- The program will be carried out by qualified certified contractors approved by QA.
- Measures will be taken to guard against infestation and contamination (such as eliminating potential breeding areas as well as the use of mechanical and/or chemical means of control), There will be Pest Control schedules for control and maintenance visits
- All pest control devices (mechanical rodent traps, sticky traps and insect-cutors) will be coded with unique identification numbers for easy identification and control/monitoring.
- Location maps/charts will be developed by the Contractor for the plant to show the location of each pest control device. These locations charts will be posted in each area.
- Documented records (inspection checklist for insectocutors) shall be kept in each area to document all control and device maintenance activities as per the approved schedule. The count sheets will contain the following at a minimum:
- Date of Visit
- Brief Description of all activities done
- Type & Quantity of Pests/Insects found.
- Name of the Person doing the work.
- Signature
- At the end of each visit, the contractor should review with the pest control Program Owner
- Actions performed (i.e., checking of traps and lights, chemicals used, repairs made and other relevant actions)
- Pest (Rodent & Insect) activity findings.
- Device maintenance activities.
- Analyses of the critical problems
- Recommendations to address pest activity findings
- A discussion of issues found in either building design or maintenance i.e., open doors, cracks in walls, holes in ceilings etc
- It is expected that the contractor will provide a written report at the end of every month on the system performance to the PCO. These reports will include a summary of:
- Pest (Rodent & Insect) activity findings
- Device maintenance activities.
- Any lapses of hygienic practices
- Recommendations on outages observed in the month or seen in a trend
- All incoming trucks (for loading and/or unloading) must be inspected to be sure they are free of pests that could be brought into the building. If pests are found, the truck and materials found in the truck must be rejected.
- A pest control risk analysis of any construction project in GMP areas will be conducted prior to start of construction.
- Fumigation exercise will be implemented after any major constructions or minor constructions involving opening up of such GMP/production areas to external environment before production is restarted.

- **INSECT CONTROL**
- Insects will be controlled as described below:

- **FUMIGATION**
- Fumigation would be carried out on all production floors and warehouse as per schedule (see electronic copy with PCO). Schedule is prepared such that consideration is given to the high insect activity months of
- April/May and Oct/Nov.
- Fumigation in specific areas that may constitute pest infestation like trenches drainages and other external areas will be done monthly. Fumigation of all areas both internal and external (general) will be implemented on a quarterly basis.
- Fumigation will be done on time (morning, evening etc) as per schedule. Timing will be aligned with department managers.

- **Chemicals used for fumigation**
- Chemicals/fumigants will be cleared following the site procedure for chemical clearance
- Fumigants will be alternated to prevent pests from developing resistance
- The PCO will initiate the process, two weeks before the scheduled date
- The PCO will request information from concerned departments about any special complains that can be addressed by the pest control contractor.
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- The PCO will finalize the details /dates of treatment with the pest control contractor.
- PCO will inform the concerned Line Manager(s) and QA leader of the treatment before the confirmed date.

  - **FUMIGATION PROCEDURE:**

- Line Managers will ensure that they prepare their areas in a manner that will preserve the QUALITY and
- INTEGRITY of Raw/Pack materials, finished products, fixed assets, people and equipment. Shut down procedure before fumigation:
- Before Fumigation, Line Manager will ensure the following:
- Finished products & Raw & Pack Materials: The container for Both Raw & Packing Materials and Finished products must be well covered with polythene. No material must be left uncovered.
- No primary product should be present in the area of fumigation.
- Equipment: All Equipment must be well covered with appropriate cover.
- People: Fumigation must be done outside production hours. Shut down period is a minimum of one shift (eight hours).
- Fumigation process
- The treatment must be given in line with quality assurance principles, chemicals must be from the approved chemicals list, See attachment 5.
- The fumigating contractor must wear appropriate PPEs (nose mask, goggle, hand gloves) and carry out activity in a safe manner.
- There should be no direct spraying on the covered product/machinery/equipment/materials, the direction of flow should be controlled.
- The insecticides used for the fumigation must be allowed to work for 2 hours,
- **Start up procedure after fumigation**:
- After Fumigation, Line Manager/QA leader will ensure the following are done before commencing production. Time lag: Production will not start until after a Minimum of 8 hour-time lag after fumigation has been completed.
- Equipment: The Equipment covers would now be removed where applicable, general cleaning is done.
- Equipment: The Equipment covers would now be removed where applicable, general cleaning is done. * Floor: The floor is also cleaned and sanitized as applicable.
- Finished products & Raw & Pack Materials: Remove polythene. Person needs to wear disposable gloves.

- **USE OF INSECT LIGHT TRAPS/ELECTRONIC FLY CATCHERS**
- Insectocutors are located at no higher than 8 feet from the floor. They will be checked for functionality daily during the pest control tours. They will be inspected, cleaned and maintained once a week by the pest control contractor, the types and quantity of insects caught should be noted in the checklist as per attachment 4.
- The criticality level of each insectocutor would also be posted on each insectocutor checklist holder.
  - The UV bulbs in the insectocutors must be replaced preferably at the beginning of the insect season (i.e. April/June/Oct-Nov) except if the bulbs have been changed within 12 months. Also replacement would be done as these bulbs burnout. Records will be kept of the changed bulbs for each Insectocutor by the pest control contractor and shared with the PCO monthly.
- Each bulb changed in each insectocutor would be tracked and recorded in an electronic tracking sheet. This data would be used during the annual bulb changing process to determine which bulbs would be changed and when.

- **FLYING INSECT STICK BOARDS**

- Flying insect sticky/gum boards/traps will be used to compliment electronic fly catchers in addition to pesticide fumigation, as the need arises.
- Sticky traps will be changed at a maximum frequency of one month and could be less depending on insect activity.

- **CRAWLING INSECT CONTROL**
- Sticky boards/traps will be used to control/monitor activities of crawling insects in addition to pesticide fumigation.
- These are primarily needed in cafeteria and break rooms where food is consumed and food waste is stored.
- Good sanitation standards will be employed to eliminate food, moisture and pest harborage applicable.
- **BIRD CONTROL**
- Site should be sealed appropriately to ensure no birds can enter operations buildings.
- Trees and landscaping should be done in a way that eliminates the potential of resting/nestling place for of birds.
- Plants should be selected that should not attract bees and insects. Early nestling efforts of birds must be discouraged and prevented from reoccurring by exclusion with netting. Habitat modification by eliminating potential food/water sources or chemical repellant for small or medium sized infestations (non- toxic, but unpleasant to birds attempting to land) are employed if possible.

- **RODENT CONTROL**
- Mechanical non-baited traps will be placed inside production floor/warehouses, especially those areas with potential pest activities. There should be traps that can be easily activated, but will not easily release the rodent once caught. They should be traps that can be baited with non-poisonous attractant baits. The objective is to attract them in and capture them alive.
- Baited Mechanical traps will only be strateqically placed outside perimeter of the buildinqs/premises. These could be baited with poisonous rodenticides or nonpoisonous attractants.
- Rodent traps will be inspected and cleaned at least weekly, they will be checked for activity and cleanliness. Type and quantity of pest found must be documented in the rodent count checklist and must be immediately reported to the PCO.
- The type of bait/ rodenticide used will be alternated to prevent rodents from developing resistance.
- The direction of traps placement will also be rotated at different times.
- Rodent traps will be inspected and cleaned at least thrice a week, they will be checked for activity and cleanliness. Type and quantity of pest found must be documented in the rodent count checklist and must be immediately reported to the PCO.
- The type of bait/ rodenticide used will be alternated to prevent rodents from developing resistance.
- The direction of traps placement will also be rotated at different times.

- **RODENT STICK TRAPS**
- Rodent sticky/gum traps will be used to compliment mechanical traps. These will be placed at strategic positions as a part of focused efforts in controlling rodents.
- Sticky gum/traps should be disposed after one week of use if there is no catch.

- **OTHER TYPES OF CONTROL**
- To prevent flying insects or rodents from entering the building:
- Grass to be kept short and a vegetation free strip at least one meter around the building perimeter
- All opening around pipes and vents will be sealed.
- All external doors must be kept closed when not in use.
- Door closers or air curtains must be present in external doors
- All windows will be fitted with fly screens or completely sealed.
- Trash will be disposed of in an appropriate manner (food /candy waste will be concealed in polythene, they will be removed from buildings on daily and timely basis as per housekeeping schedule.

REASON FOR UPDATE:

Version 0: New SOP

SOP RELATED ATTACHMENTS
Attachment 1 – Qualification Sheet Attachment 2 – Model Answer Attachment 3 – Insecto-cutor Control Checklist Attachment 4 – Rodent Control Checklist Attachment 5 --Pest Control Chemicals List Attachment 6 –Step Up Card

ATTACHMENT 3

RAT CONTROL CHECKLIST

WEEK/MONTH/YEAR _____ LOCATION _____

INSPECTION DATE	RAT TRAP #	NO. OF RATS FOUND	BAIT STATUS	ACTION REQUIRED/COMMENTS	INSPECTED BY:

SOP OWNER	QA APPROVAL	HS&E APPROVAL	AUTHORISATION
Kaosarat Olowookere Date: 12/08/2022	----------NA---------- Date:	Adebiyi Adedoyin Date: 12/8/2022	Site QA: Alawode Olujide Date: 12/08/2022

ATTACHMENT 4
INSECT-O-CUTOR CONTROL CHECKLIST

INSCETOCOTOR#_____ LOCATION: _____

INSECT ACTIVITY TARGETS (per wk) INSECT TYPE

INSPECTION DATE	INSECT ACTIVITY/TYPE						TOTAL	BULB STATUS	ACTION REQUIRED/COMMENTS	INSPECTED BY:

CRITICALITY A (Production Floor): **0-10**

CRITICALITY B (Offline): **0-15**

CRITICALITY C (Other Areas not in direct Contact with production floor)**: 0-30**

A: FLY D: BEES/WASP

B: BETTLE E: OTHERS

C: ANTS/TERMITES F:BUTTERFLY/GRASSHOPPERS

Maintenance Frequency

- PC Contractor would check the status of bulbs and insectocutor starters daily
- Insect counting would be done weekly.

SOP OWNER	QA APPROVAL	HS&E APPROVAL	AUTHORISATION
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Kaosarat Olowookere		Adebiyi Adedoyin	Site QA: Alawode Olujide
Date: 12/08/2022	Date:	Date: 12/8/2022	Date: 12/08/2022

ATTACHMENT 5

PEST CONTROL APPROVED CHEMICAL LIST

	NAME	ACTIVE INGREDIENTS	MODE OF ACTION	NAME OF MANUFACTURER
1.	Permethrin, Cypermethrin	a-Phenoxybenzyl (IRS)-cis, trans-3-(2,2-dichlorovinyl)-2, 2-dimethicyciopropanecarboxylate	Pymethroid like insecticide, Stomach and contact action. Kills adults, eggs and larvae. Slight repellent action.	Asiatic Agricultural Industries Pte Ltd. Singapore.
2.	Ultracide 40EC	420grams/litre Methidathion = S-(2,3-dihydro-5-methoxy-2OXO-l ,3,4-thiadiazol-3ylmethyl)0,0-dimrthyl phosphor.dithicate	Ultracide 40EC is an organophosphate insecticide with a very good contact and stomach poison action. Ultracide 40EC has an outstanding repellent value.	CIBA-GEIGY LTD. Basle, Switzerland.
3.	Karate 2.5EC, Attack, Marshal	25 grams of lambdacyhalohtrion / litre	Karate 2.5EC, Attack, Marshal is an excellent organophosphate insecticide with a very good contact and stomach poison action.	ZENECA Agrochemicals Division, Fernhurst
4.	Actellic 25EC	250grams of pirimiphos-mrthyl / litre	Actellic 25EC is an organophosphate insecticide with a very good contact and stomach poison action. It has both li uid and as hase.	SYNGENTA crop Protection AG, Basle, Switzerland
5.	DDVP IOOOEC	2-2-dichlorovinyl dimethyl phosphate	DDVP IOOOEC is an organophosphate insecticide with a good contact and stomach poison action.	CIBA-GEIGY LTD. Basle, Switzerland.
6.	Nuvan IOOOEC	0-(2,2-dichlorovinyl) 0,0dimethyl phosphate as 1000g dichlorvos / l.	Nuvan 1000 40EC is an organophosphate insecticide with a very good contact and stomach poison action. It has both liquid and gas phase.	CIBA-GEIGY LTD. Basle, Switzerland.
7.	Pyrinex 48EC	Chlorpyrifos 480 grams/l. (0,0,diethyl 0-3,5.6•trichloro-2pyridyl phosphorothioate.	Pyrinex 48EC is an organophosphate insecticide with a very good contact and stomach poison action. It is excellent against termites.	Makhteshima Chemical Works Ltd. P.O.Box 60, Beer Sheva, Israel.
8	Perfekthion	Dimethoate (400 g) Cyclohexanone and xylene	Pedekthion is an organophosphate insecticide with systemic and contact action.	BASF Aktiengesellschaft 67056

			Effective against sucking and biting Insects and spider mites.	Ludwigshafen. Germany.
9	K-othrine EC 15	Deltamethrin	An emulsifiable concentrate providing rapid flushout and knockdown in the controls flying and crawling insects	Bayer Environmental Science Bayer (Pty) Ltd. 27 wrench South Africa
10	K-othrine WG	Deltamethrin	A water dispersible granule containing a residual contact pyrethroid for the controls flying and crawling insects	Bayer (Pty) Ltd. 27 wrench Road,Isando,1600 South Africa
11	PESTOFF	Organo phosphorusDiclorovos DDVP IOO%EC	An emulsifiable concentrate, with respiratory, contact and stomach action. Controls chewing, sucking insects, spider mites and SPP in warehouses, storerooms	Alderelm Ltd 3, Long store road Ashbrook office park manchester

12	Maxforce Imidacloprid	HydramethylnonOleic acid 1 ,2-Benzisothiazol-3(2H)-one	An insecticidal gel bait for the control of cockroaches	Bayer (Pty) Ltd. 27 wrench Road,Isando,1600 South Africa
13	Premise 200 sc	Imidacloprid	A suspension concentrate insecticide for the controls of ants and WDO termites	Bayer (Pty) Ltd. 27 wrench Road,Isando,1600 South Africa
14	Cyperkill EC	cypermethrin	An emulsifiable concentrate. contact and stomach action insecticide use controls a wide range of flying insects and occasional invaders	Arysta LifeScience Slovakia, Head Office: 16 940 76 New Castle
15	Finale wax block	Difethialone	An active rodenticide anticoagulant bait in block form for the Controls rodents	Bayer (Pty) Ltd. 27 wrench Road,Isando,1600 South Africa
16	Knockoff 2.5 EC	Lambda-Cyhalothrin 25 g	An emulsifiable concentrate. A nonsystemic insecticide with contact and stomach action. Controls flying and crawlin insects	Alderelm Ltd 3, Long store road Ashbrook office park manchester
17	Advion cockroach gel	Indoxacarb 6g/kg	An insecticidal gel bait for the control of Cockroach	DUPONT de Nemours and Company, Wilmington, Delaware, USA

18	Skeeter abate (Temephos)	Organo phosphate	An insecticide for Controls mosquito larvae	Clarke mosquito control products, Inc. 159 N. Garden Ave., Roselle, IL 60172 USA
19	Jaguar blox	Brodifacoum	A ready for use bait block for the control of rodent	Bell Laboratories Inc. Madison,WI 53704 USA
20	Advion cockroach gel	Indoxacarb 6g/kg	An insecticidal gel bait for the control of Cockroach	DUPONT de Nemours and Copany, Wilmington, Delaware, USA
21	Termidor	1 ,2-benzisothiazol-3(2H)-one	broad-spectrum, nonsystemic organophosphorus insecticide with a contact and stomach mode of action. It is used to control most agricultural pests	BASF Australia Limited ALDERELM LIMITED, UNITED KINGDOM
22	Imidapest	Imidacloprid	With translaminar, contact, and Stomach action for agricultural and horticultural use. It is used to control the motile stages of insects-beetles, a hids etc	Makhteshim Agan, North America
23	Gladiator	Glyphosphate	Non selective herbicide for the control of many annual and perenial weeds. Used as a pesticide	Anhul Huaxing Chemical Industry Co. LTD. , Wujang Town, Hexian Country. Anhul PR., China
24	Termifos 20EC	Chlorpyrifos	Insecticide for use in pest control. is a broad-spectrum, nonsystemic organophosphorus insecticide with a contact and stomach mode of action. It is used to control most agricultural pests	Devidayal Ltd,Derol-Katol,PMS389 330,Gujarat,India NUFARM Malaysia

SOP OWNER	QA APPROVAL	HS&E APPROVAL	AUTHORISATION
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Kaosarat Olowookere		Adebiyi Adedoyin	Site QA: Afawode Olujide
Date: 12/08/2022	Date:	Date: 12/8/2022	Date: 12/08/2022

ATTACHMENT 6

STEP UP CARD FOR PEST CONTROL SYSTEM

Trainee: _____ Skill Owner_____

Role: _____ Qualifier: _____

S/N	Skill Block/Skill		Knowledge/Task/Skill	Target Profic.	Self Evaluation Date	Self Evaluation Evaluation	First Evaluation Date	First Evaluation Evaluation	Final Evaluation Date	Final Evaluation Evaluation
1	QA-PEST CONTROL SYSTEM	1	Can give an overview of site pest management process as per site SOP on Pest Control	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		2	Know the content how to fill bulbs, rodent and insect trackings used for pest management	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		3	Know the content and how to fill the attachments to the pest control SOP	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		4	Understands the criteria for pest control gadget locations and numberings	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		5	Can read and update/develop pest control maps for all areas	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		6	Can read and update/develop plant fumigation schedule for all areas	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		7	Can explain the site chemical clearance process as it relates to insecticides/pesticides	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		8	Can explain insectocutor bulbs consumption & monitoring process	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		9	Knows required documents/reports to be provided by pest control service providers for filling	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		10	Understands document filling and retention limits for pest management records	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		11	Can analyse pest control data and understands action limits	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		12	Understand the purchase order and payment process for pest management contractors	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5
		13	Can conduct system audit and plan actions to close performance gaps	3		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5

Signature of Trainee _____ Signature of Qualifier _____

Date of Qualification _____ Date of Qualification _____

SOP OWNER	QA APPROVAL	HS&E APPROVAL	AUTHORISATION
Kaosarat Olowookere	----------NA----------	Adebiyi Adedoyin	Site QA: Alawode Olujide
Date: 12/05/2022	Date:	Date: 12/8/2022	Date: 12/8/2022