This document lists observations made by the FDA representative(s) during the inspection of your facility. They are inspectional observations, and do not represent a final Agency determination regarding your compliance. If you have an objection regarding an observation, or have implemented, or plan to implement, corrective action in response to an observation, you may discuss the objection or action with the FDA representative(s) during the inspection or submit this information to FDA at the address above. If you have any questions, please contact FDA at the phone number and address above.

DURING AN INSPECTION OF YOUR FIRM WE OBSERVED:

OBSERVATION 1

Procedures designed to prevent microbiological contamination of drug products purporting to be sterile are not established, written and followed.

Specifically, during setup, aseptic filling, transfer of equipment and components, and line disassembly/cleaning in the Grade A area of (b)(4) cap and bottle lines, (b)(4) and (b)(4) used to aseptically fill U.S. marketed drug products, the following instances of improper aseptic processing technique were observed:

1. On October 12, 2023, and October 17, 2023, operators working in the grade A area of (b)(4), performing line set up, aseptic filling and equipment transfer and cleaning, were not wearing goggles resulting in skin exposure to the Grade A area.

2. Operators working in the Grade A area on October 12, 2023, were observed to have exposed skin on their nose throughout the entire aseptic filling process on (b)(4) during the filling of (b)(4) (b)(4), Batch # (b)(4). These operators repeatedly performed (b)(4) interventions that included leaning over the filling line and open sterile bottles.

3. On filling line (b)(4) during the aseptic filling of (b)(4), Batch # (b)(4) an operator was observed standing outside of the filling line in the extended Grade A LAF scooping sterile empty bottles from an open non-sterile bag into a shoot, extending outside of the filling line, that feeds into the bottle (b)(4). On October 19, 2023, this operator was observed bent...
over a bag of sterile bottles, reaching his gloved hand into the bag holding the sterile bottles, taking scoops of bottles out and placing them into the (b) (4) 96 times in 24 minutes.

4. On October 19, 2023, an operator was observed performing continuous interventions in the (b) (4) using the non-sterile (b) (4) and (b) (4), for 10 minutes and 15 minutes consecutively on (b) (4) during the aseptic filling of (b) (4). Batch (b) (4). They were also observed placing a partially filled bag of extra caps onto the filling line between the (b) (4) and the cap (b) (4) where the bag extended upward blocking/interfering with first pass air to the surrounding area.

5. On October 12, 2023, on filling line (b) (4), during the aseptic filling of (b) (4), Batch (b) (4), an operator was observed reaching over and around the Grade A filling line (b) (4) holding the sterile (b) (4) used to cap bottles of aseptically filled (b) (4) drug products. The operator’s gloved forearm and elbow was observed brushing up against the inside of the (b) (4) and the sterile (b) (4) This same operator was also observed bumping the inside of the (b) (4) with their non-sterile gown.

6. An operator, working on filling line (b) (4), Batch (b) (4), on 10/12/2023, was observed leaning over open sterile bottles on the filling line and reaching over the (b) (4) where their head and torso were inside the Grade A filling area, and where they used a blue cloth to wipe the entire area of the (b) (4) holding the filling and (b) (4). The blue cloth was observed brushing up against the filling and (b) (4).

7. Operators were observed taking bags of sterile components which were stacked up against the wall of the Grade B area outside of (b) (4) and placing them into the Grade A area without disinfecting them, then opening them and pouring their contents into one of the (b) (4) where the outer part of the plastic bag they were packed in touched the inside of the (b) (4) and the sterile component that was poured into that (b) (4). This was observed on October 12, 2023,
during the aseptic filling of Batch (b) (4), and on October 19, 2023, during the aseptic filling of Batch (b) (4).

8. Operators were observed stopping the filling machine and wiping the bottle conveyer and surrounding area of the Grade A filling line on Batch (b) (4) during the aseptic filling of Batch (b) (4), using both hands, while reaching over open sterile unfilled bottles. The bottles were then permitted to remain on the line and progress through filling and capping.

9. An operator was observed using a non-sterile to stand up open, prefilled, fallen bottles on filling line Batch (b) (4) during the aseptic filling of Batch (b) (4) and Batch # (b) (4). The bottles were permitted to remain on the line for filling despite falling over where the top of the bottle came in contact with the conveyer.

10. During the setup of the aseptic filling line, an operator was observed using his gloved hands to manipulate the that hangs inside the bottle and comes in direct contact with the sterile bottles in which the aseptic is filled into.

11. An operator was observed reaching over the area near the filling and filling line on to place an environmental monitoring stand on the line, their entire head, torso and right arm were observed to be in the Grade A filling area.

12. The enclosing the extended LAF Grade A area of was observed to have brown residue at the top where the connects to the HEPA filtration system. The surrounding the extended LAF Grade A area of was observed to be disconnected from where it was creating a gap allowing free air passage from the Grade B area to the Grade A area of the extended LAF. This was observed during an intervention.
13. Operators were observed reaching over open bottles with the non-sterile (b) (4) to perform interventions at the incoming bottle (b) (4) to pick up fallen bottles, push jammed bottles, or change environmental monitoring plates during aseptic filling on (b) (4). Similar interventions were observed being performed on bottles following the placement of the sterile (b) (4) before the final cap was affixed.

14. On October 16, 2023, an operator working in the Grade B area, surrounding the aseptic filling line, (b) (4), was found not wearing a nose mask under their Grade B gowning. Per procedure KHL/RB/PD/048, entitled, “Entry and Exit Procedure for (b) (4) Filling Area”, September 21, 2022, operators are to don a nose mask prior to gowning in the Grade B area.

15. Per procedure KHL/RB/PD/049, entitled, “Entry and Exit Procedure for (b) (4) Manufacturing Area”, August 13, 2023, personnel are required to remove company uniform and don headgear, shirt, trouser, booties, hand gloves and footwear prior to entering the Grade C area. Review of the CCTV footage from October 3 and 4th, 2023, showed personnel working in the Grade C (b) (4) area where materials are passed into the Grade B filling area. Operators did not wear the specified gowning, gloves, and were working barefoot as they transferred materials into the Grade B area for filling line (b) (4). The deputy manager of production confirmed that this is their standard practice.

Additionally, this room has a Grade A LAF hood for washing small filling machine parts. An operator was observed standing in the hood and another operator was observed taking his hat off and brushing his hair while in the hood.

16. Upon arrival at the entrance to the Grade C area for (b) (4) on October 13, 2023, there were gloves in wet trays. Production personnel reported the gloves had been washed.
OBSERVATION 2
Laboratory records do not include complete data derived from all tests, examinations and assay necessary to assure compliance with established specifications and standards.

1. Microbiologists responsible for collecting environmental monitoring and personnel monitoring samples confirmed they do not collect all samples due to workload. Microbiologists also explained personnel monitoring samples may not be collected due to production personnel that refuse to submit to personnel monitoring. For samples that are not collected, a result is still recorded in the reported laboratory records that is below the alert limit and within trend of previous data. The practice of not collecting all samples, but still reporting conforming results has been occurring for at least one year.

a. Inspection of the incubators in the microbiology laboratory on October 12, 2023, identified environmental monitoring and personnel monitoring samples that were supposed to have been collected during aseptic manufacturing on (b) (4) Lines (b) (4) and (b) (4) were not present. Logbooks with testing dates and incubator use logs documented samples, which were not present. Examples of missing samples included:

i. Personnel monitoring samples including (b) (4) plates from (b) (4) body locations and (b) (4) finger dab plates for each person that had worked in the aseptic fill room for each day. From October 6-11, 2023, the aseptic entry and exit log documented there should have been approximately 102 sets of plates, containing plates for each person, under incubation. Only 3 sets of plates were present in the incubator.

ii. All post filling swab sample of surfaces inside the filling (b) (4) associated with (b) (4) batches (b) (4)
(b) (4) were missing from the (b) (4)

iii. Active air monitoring samples in the filling (b) (4) associated with (b) (4) batches (b) (4) were missing from the incubator.

iv. Settle plate samples were missing from the incubator including:

- Sample 11.6b (Grade A) on October 7, 2023, associated with (b) (4).
- Samples 11.5b and 11.5c (Grade A) on October 9, 2023, associated with batch (b) (4).
- Samples 66.1, 66.2, 66.3, and 66.4 (Grade B) on October 9, 2023, associated with batch (b) (4).

b. Review of video recordings of (b) (4) room for Line (b) (4) showed the settle plate and active air Grade A samples from the LAF sink hood were not collected on October 3, 4, or 5, 2023.

c. Review of aseptic area entry logs identified times when no microbiologist was present to collect the environmental and personnel monitoring samples. For example, on October 4, 2023, during US market batch (b) (4), the microbiologist did not enter the filling room until after cleaning had been completed and the filling operators had left.

d. Review of video recordings show there were no settle plates exposed in the microbiology corridor on October 9, 2023, even though records document these samples were collected.
2. Review of video recordings from the room outside of Line showed the portable non-viable particle counter never entered the to the filling area on October 5, 2023. A microbiologist confirmed the samples were collected from a laminar flow hood in the microbiology laboratory and the printouts were made to represent samples had been collected from inside the Grade A filling barrier.

3. A microbiologist confirmed that when samples are collected, if they are over an alert or action limit, they are verbally reported to the microbiology manager. The microbiology manager verbally requests additional cleaning be performed by production personnel and verbally informs QA, but there is no documentation made of the result that exceeded the limit. A result below the alert limit is recorded on the documentation for the sample that exceeded the limit. The microbiologist reported this occurs 2-3 times per month.

4. On October 12, 2023, settle plate collected on October 9, 2023, from a Grade A location on the during batch was observed in a waste area. It contained CFU, an action level result. The plate was not due to finish incubation until October 14, 2023, and no result had been recorded.

5. On October 16, 2023, settle plate collected on October 11, 2023, from a Grade A area on the during batch was inspected after it had been read by a microbiologist that reported the result as “Nil”. The plate contained CFU, an action level result.

Over the last five years the microbiology laboratory reported no action level result and four alert level results from environmental monitoring and personnel monitoring. When samples from aseptic filling areas associated with batches were collected during the inspection and read on October 16-18, 2023, there were 39 excursions. This included 15 Grade A action level results, 5 Grade B action level results, 1
Grade B alert level, 13 personnel monitoring action level results, and 5 personnel monitoring alert level results.

The microbiology laboratory reported no sterility failures in the past five years. When the incubators were inspected on October 20, 2023, the following was observed:

- Empty sterile bottles taken from the bottle (b) (4) on line (b) (4) during a validation study associated with batch (b) (4) were inoculated directly into (b) (4) and showed turbidity.

- Incoming bottle lot (b) (4) (b) (4) Bottle (b) (4) showed a change in the (b) (4) media that made the media completely pink. This bottle type is used for the US market product (b) (4) (b) (4) (b) (4) and (b) (4) (b) (4).

**OBSERVATION 3**

Procedures designed to prevent microbiological contamination of drug products purporting to be sterile did not include adequate validation of the aseptic process.

1. Smoke studies do not show demonstrate appropriate airflow:

   a. Smoke studies for Line (b) (4) and Line (b) (4) show turbulent and non-unidirectional airflow inside the filling (b) (4).

   b. Smoke studies do not include set-up activities or interventions such as: opening component bags and adding sterile components; picking up fallen bottles; clearing blocked bottles, (b) (4) and caps; or adjusting the (b) (4) insertion equipment.

2. Your firm’s Aseptic Process Simulation (Media Fill), outlined in procedure SOP
KHIIL/RB/QA/082, “Aseptic Process Simulation (Media Fill Validation)”, May 3, 2023, and Protocol KHIIL/RB/QAP/QL/08/10-B/R01, entitled, “Aseptic Media Fill Validation” (b) (4) (b) (4) Batch # (b) (4) failed to include interventions representing worst-case or even nominal production activities during commercial manufacturing. Numerous Interventions were observed on October 12, 13, 17 and 19, 2023. The following are examples of discrepancies found regarding the type of intervention and its duration, which were performed during the Aseptic Process Simulation Study, compared to those observed during manufacturing of commercial drug products:

<table>
<thead>
<tr>
<th>Description of Intervention</th>
<th>Duration of Intervention</th>
<th>Line #</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clearance of blockage of bottles &amp; cap</strong></td>
<td>(b) (4) One time</td>
<td>(b) (4)</td>
</tr>
<tr>
<td><strong>QA person entry into the filling area</strong></td>
<td>(b) (4) One time</td>
<td>(b) (4)</td>
</tr>
</tbody>
</table>

Batch (b) (4) observed continuous clearance of blockage in the (b) (4) for 10 minutes and 15 min consecutively while observing filling for (b) (4) on October 19, 2023.
<table>
<thead>
<tr>
<th>Observation</th>
<th>Frequency/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Empty vial fallen on conveyer&quot; Operator clearing bottles fallen on the conveyer</td>
<td>Observed &gt;12 times in numerous times (&gt;4 times) on October 12, 2023.</td>
</tr>
<tr>
<td>Loading bottles into the bottle (b) (4) using the (b) (4) scoop</td>
<td>Observed scooping 96 times in 24 min of observing filling on October 19, 2023.</td>
</tr>
<tr>
<td>Operator wiping a spill off the (b) (4) that holds the filling (b) (4) and the surrounding conveyer belt with both hands simultaneously, using a blue non-sterile cloth.</td>
<td>Observed numerous times while observing filling between 14:10 and (b) (4) on October 12, 2023.</td>
</tr>
</tbody>
</table>
Laboratory controls do not include the establishment of scientifically sound and appropriate specifications and test procedures designed to assure that drug products conform to appropriate standards of identity, strength, quality and purity.

1. Environmental monitoring and personnel monitoring data is not reliable because of the materials used to conduct tests.

   a. Contact plates prepared in house did not have enough media to ensure the surface was above the rim all the way around the plate on October 12, 2023. At the end of incubation, 8 of the plates showed desiccation of the media.

   b. Plates that had been exposed in the aseptic manufacturing were observed to have media that was desiccated and cracking.

   c. In house-prepared environmental monitoring media does not contain neutralizers. Spray disinfectants are used in the areas where monitoring occurs. On October 19, 2023, was sprayed directly over settle plates during the setup for batch [b (4)].

2. There has been no evaluation to determine any appropriate specifications for impurities or degradation products for US market [b (4)] products during release and stability testing.

3. During sterility testing of sterile components by direct inoculation, the components were not observed to be completely submerged in the media.

**Observation 5**
Aseptic processing areas are deficient regarding the system for cleaning and disinfecting the room and equipment to produce aseptic conditions.

1. There is no assurance an effective sporicidal is used in the aseptic filling areas. (b) (4) is done with (b) (4), which is intended to be used as the only sporicidal inside the filling (b) (4). No validation data of the (b) (4) process is available to show the (b) (4) is effective against spores or the (b) (4) process can penetrate all areas in the filling line.

2. Disinfectant efficacy studies did not consider surfaces including (b) (4). (b) (4), (b) (4) (b) (4), or (b) (4) (b) (4).

3. Mops used in the filling room are not sterilized and were observed to be passed back and forth from the Grade C to the Grade B areas.

OBSERVATION 6
Buildings used in the manufacture, processing, packing or holding of drug products are not maintained in a clean and sanitary condition.

Specifically,

1. On October 13, 2023 it was observed during a production area walkthrough that the (b) (4) floor in the Grade B corridor outside of filling line (b) (4) had cracks and was not sealed to the wall.

2. On October 17, 2023, during a walkthrough of the manufacturing and (b) (4) (b) (4) area, it was observed that the air vents in the employee changing room to enter the production areas had a buildup of dust on them.
3. On October 13, 2023, (b)(4) use point (b)(4) in the equipment cleaning area was leaking and had an attached hose that was submerged in a bucket of stagnant water.

4. On October 13, 2023, (b)(4) use point (b)(4) had an attached hose with stagnant water in it.

5. The (b)(4) (b)(4) room has a Grade A LAF booth with a sink and a drain below it. Review of video recordings from October 4, 2023, show a (b)(4) filling the LAF and the surrounding Grade C room that is used to transfer material into the Grade B filling area. Production personnel identified this (b)(4) as material escaping from the drain located under the LAF booth.

6. The (b)(4) room used to sterilize components of the aseptic filling line in (b)(4) has a Grade A LAF with a sink for washing equipment parts where the water from the sink goes into a drainpipe below. Review of the video recording from October 4, 2023, shows a (b)(4) filling the LAF and the surrounding Grade C room where the (b)(4) is located and where material is transferred from the Grade C into the Grade B filling area. Production identified this (b)(4) as coming up from a drain line that runs under the floor from the (b)(4) and is used to drain both the (b)(4) and the Grade A LAF sink water. The Senior Production Manager explained that this may be due to a problem in the pipe running under the floor (crack, leaks, blockage) and will require extensive maintenance to fix. Currently the (b)(4) remains in use, engineering has made minor repairs to minimize the problem, but some (b)(4) continues to leak out from the discharge from the (b)(4)

7. During a walkthrough of the production area on October 19, 2023, it was noted that the ceiling in the main (b)(4) room, (b)(4) had water stains, cracks and paint peeling off the ceiling. The area surrounding the drain and the adjacent wall were also observed to have cracks and brown/black residue buildup. This is where one of the environmental monitoring settle plate stands resides and where product is removed from the (b)(4)
OBSERVATION 7
Established test procedures are not documented at the time of performance.

On October 12, 2023, a microbiology manager was observed back dating entries into the “Sterility Test Sample Inward Register”. Other microbiology employees were observed writing entries into a binder containing “Recording of (b) (4), Filling Microbiological Activity”. The binder contained incomplete records for batches that had been manufactured February-May, 2023, including US market batches (b) (4)_________________________. When these records were reviewed again on October 19, 2023, they were filled out and had been backdated. A microbiologist confirmed times recorded into the backdated records were not accurate.

OBSERVATION 8
The responsibilities and procedures applicable to the quality control unit are not in writing and fully followed.

1. The quality unit has not ensured API suppliers are appropriate for use.

   a. No onsite audit has been conducted for any supplier of APIs used for US market product as required by procedure KHIL/RB/QA/026 “Vendor Development, Qualification, Dis-Qualification, and Requalification”.

   b. The following suppliers have not provided answers to the supplier questionnaire as required by procedure KHIL/RB/QA/026, including whether they manufacture the supplied API according to GMP requirements:
c. (b) (4) supplier of the API did provide a supplier questionnaire, but indicated they do not conduct stability testing according to ICH guidelines, have not qualified their water system, and do not routinely sample their water system. The quality unit approved them to supply API for US market product.

d. No FDA registration information could be provided for the following API suppliers:

1. (b) (4)
2. (b) (4)
3. (b) (4)
4. (b) (4)
5. (b) (4)
6. (b) (4)
7. (b) (4)
OBSERVATION 9
Drug product component testing is deficient in that at least one specific test to verify the identity of each component is not performed.

Testing of (b) (4) for (b) (4) is not conducted on each shipment of each lot.

- Supplier lot (b) (4) was received in shipments on June 14, 2023 (internal lot number (b) (4)) and again in a shipment on June 17, 2023 (internal lot number (b) (4)). No sample from (b) (4) was submitted for (b) (4) testing. Lot (b) (4) was used in the manufacture of (b) (4) batches (b) (4), (b) (4), which were distributed to the US market.

- Supplier lot (b) (4) was received in two different shipments on April 10, 2023. The two different shipments were given internal lot number (b) (4) and (b) (4). No sample from (b) (4) was submitted for (b) (4) testing. Lot (b) (4) was used in the manufacture of (b) (4) batches (b) (4), which were distributed to the US market.
OBSERVATION 10
Batch production and control records do not include complete information relating to the production and control of each batch.

Your firm does not record interventions during routine batch manufacturing. On October 12, 2023, the following interventions were observed during the filling of [redacted] Batch #[redacted] these interventions were not captured in the batch manufacturing record. The firm’s quality manager informed me that they do not document routine interventions in the BMR or onto any document that is associated with the BMR. The following are examples of interventions observed, from approximately 14:10 to [redacted] during production on October 12, 2023, which were not documented.

1. Operator unjamming the [redacted] through the [redacted] with [redacted]. This was done more than 15 times.
2. Operator wiping the [redacted] that moves the bottles through filling, the area surrounding the aseptic filling [redacted] and the surrounding conveyer belt numerous times with a blue non-sterile cloth [redacted] Intervention).
3. Operator performing an [redacted] intervention to clear fallen bottles from the line (numerous times).

OBSERVATION 11
The written stability program for drug products does not include meaningful test methods.

Stability methods have not been shown to be stability indicating for any of the US market products.

OBSERVATION 12
There is a failure to thoroughly review any unexplained discrepancy whether or not the batch has been already distributed.

Your firm failed to adequately assess the following complaint batches for potential microbial contamination.

1. Complaint investigation 05/23, received May 9, 2023, for Batch # (b) (4), (US Market), was initiated for have growth inside”.

2. Complaint Investigation 04/23, received April 15, 2023, for Batch (b) (4) and oozing”.

3. Complaint Investigation 01/22, received July 22, 2022, for Batch # (b) (4), (US Market), was initiated for “burning, (b) (4) “noticed

OBSERVATION 13
Aseptic processing areas are deficient regarding the system for monitoring environmental conditions.

Environmental monitoring sampling locations have not been selected considering routine aseptic operations and interventions. Locations for surface monitoring that have not been considered include the used to perform interventions, the bowl, and the track.

Additionally, the sampling descriptions lack sufficient descriptions to ensure repeatable sampling. The swab sampling includes the location without describing which or where on the multiple forceps needs to be sampled. “Forceps” is a swab sampling point, but which of the multiple forceps needs to be sampled is not specified or documented at the time of sampling.
OBSERVATION 14
Changes to written procedures are not reviewed and approved by the quality control unit.

Your firm changed the supplier and grade of (b)(4) from a non-pharmaceutical grade to pharmaceutical grade per the request of your client. Per your firm’s change control procedure, SOP KHIL/RB/QA/016-R07, entitled, “Change Control”, March 11, 2023, requires change controls to be opened and approved for formulation changes. You failed to open a change control for this formulation change as well as conduct a thorough assessment of the products on the market, that were within expiry, which had been manufactured using non-pharmaceutical grade (b)(4) to determine if using this non-pharmaceutical grade material posed a risk to patients. (b)(4) is used as a (b)(4) in the U.S. market, (b)(4) bottle, (b)(4) products.

*DATES OF INSPECTION
10/12/2023(Thu), 10/13/2023(Fri), 10/16/2023(Mon), 10/17/2023(Tue), 10/18/2023(Wed), 10/19/2023(Thu), 10/20/2023(Fri)
The observations of objectionable conditions and practices listed on the front of this form are reported:

1. Pursuant to Section 704(b) of the Federal Food, Drug and Cosmetic Act, or
2. To assist firms inspected in complying with the Acts and regulations enforced by the Food and Drug Administration.

Section 704(b) of the Federal Food, Drug, and Cosmetic Act (21 USC 374(b)) provides:

"Upon completion of any such inspection of a factory, warehouse, consulting laboratory, or other establishment, and prior to leaving the premises, the officer or employee making the inspection shall give to the owner, operator, or agent in charge a report in writing setting forth any conditions or practices observed by him which, in his judgment, indicate that any food, drug, device, or cosmetic in such establishment (1) consists in whole or in part of any filthy, putrid, or decomposed substance, or (2) has been prepared, packed, or held under insanitary conditions whereby it may have become contaminated with filth, or whereby it may have been rendered injurious to health. A copy of such report shall be sent promptly to the Secretary."