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Prequalification Unit Inspection services WHO PUBLIC INSPECTION REPORT (WHOPIR)

Desk Assessment of Finished Pharmaceutical Product (FPP) Manufacturer

Part 1	General information		
Company information			
Name of	Mylan Laboratories Limited, Nashik		
Manufacturer			
Corporate address	Mylan Laboratories Limited,		
of manufacturer	Plot no. 564 / A / 22, Road no. 92, Jubilee Hills, Hyderabad - 500033,		
	India.		
Inspected site			
Name & address	Mylan Laboratories Limited, Nashik		
of manufacturing	F-4, F-12, Malegaon M.I.D.C, Sinnar, Nashik – 422103,		
site	Maharashtra state, India		
Production	FDF-1, Nashik		
Block/Unit			
Desk assessment de	tails		
Date of review	05 - 09 April 2021		
Products covered	1. HP001 Sofosbuvir Tablet, Film-coated 400mg		
by this desk	2. MA099 Artemether/Lumefantrine Tablet 20mg/120mg		
assessment	3. MA100 Artemether/Lumefantrine Tablet 40mg/240mg		
	4. HA426 Lamivudine/Nevirapine/Zidovudine Tablet, Film-coated		
	150mg/200mg/300mg		
	5. HA466 Efavirenz/Lamivudine/Tenofovir disoproxil fumarate Tablet,		
	Film-coated 600mg/300mg/300mg		
	6. HA467 Ritonavir Tablet, Film-coated 100mg		
	7. HA392 Lamivudine/Zidovudine Tablet, Film-coated 150mg/300mg		
	8. HA507 Atazanavir (sulfate)/Ritonavir Tablet, Film-coated 300mg/100mg		
	9. HA403 Efavirenz Tablet, Film-coated 600mg		
	10. HA410 Tenofovir disoproxil fumarate Tablet, Film-coated 300mg		
	11. HA417 Emtricitabine/Tenofovir disoproxil fumarate Tablet, Film-		
	coated 200mg/300mg		
	12. HA433 Lamivudine/Nevirapine/Zidovudine Tablet, Dispersible		
	30mg/50mg/60mg		
	13. HA444 Efavirenz/Emtricitabine/Tenofovir disoproxil fumarate Tablet,		
	Film-coated 600mg/200mg/300mg		
	14. HA414 Lamivudine/Tenofovir disoproxil fumarate Tablet, Filmcoated		
	300mg/300mg		
	15. TB286 Moxifloxacin (hydrochloride) Tablet, Film-coated 400mg		
	16. HA635 Abacavir sulfate/Lamivudine Tablets 600 mg/ 300 mg		
	17. HA621 Ritonavir Tablets 25mg		
	18. HP026 Sofosbuvir/Velpatasavir Tablet, Film-coated 400mg/100mg		

Mylan Laboratories-Nashik, India-Desk review -FPP

5-9 April 2021

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	19. HP025 Daclatasvir (dihydrochloride)/Sofosbuvir Tablet, Filmcoated 60mg/400mg 20. HP019 Ledipasvir/Sofosbuvir Tablet, Film-coated 90mg/400mg 21. HP015 Daclatasvir (dihydrochloride) Tablet, Film-coated 30mg 22. HP016 Daclatasvir (dihydrochloride) Tablet, Film-coated 60mg		
D 42	23. HA697 Lopinavir/Ritonavir Granules for Oral suspension 40mg/10mg		
Part 2	Summary of SRA/NRA inspection evidence considered (from most		
	recent to last)		
US FDA, USA	Dates of inspection:	3 rd -7 th February 2020	
	Type of inspection:	Announced pre-approval inspection for an NDA with a follow-up to the previous observations issued to the site.	
	Block/Unit:	FDF-1	
	Type of products/Dosage forms covered:	Tablets and Hard Gelatin Capsules	
EMA	Dates of inspection:	12 to 16 November 2018	
(HPMA Ireland	Type of inspection:	Routine inspection	
and OGYEI,	Block/Unit:	Not described	
Hungary)	Type of products/Dosage forms covered:	- Capsules, hard shells - Tablets	
	Summary of the last WHO inspection		
Part 3	Summary of the last WHO inspection	on .	
Date and conclusion of most recent WHO inspection	6 to 10 November 2017 GMP compliant after CAPAs.		
Date and conclusion of most recent WHO	6 to 10 November 2017		
Date and conclusion of most recent WHO inspection Brief description of manufacturing	6 to 10 November 2017 GMP compliant after CAPAs. Production and quality control of OSD Capsules Mylan Laboratories Limited is the Ind Inc. USA. Mylan Laboratories Limited has its corporate A total of 1753 employees were a neighboring plot contained a supplementation.	ian subsidiary of Mylan Laboratories mited formally known as Matrix office located at Hyderabad, India. at the facility under inspection. A ementary finished product storage	
Date and conclusion of most recent WHO inspection Brief description of manufacturing activities General information about the company and	6 to 10 November 2017 GMP compliant after CAPAs. Production and quality control of OSD Capsules Mylan Laboratories Limited is the Ind Inc. USA. Mylan Laboratories Limited has its corporate A total of 1753 employees were a neighboring plot contained a suppl warehouse. The inspection focused on the production anti-malarial products. The inspection	ian subsidiary of Mylan Laboratories mited formally known as Matrix office located at Hyderabad, India. It the facility under inspection. A ementary finished product storage fon and control of anti-HIV, anti-TB and in covered all the sections of the WHO quipment, documentation, materials,	

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	Self-inspection		
	Personnel		
	• Training		
	Personal hygiene		
	• Premises		
	• Equipment		
	Materials		
	Documentation		
	• Production		
	Quality control		
Out of scope and	Products not submitted for prequalification including pilot plant were out of		
restrictions (last	the scope of this inspection.		
WHO inspection)	No restrictions.		
Will imspection)			
WHO products	Lamivudine/Zidovudine Tablet, Film-coated 150mg/300mg (HA392)		
covered by the	Nevirapine Tablet 200mg (HA396)		
last WHO	Efavirenz Tablet, Film-coated 600mg (HA403)		
inspection	Tenofovir Disoproxil fumarate Tablet, Film-coated 300mg (HA410)		
mopeonen	Lopinavir/Ritonavir Tablet, Film-coated 200mg/50mg (HA411)		
	Lamivudine/Tenofovir Disoproxil fumarate Tablet, Film-coated 300mg/300mg		
	(HA414)		
	Emtricitabine/Tenofovir Disoproxil fumarate Tablet, Film-coated		
	200mg/300mg		
	(HA417)		
	Lamivudine/Nevirapine/Zidovudine Tablet, Film-coated 150mg/200mg/300mg		
	(HA426)		
	Lopinavir/Ritonavir Tablet, Film-coated 100mg/25mg (HA429)		
	Lamivudine/Nevirapine/Zidovudine Tablet, Dispersible 30mg/50mg/60mg		
	(HA433)		
	Lamivudine/Zidovudine Tablet, Film-coated 30mg/60mg (HA437)		
	Efavirenz/Emtricitabine/Tenofovir disoproxil fumarate Tablet, Film-coated		
	600mg/200mg/300mg (HA444)		
	Zidovudine Tablet, Film-coated 100mg (HA464)		
	Efavirenz/Lamivudine/Tenofovir Disoproxil fumarate Tablet, Film-coated		
	600mg/300mg/300mg (HA466)		
	Ritonavir Tablet, Film-coated 100mg (HA467)		
	Atazanavir (sulfate)/Ritonavir Tablet, Film-coated 300mg/100mg (HA507)		
	Ritonavir Tablet, Film-coated 25mg (HA621)		
	Sofosbuvir Tablet, Film-coated 400mg (HP001)		
	Artemether/Lumefantrine Tablet 20mg/120mg (MA099)		
	Moxifloxacin (hydrochloride) Tablet, Film-coated 400mg (TB286)		
	Total of 11 Products Prequalified (under USFDA ANDA)		
Additional	1. MA100 Artemether/Lumefantrine Tablet 40mg/240mg		
products covered	2. HA635 Abacavir sulfate/Lamivudine Tablets 600 mg/ 300 mg		
by this desk	3. HA621 Ritonavir Tablets 25mg		
assessment:	4. HA697 Lopinavir/Ritonavir Granules for Oral suspension		
abbebbilletit.	11 10// Doping in Tolonia in Oran Suspension		

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- ,	40mg/10mg	
	5. HP015 Daclatasvir (dihydrochloride) Tablet, Film-coated 30mg	
	6. HP016 Daclatasvir (dihydrochloride) Tablet, Film-coated 60mg	
	7. HP019 Ledipasvir/Sofosbuvir Tablet, Film-coated 90mg/400mg	
	8. HP026 Sofosbuvir/Velpatasvir Tablet, Film-coated 400mg/100mg	
	9. HP025 Daclatasvir (dihydrochloride)/Sofosbuvir Tablet,	
	Filmcoated 60mg/400mg	
Abbreviations	Meaning Meaning	
AHU	Air handling unit	
API	Active pharmaceutical ingredient	
BMR	Batch manufacturing record	
BPR	Batch production record	
CAPA	Corrective and preventive action	
CC	•	
GMP	Change control Good manufacturing practices	
NC ND 4	Non conformity	
NRA	National regulatory agency	
PQR	Product quality review	
PQS	Pharmaceutical quality system	
QA	Quality assurance	
QC	Quality control	
QCL	Quality control laboratory	
QMS	Quality management system	
QRM	Quality risk management	
RA	Risk assessment	
RCA	Root cause analysis	
SOP	Standard operating procedure	

Part 4 Summary of the assessment of supporting documentation

a) Manufacturing authorization and GMP certificate granted by the local authority:

A copy of the following manufacturing licenses issued by Food &Drugs Administration of Maharashtra State was provided.

- Form 28, Licence No. /NKD/43, Iss Dt: 04/08/2005, Val Dt: 03/08/2025, Ren Dt: 04/08/2020
- Form 25, Licence No. /NKD/89, Iss Dt: 04/08/2005, Val Dt: 03/08/2025, Ren Dt: 04/08/2020,

The copy of GMP certificates No: 6095768 issued by Food &Drugs Administration of Maharashtra State, India on 06/10/2020 was provided, which is valid for five years.



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b) Site master file:

The current version of Site Master File was provided and reviewed with no objectional findings. According to the SMF, 1589 people was employed on the site. No toxic or hazardous substances are handled (e.g. with high pharmacological activity and/or with sensitizing properties) at site.

c) List of all regulatory inspections performed in the last 3 years and their outcomes:

Name of Regulatory Authority	Inspection Date	Inspection Scope	Outcome
Food & Drug Administration (FDA), USA	3-7 Feb. 2020	Pre-Approval Inspection	VAI
Food & Drug Administration (FDA), USA	14-18 Jan. 2019	Pre-Approval Inspection	VAI
European Medicines Agency/ Health Products Regulatory Authority (HPRA), Ireland	12-16 Nov. 2018	GMP Inspection	GMP certificate issued.

d) List of all the products and dosage forms manufactured on-site:

The list of products manufactured at site was provided and reviewed. Oral Solid Dosage forms for human use including Tablets and Hard Gelatin Capsules are manufactured at the site. Veterinary products are not manufactured at Site. The products are manufactured on campaign basis.

e) Most recent product quality review(s) (PQR)(s) of the concerned WHO product(s):

The following products have been withdrawn since last WHO inspection.

HA396 Nevirapine Tablet 200mg

HA411 Lopinavir/Ritonavir Tablet, Film-coated 200mg/50mg

HA429 Lopinavir/Ritonavir Tablet, Film-coated 100mg/25mg

HA437 Lamivudine/Zidovudine Tablet, Film-coated 30mg/60mg

HA464 Zidovudine Tablet, Film-coated 100mg

The products were prequalified with summary of APQRs provided by the company. The PQRs provided and reviewed with no objectional findings. Some details are to be checked in future on-site inspection. The PQRs as mentioned in the table below are not available currently and need to be followed in next on-site inspection.



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Sr. No.	PQ No.	FPP	APR	Remarks
1	HP026	Sofosbuvir/Velpatasvir Tablet, Film-coated 400mg/100mg	NA	Not yet commercialised.
2	HP025	Daclatasvir (dihydrochloride)/Sofosbuvir	NA	Not yet commercialised.
3	HP019	Ledipasvir/Sofosbuvir Tablet, Film- coated 9 0 mg/400mg	NA	Product is commercialised and APR will be prepared first time in this year. Assigned due date in July-21
4	HP015	Daclatasvir (dihydrochloride) Tablet, Film-coated 30mg	NA	Not yet commercialized.
5	HP016	Daclatasvir (dihydrochloride) Tablet,	NA	Product is Commercialized in this year and APR will be prepared in next review period.
6	HA697	Lopinavir/Ritonavir Granules for Oral suspension 40mg/\	NA	Not yet commercialised.

f) Batch manufacturing and packaging record(s), including the analytical part, for the most recently released batch of relevant product(s):

The BMRs/BPRs provided were briefly reviewed with no objectional findings. Some details are to be verified in next on-site inspection. For the products prequalified but not yet commercialised, their BMRs/BPRS are to be followed in next on-site inspection.

g) Master batch manufacturing and packaging record(s) of the product(s) of interest:

Master BMRs/BPRs provided were briefly reviewed with no objectional findings. For the products prequalified but not yet commercialised, their Master BMRs/BPRS are to be followed in next on-site inspection.

h) Recalls in the past three years related to products with quality defects:

The company provided a recall list since 2018 which was reviewed with no objectional findings.

i) Confirmation by the senior quality assurance representative that a full self-inspection or external audit dedicated to the product(s) has been performed and all matters dealt with:

The company confirmed that, as per 'Self-inspection program' of Mylan, Nashik site, all the systems, processes and facility are inspected periodically as per predefined frequency for all the products manufactured for different markets including products approved by WHO.

j) Copy of any warning letter, or equivalent regulatory action, issued by any authority to which the site provides or has applied to provide the product:

The company declare that, they have not received any Warning Letter or equivalent regulatory action from any regulatory authority during any inspections conducted at Mylan Laboratories Limited, F-4 & F-12, Malegaon MIDC, Sinnar, Nashik, 422 113, Maharashtra, India in last three years.



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k) Out-of-stock situations:

The company declared that, there is "No out of stock/potential out stock situation" foreseen. Products are continuously supplied from Mylan where Mylan has been granted tender under WHO Qualification for the Prequalified products.

1) Additional documents submitted:

Name of Regulatory Authority	Anticipated GMP Inspection Date	Intimation Receipt
Health Products Regulatory		27 November 2020
Authority (HPRA) on behalf of		Inspection due year
European Medicines Agency		2021
(EMA)		

Part 5 Conclusion – Desk assessment outcome

Based on the previous WHO inspections and on the GMP evidence received and reviewed, it is considered that a desk assessment is acceptable in lieu of a WHO onsite inspection. The site **Mylan** Laboratories Limited, Nashik located at Mylan Nashik, F-4, F-12, Malegaon M.I.D.C, Sinnar, Nashik – 422103, Maharashtra state, India is considered to be operating at an acceptable level of compliance with WHO GMP guidelines.

This WHOPIR will remain valid until **31 December 2022**, provided that the outcome of any inspection conducted during this period is positive.

Part 6 List of guidelines referenced in this inspection report

- WHO good manufacturing practices for pharmaceutical products: main principles. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-eighth Report Geneva, World Health Organization, 2014 (WHO Technical Report Series, No. 986), Annex 2. Short name: WHO TRS No. 986, Annex 2 http://www.who.int/medicines/areas/quality_safety/quality_assurance/expert_committee/trs_986/en/
- WHO good manufacturing practices for active pharmaceutical ingredients. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fourth Report. Geneva, World Health Organization, 2010 (WHO Technical Report Series, No. 957), Annex 2. Short name: WHO TRS No. 957, Annex 2 http://www.who.int/medicines/publications/44threport/en/
- 3. WHO guidelines for sampling of pharmaceutical products and related materials. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Thirty-ninth Report. Geneva, World Health Organization, 2005 (WHO Technical Report Series, No. 929), Annex 4.

Short name: WHO TRS No. 929, Annex 4 http://whqlibdoc.who.int/trs/WHO TRS 929 eng.pdf?ua=1



- Supplementary guidelines on good manufacturing practices: validation. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fortieth Report. Geneva, World Health Organization, 2006 (WHO Technical Report Series, No. 937), Annex 4. Short name: WHO TRS No. 937, Annex 4 http://whqlibdoc.who.int/trs/WHO TRS 937 eng.pdf?ua=1
- 5. General guidelines for the establishment maintenance and distribution of chemical reference substances. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-first Report Geneva, World Health Organization 2007 (WHO Technical Report Series, No.943) Annex 3. Short name: WHO TRS No. 943, Annex 3 http://whqlibdoc.who.int/trs/WHO TRS 943 eng.pdf?ua=1
- 6. WHO Good Practices for Pharmaceutical Quality Control Laboratories. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fourth Report. Geneva, World Health Organization, 2010 (WHO Technical Report Series, No. 957, Annex 1. Short name: WHO TRS No. 957, Annex 1 http://www.who.int/medicines/publications/44threport/en/
- 7. WHO Good Practices for Pharmaceutical Products Containing Hazardous Substances. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fourth Report. Geneva, World Health Organization, 2010 (WHO Technical Report Series, No. 957), Annex 3. *Short name: WHO TRS No. 957, Annex 3* http://www.who.int/medicines/publications/44threport/en/
- 8. WHO good manufacturing practices for sterile pharmaceutical products. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fifth Report Geneva, World Health Organization, 2011 (WHO Technical Report Series, No. 961), Annex 6. *Short name: WHO TRS No. 961, Annex 6* http://whqlibdoc.who.int/trs/WHO TRS 961 eng.pdf?ua=1
- 9. WHO guidelines on transfer of technology in pharmaceutical manufacturing WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fifth Report Geneva, World Health Organization, 2011 (WHO Technical Report Series, No. 961), Annex 7. *Short name: WHO TRS No. 961, Annex 7* http://whqlibdoc.who.int/trs/WHO TRS 961 eng.pdf?ua=1
- 10. Model guidance for the storage and transport of time-and temperature-sensitive pharmaceutical products. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fifth Report Geneva, World Health Organization, 2011 (WHO Technical Report Series, No. 961), Annex 9. Short name: WHO TRS No. 961, Annex 9
 http://whqlibdoc.who.int/trs/WHO TRS 961 eng.pdf?ua=1
- 11. WHO good practices for pharmaceutical microbiology laboratories. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fifth Report Geneva, World Health Organization, 2011 (WHO Technical Report Series, No. 961), Annex 2. *Short name: WHO TRS No. 961, Annex 2* http://whqlibdoc.who.int/trs/WHO TRS 961 eng.pdf?ua=1
- 12. WHO guidelines for drafting a site master file. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-fifth Report Geneva, World Health Organization, 2011 (WHO Technical Report Series, No. 961), Annex 14. Short name: WHO TRS No. 961, Annex 14 http://whqlibdoc.who.int/trs/WHO TRS 961 eng.pdf?ua=1



- 13. WHO guidelines on quality risk management. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-seventh Report Geneva, World Health Organization, 2013 (WHO Technical Report Series, No. 981), Annex 2. *Short name: WHO TRS No. 981, Annex 2*http://www.who.int/medicines/areas/quality-safety/quality-assurance/expert committee/trs-981/en/
- 14. WHO guidelines on variation to a prequalified product. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-seventh Report Geneva, World Health Organization, 2013 (WHO Technical Report Series, No. 981), Annex 3. *Short name: WHO TRS No. 981, Annex 3*http://www.who.int/medicines/areas/quality_safety/quality_assurance/expert_committee/trs_981/en/
- 15. WHO Guidelines on good manufacturing practices: validation, Appendix 7: non-sterile process validation. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-ninth Report Geneva, World Health Organization, 2015 (WHO Technical Report Series, No. 992), Annex 3. Short name: WHO TRS No. 992, Annex 3
 http://www.who.int/medicines/areas/quality_safety/quality_assurance/expert_committee/WHO_TRS_992_web.pd
- 16. WHO General guidance on hold-time studies WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-ninth Report Geneva, World Health Organization, 2015 (WHO Technical Report Series, No. 992), Annex 4. Short name: WHO TRS No. 992, Annex 4

 http://www.who.int/medicines/areas/quality_safety/quality_assurance/expert_committee/WHO_TRS_992_web.pdf
- 17. WHO Technical supplements to Model Guidance for storage and transport of time and temperature sensitive pharmaceutical products. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Forty-ninth Report Geneva, World Health Organization, 2015 (WHO Technical Report Series, No. 992), Annex 5. Short name: WHO TRS No. 992, Annex 5

 http://www.who.int/medicines/areas/quality_safety/quality_assurance/expert_committee/WHO_TRS_992_web.pdf
- 18. WHO general guidance on variations to multisource pharmaceutical products. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fiftieth Report Geneva, World Health Organization, 2016 (WHO Technical Report Series, No. 996), Annex 10. Short name: WHO Multisource guidance or WHO TRS No. 996, Annex 10 http://www.who.int/medicines/publications/pharmprep/WHO TRS 996 annex10.pdf
- 19. Guidelines on heating, ventilation and air-conditioning systems for non-sterile pharmaceutical products. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-second Report Geneva, World Health Organization, 2018 (WHO Technical Report Series, No. 1010), Annex 8. Short name: WHO TRS No. 1010, Annex 8

 http://www.who.int/medicines/areas/quality_safety/quality_assurance/expert_committee/trs_1010/en/
- 20. Stability testing of active pharmaceutical ingredients and finished pharmaceutical products. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-second Report Geneva, World Health Organization, 2018 (WHO Technical Report Series, No. 1010), Annex 10. Short name: WHO TRS No. 1010, Annex 10

http://www.who.int/medicines/publications/pharmprep/WHO_TRS_996_annex10.pdf



- 21. WHO guidance on good practices for desk assessment of compliance with good manufacturing practices, good laboratory practices and good clinical practices for medical products regulatory decisions. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-second Report. Geneva, World Health Organization, 2018 (WHO Technical Report Series, No. 1010), Annex 9. Short name: WHO TRS 1010, Annex 9
 - https://www.who.int/medicines/areas/quality_safety/quality_assurance/TRS1010annex9.pdf?ua=1
- 22. Production of water for injection by means other than distillation. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-fourth Report. Geneva, World Health Organization, 2020 (WHO Technical Report Series, No. 1025), Annex 3. Short name: WHO TRS No. 1025, Annex 3
- 23. Good chromatography practice. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-fourth Report. Geneva, World Health Organization, 2020 (WHO Technical Report Series, No. 1025), Annex 4. *Short name: WHO TRS No. 1025, Annex 4* https://www.who.int/publications-detail/978-92-4-000182-4

https://www.who.int/publications-detail/978-92-4-000182-4

- 24. Points to consider for manufacturers and inspectors: environmental aspects of manufacturing for the prevention of antimicrobial resistance. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-fourth Report. Geneva, World Health Organization, 2020 (WHO Technical Report Series, No. 1025), Annex 6. *Short name: WHO TRS No. 1025, Annex 6*https://www.who.int/publications-detail/978-92-4-000182-4
- 25. Points to consider when including Health-Based Exposure Limits (HBELs) in cleaning validation. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-fifth Report. Geneva, World Health Organization, 2021 (WHO Technical Report Series, No. 1033), Annex 2. Short name: WHO TRS 1033, Annex 2 https://www.who.int/publications/i/item/55th-report-of-the-who-expert-committee-on-specifications-for-pharmaceutical-preparations
- 26. WHO good manufacturing practices: water for pharmaceutical use. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-fifth Report. Geneva, World Health Organization, 2021 (WHO Technical Report Series, No. 1033), Annex 3. *Short name: WHO TRS 1033, Annex 3* https://www.who.int/publications/i/item/55th-report-of-the-who-expert-committee-on-specifications-for-pharmaceutical-preparations
- 27. Guideline on data integrity. WHO Expert Committee on Specifications for Pharmaceutical Preparations. Fifty-fifth Report. Geneva, World Health Organization, 2021 (WHO Technical Report Series, No. 1033), Annex 4. Short name: WHO TRS 1033, Annex 4 https://www.who.int/publications/i/item/55th-report-of-the-who-expert-committee-on-specifications-for-pharmaceutical-preparations