TMDA/DMC/MCIE/F/001

TANZANIA MEDICINES AND MEDICAL DEVICES AUTHORITY

TENAMYD PHARMACEUTICAL CORPORATION, VIETNAM
PUBLIC GMP INSPECTION REPORT

11th December, 2020

Part 1: General information about the company

Manufacturers details	
Name of manufacturer	Tenamyd Pharmaceuticals Corporation
Corporate address of manufacturer	Lot Y.01-02A, Tan Thuan Street, Tan Thuan Industrial Park/Export Processing Zone, Tan Thuan Dong Ward, District 7, Ho Chi Minh City, Vietnam
Inspected site	
Name & address of inspected manufacturing site	Lot Y.01-02A, Tan Thuan Street, Tan Thuan Industrial Park/Export Processing Zone, Tan Thuan Dong Ward, District 7, Ho Chi Minh City, Vietnam
Unit/ block/ workshop number	N/A
Inspection details	
Date of inspection	09th - 10th August 2019
Type of inspection	Pre-registration GMP Inspection
Introduction	
General information about the company and site	Tenamyd Pharma was established in Vietnam in 1950s and shifted from Vietnam but in 1993 the company returned to Vietnam where in 2013 they started to manufacture Cephalosporins powders for injection. The site is located at Lot Y.01-02A, Tan Thuan Street, Tan Thuan Industrial Park/Export Processing Zone, Tan Thuan Dong Ward, District 7, Ho Chi Minh City about 14 km from the HCMC airport. The Plant had a valid manufacturing license No. 1919/ BYT-DKKDD issued by the Ministry of Health of Vietnam.
History	The Plant was inspected by the ministry of Health of Vietnam and was issued a GMP manufacturing license No. 1919/ BYT-DKKDD.

	Other regulatory authorities which inspected this plant and issued GMP certificates were NAFDAC Nigeria, FDA Ethiopia, PPB Kenya, Ukraine and Bulgarian Drug Agency. This report present the TMDA pre-registration GMP inspection for market authorization of their products in Tanzania
Brief report of the activities undertaken	
Areas inspected	External environment, utilities raw materials and packaging materials warehouses, production areas, packing area, finished goods store and quality control laboratory
Restrictions	None
Out of scope	None
Production lines inspected by TMDA	Sterile dry powder for injection (Cephalosporins)
Abbreviations	**Meaning**
AHU	Air Handling Units
EAC	East Africa Community
GMP	Good Manufacturing Practice
HEPA	High Efficiency Particulate Air
HVAC	Heating, Ventilation and Air Conditioning
LAF	Laminar Air Flow
QC	Quality Control
SOP	Standard Operating Procedure
TMDA	Tanzania Medicines and Medical Devices Authority
TPIR	TMDA Public GMP Inspection Report

Part 2: Brief summary of the findings and comments

1. Personnel

The company had sufficient number of qualified, trained and experienced personnel for carrying out manufacturing activities at the company. The organogram provided and job description reviewed indicated that the key personnel in production and quality control were independent of each other in fulfilling their responsibilities.

Personnel were imparted with specific and continuous refresher training including basic GMP training for newly recruited employees. Training program and schedules for all employees approved by respective heads were available. Medical examination of personnel was performed prior to and during employment and was performed according to schedule and procedure.

2. Premises

The premises comprised of production areas and raw materials warehouse in the ground floor, quality control and HVAC System in the first floor and administrative offices on the second floor. The premises were suitably designed, located, constructed and maintained to permit cleaning, properly placing of equipment as well as good movement of material and personnel to minimize the risk of mix up and cross contamination.

i. Layout and Design

The layout of the premises was designed to provide unidirectional flow of manufacturing process to minimize the risk of mix up and cross contamination. The building was constructed using bricks masonry, reinforced concrete and plasters cement. The walls and ceiling in the production, sampling and dispensing areas were coved with modular panels and the floors were epoxy painted with coving on the edges. Material warehouses were adequate in size, well equipped and properly maintained to allow proper storage of materials under quarantine, release and rejected areas.

ii. Sanitation and Hygiene

The manufacturing areas were provided with airlocks for personnel and materials entries to avoid contamination. Changing rooms were available provided with cabinets for storage of garments, cross over benches, shower, sinks, hand sanitizer, and gowning and de-gowning procedures.

During site visit the premises was found to be clean and disinfected. The cleaning of the premises and equipment was done in accordance with the existing SOP. Cleaning method and cleaning agents used were validated. Environmental monitoring was performed and the limits of contaminants were accepted. Washing area and toilets were clean and all personnel were required to wear clean cloth provided by the factory before entering the production area. Generally, the sanitation program was in place.

3. Production

Raw and packaging materials were received, examined, de-dusted and stored in quarantine area. Sampling was done using sterile equipment and aseptic sampling technique to avoid contaminating the anticipated product. The materials were tested under QC department before being released to the production area.

There were separate entries for materials and personnel to the production area provided with airlocks. Personnel were provided with primary and secondary changing rooms maintained in grade C environment. Materials were received in grade C areas and passed through pass box to grade B cooling area and dispensing area. Materials were dispensed under supervision of designated personnel in laminar flow cabinet and transferred with LAF trolley to the production cubicles.

Vial and stopper were well prepared, depyrogenated and sterilized respectively before being sent to the filling area. Filling was performed in grade A area with grade B background. The validity of aseptic filling operation was assessed followed by periodic revalidation to ensure sterility is maintained. All production and packaging process were done as per BMR and BPR instructions. In process check were done accordingly and environmental control was performed during operation and daily to ensure that the operation was done in aseptic conditions. Generally manufacturing activities followed unidirectional flow and were performed under aseptic conditions.

4. Quality Control

The QC laboratory had dedicated rooms for instrumentation, wet chemistry and Microbiology. The laboratory was equipped with sufficient number of qualified personnel to perform packaging materials and raw materials testing, in process testing, finished product testing and stability sample testing. The laboratory also contracted some other analytical test when need arises.

Sufficient number of equipment and instrument were found functional, qualified, calibrated and maintained. Qualification reports, preventive maintenance records and calibration status label were in place. Reference standards, working standards and standardized volumetric solution were available and properly stored. Validation protocol, specifications, analytical reports and SOPs for tested materials and finished products were availed and found adequate

The microbiology laboratory was a separate entity from other section and it was mainly responsible for microbial testing, environmental and water monitoring. Stability studies was carried out in zone IVb climatic storage condition as per study protocol and records availed were accepted. Retention samples room was in place and samples were stored at controlled storage conditions

5. Equipment

The installed manufacturing equipment were full automated and qualified as per procedure. They were made of stainless steel materials which are non-reactive to many formulations and allow effective cleaning. Status labels were affixed on all equipment to show the on-going activity. Calibration and preventive maintenance were performed according to the established schedule. Overall the facility had adequate number of GMP model manufacturing equipment which were properly located and maintained to allow easy cleaning and accessibility by the production personnel.

6. Water Treatment System

The facility used water sourced from Municipal and stored in the underground tank with a capacity of 12,000 Litres. The collected water was chlorinated and pumped through multigrade sand filter, softener, ultrafiltration system, double reverse Osmosis systems and de-mineralized water plant and collected in a 5000L stainless steel tank before being pumped into manufacturing areas. The produced purified water was used as feed water in WFI generation system and chiller plant.

Purified water was then passed through Multi-Column Distillation Plant (MCDP) to generate water for injection. The generated water for injection was used for manufacturing and final rinsing of process equipment, vials and as feed water to pure steam generator. Regeneration of water for injection was done at above 80°C and conductivity was monitored online.

Routine sampling and testing of water was performed to monitor the quality of water produced. Microbial quality was monitored at different supply areas and trend analysis was performed. The integrity of water plant was maintained and validated. Sanitization of purified water storage and distribution system was carried out as per written procedure.

7. Heating, Ventilation and Air Conditioning

HVAC system was suitably designed, installed and qualified to maintain adequate temperature, relative humidity and pressure differential within the facility to minimize the risk of contamination. The system had adequate number of AHUs supplying filtered air to the processing areas maintained at class B and A environment. All AHUs supplying air to the processing areas were provided with terminally placed HEPA filters. Calibrated magnehelic gauges were available for each AHU across filters to monitor efficiencies. Filters were checked periodically for efficiency as well as air velocity and non-viable particle count. Records and SOPs for qualification and preventive maintenance of the system were in place and proved the HVAC system was functional, well monitored and properly maintained.

8. Document Review

Documentation system of the facility was satisfactorily established and maintained. All the documents reviewed revealed that the aseptic process, analytical methods, water treatment system and cleaning methods were validated as per validation protocol and validation master plan. Critical equipment and instrument used were qualified, calibrated and maintained. Annual product review was performed and batch manufacturing records had all sequence of manufacturing activities properly documented and verified. SOP for SOPs was in place and all other relevant SOPs. Presented documents were well prepared, signed and approved by authorized personnel.

Part 3: Conclusion

Based on the areas inspected, the people met and the documents reviewed, and considering the findings of the inspection, including the observations listed in inspection report **Tenamyd Pharmaceutical Corporation Lot Y.01-02A, Tan Thuan Street, Tan Thuan Industrial Park/ Export Processing Zone, Tan Thuan Dong Ward, District 7, Ho Chi Minh City, Vietnam** was considered to be operating at **an acceptable** level of compliance with EAC GMP guidelines for manufacturing cephalosporin dry powder for injection.

This TPIR will remain valid for three years (3) from the date of approval for GMP compliance, provided that the outcome of any inspection conducted during this period is positive

Part 4: References

1. EAC- *Good* Manufacturing *Practice Compendium, (2014), Technical Documents for Harmonization of Medicines Regulation in the East African Community*
2. TMDA *Good Manufacturing practices manual and SOPs,* Tanzania Medicines and Medical Devices Authority, Dar-es-Salaam, Tanzania
3. Tanzania Medicines and Medical Devices Authority Act, Cap 219