Statement

From the Working Group on Hygiene

SPF, SOPF – what does it mean?

Status: March 2013

Authors:

Working Group on Hygiene, GV-SOLAS, Mannheim
Exclusion of Liability

The use of the booklets (publications) and statements of GV-SOLAS and the implementation of the information contained therein are expressly at your own risk. GV-SOLAS and the authors cannot be held responsible for any accidents or damage of any kind arising from the use of the publication (e.g. due to lack of safety information), irrespective of their legal grounds. Liability claims against GV-SOLAS and the authors for any damage of material or immaterial nature caused by the use or non-use of the information or the use of incorrect and/or incomplete information are generally excluded. Legal and damage claims are therefore excluded. The publication including all content has been compiled with the greatest care. However, GV-SOLAS and the authors assume no liability for the topicality, correctness, completeness of quality of the information provided. Printing errors and false information cannot be completely excluded. The GV-SOLAS and the authors do not assume any liability for the topicality, correctness and completeness of the contents of the book, as well as for printing errors. GV SOLAS and the authors cannot assume any legal responsibility or liability in any nature for any incorrect information and the resulting consequences. Only the owners of the websites printed in these publications are responsible for the contents of these Internet pages. GV-SOLAS and the authors therefore expressly dissociate themselves from all third-party contents. Liable in accordance with the German press laws: the Board of Directors of GV-SOLAS.

“SPF” is the abbreviation for the term “specific (or specified) pathogen-free”. It is used to describe the state when animals are free of certain individually listed (i.e. specified) bacteria, viruses, parasites and/or fungi. The microbiota of SPF animals is not entirely known, as is often assumed. SPF just specifies which agents have not been detected in a given population by the methods used. These negative findings as well as the agents that have been detected are declared on a health monitoring report for SPF animals.

For example, if mites have not been detected in an animal population these animals can be called “specific pathogen-free” although tests for bacterial, viral and other parasitic agents have not been performed. The microbiota is not necessarily identical among SPF animals and the exclusive use of the term “SPF” does not define their microbiological quality, i.e. an SPF animal is not automatically an animal of good microbiological quality or “clean” animal, as is often wrongly assumed. Similarly, the term “SPF” does not make a statement on the quality of housing conditions (barrier, open cages, IVC etc.).

An approach to define and standardize the microbiological status of laboratory animals has been made by FELASA\(^1\). This organization has published recommendations for the health monitoring of laboratory animals including lists of the infectious agents to be monitored in different animal species. However, these lists do not represent strict requirements. The commonly used phrase “in accordance with FELASA recommendations” does not describe the microbiological status of an animal unit but refers to the health monitoring programme, which, in this case, is performed in compliance with FELASA recommendations. The extent to which the health monitoring programme applied is in accordance with FELASA recommendations should always be verified because the recommendations are often only partially implemented.

In conclusion: The term “SPF” does not represent a uniform microbiological standard but is individually defined. It exclusively refers to animals (not housing conditions). The use of the term “SPF” for an animal population requires that the absence of defined agents and corresponding
GV-SOLAS, Working Group on Hygiene, SPF, SOPF – what does it mean?

antibodies is proven by regular monitoring of a sufficiently large number of animals (sample) at appropriate ages by suitable methods\(^1\). This information including the health status of a population – apart from further details – should be included in a comprehensive health report.

“SOPF” and other none-defined terminologies: “SOPF” represents an abbreviation for the term “specific and opportunistic pathogen-free”. “SOPF” emphasizes that the animal colony is additionally free of certain “opportunistic” pathogens (usually bacteria such as Klebsiella spp., Proteus spp., Pseudomonas aeruginosa or Staphylococcus aureus). In principle, the term “SOPF” is redundant because the term “SPF” already includes this specification. The term “SOPF” is used by certain commercial breeders to refer to different quality standards (particularly with the characterisation of immune-incompetent animals in strict barrier areas (e.g. isolators). With the purchase of “SOPF” animals, as it is the case with all animal purchases, a comprehensive health report should always be provided, which includes information about all agents tested and the test results for the respective microbiological unit. Furthermore, other designations such as “barrier reared”, “virus antibody free” (VAF), “clean conventional”, “pathogen-free” or “murine pathogen-free” (MPF), “optimal hygienic conditions” (OHC), “health monitored” are only describing terms that do not provide information about the health status of animals.

\(^1\)Mähler et al. 2014. FELASA recommendations for the health monitoring of mouse, rat, hamster, guinea pig and rabbit colonies in breeding and experimental units. Lab. Anim. 48:178-192.