Environmental conditions for the microbiological examination of non-sterile products

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Approval

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1. Purpose and scope

In order to assure a harmonized conduct of inspections of microbiological laboratories, this document summarizes the conditions under which a laboratory has to perform microbiological examination of non-sterile products.

2. Basics

- Pharm. Eur., 2.6.12 “Microbiological examination of non-sterile products”
- Neither the “Guide to good manufacturing practice for medicinal products”, PE 009, Part 1, Chapter 3, Premises and Equipment, Quality Control Areas, Chapter 3.26 - 3.29, nor the FDA in its “Guide to Inspections of Microbiological Pharmaceutical Quality Control Laboratories”, July 1993, do set clear specifications concerning the conditions under which a laboratory has to perform microbiological examination of non-sterile products.

3. Interpretation

3.1 Need for Standard Laminar-Air-Flow Cabinet

Pharm. Eur., 2.6.12 “Microbiological examination of non-sterile products” requires "Carry out the determination under conditions designed to avoid extrinsic contamination of the product to be examined. The precautions taken to avoid contamination must be such that they do not affect any micro-organisms that are to be revealed in the test."

In order to provide for low base line signals of testing, the microbial burden, caused by contamination at the test site of the sample to be investigated, should not be higher than at its departure from the production site. It is important to be aware that high base line signals caused by such secondary contamination may preclude the detection of an increasing microbial burden at the production site.

A variety of tests, e.g. microbiological monitoring of samples of purified water, do require stringent measures i.e. performance in a Laminar-Air-Flow Cabinet to reduce the risk of contamination.

Particularly when testing with the Most-Probable-Number Method (Pharm. Eur. 2.6.12) minute accidental contamination may have a gross negative impact on the result of the measurement.

Therefore, in microbiological laboratories for the microbiological examination of non-sterile products at least one Standard Laminar-Air-Flow Cabinet with HEPA-filter for product protection should be available for testing.

If a company can show documented evidence (e.g. qualification and validation) that they can achieve the same level of quality and safety by other means, differing implementations of the current Good Practices in another way than in the one presented here may be acceptable.

3.2 Requirements for the testing area

All microbiological examinations must be performed under conditions designed to avoid accidental contamination of the product and of the product sample to be examined. Such conditions include examination to take place in a dedicated room i.e. laboratory, physically and logistically separated from production areas by various means: by location and by restriction of access, by individual air supply and exclusion of air flow from laboratory to production. Further measures include dedicated gowns and other protective clothing, strict separation of production workflow

from laboratory workflow and of flow of personnel and materials etc. Laboratory waste must be disposed of such, that contamination of protected areas and materials (production) is excluded. The sampling procedure in particular should be designed with special care.

4. Changes to the previous version

- Deletion of the general introduction
- Restructuring of chapter 3. Neither new requirements nor new interpretations
- Deletion of the reference to the Ordinance on the Protection of Employees from Hazards due to Micro-Organisms. (SR 832.321) and the Ordinance on Microbiological and Serological Laboratories (SR 818.123.1)

5. Appendixes

- None