



## Speakers



Walid El Azab  
QP Pro Services, Belgium



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Arjan Langen  
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Carsten Moschner  
CMC3, Germany



Dr Inga Marie Schlägl  
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Axel Schroeder  
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Robert G. Schwarz  
GxP TrainCon, Austria



Wolf-Dieter Wanner  
Germany

# Contamination Control

## Requirements, Measures and Strategies

### 04 - 06 November 2025, Barcelona, Spain

with an optional Post-Conference Workshop „Risk Assessment in Contamination Control“ on 07 November 2025, Bracelona, Spain



This course will provide practice-oriented guidance and includes practical workshops and case studies

Image: HEIPHA Dr. Müller

## Highlights

- Regulatory Requirements, incl. Annex 1
- Principles of Hygiene and Microbiology
- Disinfectants: Characteristics, Selection and Qualification
- Sources of Contamination and Preventive Measures
- Microbiological Monitoring and Trending
- Risk Management
- Handling of OOS Results
- Cleanroom Garment and Single-Use Consumables
- Hygiene of Personnel and Training of Operators
- Contamination Control Strategy – a Dynamic System

## Highlights Post-Conference Workshop

- ICH Q8, Q9 and Q10 Principles
- How to apply Risk Assessment in Contamination Control
- Example of a Contamination Control Strategy
- Short Interactive Session (Participants do an FMEA on a certain Topic)

## Objective

In most cases, the implementation and execution of appropriate hygiene programmes and measures is an essential part of the manufacture of pharmaceutical products. A number of regulations deal with the subject of microbiological operational control, but often the GMP requirements are rather general. But how can they be implemented in pharmaceutical companies in a practical way? What is the state of the art? How should cleaning agents and disinfectants be used? What does a contamination control strategy look like?

The overriding aim of such a system is to prevent microbiological and particulate contamination of the pharmaceutical product. But even if such a system is established, it is of the utmost importance that these programmes and measures are understood and followed by all employees who carry out quality-relevant work. This is why the regulations require intensive training in hygiene issues.

And in the new Annex 1 of the EU GMP guidelines, the overarching integration of the individual measures with the contamination control strategy is now also clearly required.

Against the background of these requirements, this ECA training course is designed to cover all important aspects of microbiological and, to a lesser extent, particulate contamination control. It ranges from the sources of contamination to the validation of cleaning and disinfection processes and the training of operating personnel. Emphasis is placed on the problems frequently encountered in pharmaceutical production and possible solutions to these challenges are discussed.

The course ranges from legal requirements and microbiological principles, sources of contamination, hygiene measures and monitoring to life cycle management of the overall strategy.

## Background

In pharmaceutical production, cleaning and disinfection as well as other hygiene measures are important and decisive process steps to fulfil the quality requirements for the medicinal product. In order to carry them out properly, personnel must be both qualified and motivated.

All national and international pharmaceutical GMP regulations - especially those for sterile manufacturing - require cleaning and hygiene programmes in pharmaceutical companies. The lack of control of microbiological (and other) contamination is a prominent feature of inspection findings. Not all authorities regularly publish overviews or inspection results, but looking at the available data from various inspection authorities over the last 20 years, the following picture emerges:

Between 1995 and 2005, the potential risk of microbiological contamination was the No 2 critical GMP deficiency and the No 1 major GMP deficiency observed during inspections requested by the CHMP/CVMP of EMEA.

MHRA's review of the deficiencies 2011/2012 issued 57 deficiencies related to personnel as well as 75 contaminations by chemical/physical and microbial causes.

In 2018 and 2019, Annex 1 was the second most frequently mentioned annex of the GMP Guide when it came to deviations in MHRA inspections. Additionally, a suitable Contamination Control Strategy is now mandatory in the revised Version of Annex 1.

A permanent high number of FDA warning letters with microbiological deviations or issues in cleaning and contamination control:

Fiscal Year 2016 – 23 WL  
Fiscal Year 2017 – 24 WL  
Fiscal Year 2018 – 16 WL  
Fiscal Year 2019 – 32 WL  
Fiscal Year 2020 – 25 WL  
Fiscal Year 2021 – 36 WL  
Fiscal Year 2023 – 28WL  
Fiscal Year 2024 – 40 WL

This current situation clearly shows how important it is to deal with this issue in depth and also why an overall strategy for linking the various measures plays such an important role.

## Target Audience

People who are involved in

- Microbial Monitoring
- Implementation of Hygiene Programmes
- Selection and Qualification of Disinfectants
- Handling of microbial Deviations
- Training of Operators for Monitoring
- Responsibilities in Annex 1 Implementation and Contamination Control Strategy

## Moderator

Axel H. Schroeder, Concept Heidelberg

## Social Event



In the evening of the first course day, you are cordially invited to a social event. This is an excellent opportunity to share your experiences with colleagues from other companies in a relaxed atmosphere.

# Programme

## Module 1: Regulatory Requirements and Background

### Basic Principles of Microbiology, Hygiene and Contamination Control

- Microorganisms
  - Microbial growth
  - Characteristics
  - Sources
- Basic hygienic actions
- Cleaning/disinfecting/sterilization
- Way of contamination

### Regulatory Requirements

- General regulatory requirements and guidelines
- Prevention of contamination and cross contamination
- Requirements for validation
- ISO standards
- Quality Risk Management

### Sources of Contamination and Preventive Measures

- Sources of contamination throughout the facility
- HVAC
- Water
- Raw materials and packaging components
- Personnel and clothing

### Effective Training of Operators

- Regulatory requirements (EU-GMP, FDA Guidelines, experiences from inspections)
- Methods and tools
- Measurement and documentation of training success
- Practical approaches

## Module 2: Monitoring and Control Strategies

### Microbiological Monitoring

- Monitoring of non-sterile processes
- Aseptic manufacture:
  - developing a programme
  - interpreting data
  - regulatory requirements
- Monitoring methods, air, surface, people
- A complete programme for a sterile product

### Cleanroom Garment - Requirements, Selection and Laundering

- Different fabrics and their characteristics like filtration capacity and wearing comfort
- Garment systems oriented by the cleanroom class
- Requirements on decontamination and laundering
- Outsourcing
- Single-Use consumables

## Microbiological Control of Water Systems

- Water as raw material
- Contamination sources within the water system
- Technical aspects
- Control methods
- Microbiological testing of water

## Trending of Environmental Monitoring Data

- How do you do it?
- What do the results really tell you?
- How should you react on the results?
- Criteria of selection of disinfectants
- Rotation of antimicrobial substances considering their chemical interaction
- Cleaning potential of disinfectants
- Users acceptance

## Module 3: Cleaning/Disinfection – Measures, Pit Falls, Deviation Handling

### Cleaning and Disinfection of Surfaces

- Criteria of selection of disinfectants
- Rotation of antimicrobial substances considering their chemical interaction
- Cleaning potential of disinfectants
- Users acceptance

### Qualification of Disinfectants

- Guidance documents, standards and regulatory requirements
- Basis for qualification
- Case study for qualification of disinfectants
- Efficacy – how to control?

### Hygiene of Personnel – Cleanroom Behaviour

- Contamination from personnel
- Classic employee deviance
- Gowning procedure
- Hand disinfection

### Case Study: Managing Disinfection Programmes

- Hygiene programme
- Cleanroom concept
- Demands on environment, equipment and personnel
- Cleaning and disinfection concept

### Validation of a Decontamination System for Production Equipment, Process Devices and Cleanrooms

- Technical requirements & background
- Qualification of a fogging system
- Validation of a fogging process



## Parallel Workshops

During the second day, parallel workshops will be conducted in order to reinforce the content of the lectures and to discuss practical aspects in detail.

Workshops will be offered on the following topics:

### 1. Case Studies: Disinfections Issues

Practical examples of microbial deviations after cleaning and disinfection activities. Causes, faults and correcting actions.

### 2. Handling of OOS Results

Failure investigation, following corrective actions and preventive actions.

## Module 4: Additional Challenges and Annex 1-compliant Overarching Strategies

### Cleanroom Consumables - a so called „Cent Product“, but with Consequences

- Definition of cleanroom consumable products
- The impact during the daily application
- How is that reflected in guidelines?

### Quality Risk Management

- Risk assessment:
  - Risk identification
  - Risk analysis
  - Risk evaluation
- Risk management

### Contamination Control Strategy - An interdisciplinary and Dynamic System

- Formulate a CCS
- Implement a CCS and develop a strategic plan to make the strategy work as intended by mapping/designing the organizational structure, procedures, control processes, distributing resources, developing the decision-making processes, etc.
- Evaluate the CCS efficiency to ensure process performance and product quality while improving the CCS level over time.

# Post-Conference Workshop Risk Assessment in Contamination Control

From ICH to Annex 1 –  
Risk Evaluation as a Part of Contamination Control Strategies

## Background and Objectives

Risk-based approaches have gained considerably in importance in all branches in recent years. Pharmaceutical production, quality assurance and quality control would be unthinkable without them. Starting with the FDA initiative “cGMPs for the 21st Century” for the introduction of the risk-based approach, through the subsequent ICHQ9 guideline on risk management, which can now be found as Part III of the EU GMP guidelines, to the revised Annex 15 with a wealth of risk analyses, these principles are anchored everywhere. With the revision of Annex 1, risk management is also increasingly becoming part of the main guideline for the manufacture of sterile pharmaceutical products.

In this workshop on the principles, regulations and application of risk assessment in the context of contamination control, you will gain insight into the relevant underlying guidelines and guides as well as valuable pointers for practical implementation using practical examples. The following areas are covered:

- General introduction on risk assessments
- ICH Q8, Q9 and Q10 principles
- How to apply risk assessments in contamination control
- Example of a Contamination Control Strategy
- Interactive session: FMEA

## Target Group

The workshop is designed for personnel of pharmaceutical companies, their suppliers and representatives of authorities with responsibilities in Contamination Control, Aseptic Manufacturing, Quality Assurance, Quality Control, Internal Quality Audits, External Inspections.

## Programme

### General Introduction on Risk Assessments

- Principles of ICH Q9
- Patient safety and product quality
- Dos and don'ts
- Tools and methods

### ICH Q8, Q9 and Q10 Principles

- Quality by Design (QbD)
- Criticality of quality attributes and process parameters
- Control strategy life cycle
- Knowledge management

# Post-Conference Workshop

## How to apply Risk Assessments in Contamination Control

- Pro-active vs. reactive
- FMEA for equipment and processes
- Risk assessments for impact assessments
- HACCP for contamination control

## Example of a Contamination Control Strategy

- Contamination control master file
- Reference document
- Annual report

## Short Interactive Session (Participants do an FMEA on a certain Topic)

- Executing an FMEA (on a sterilizer or isolator)
- Evaluation – what went well and what were the challenges?

## Speakers



**Walid El Azab**  
Co-founder and Managing Director,  
QP Pro Services, Belgium

Walid, is a senior consultant, specializes in GMP and GDP activities, with a focus on contamination control, sterility assurance, and inspection readiness. Acting as a Qualified Person and Responsible Person, he possesses expertise in non-sterile and sterile processes, including drug substance and product manufacturing. Walid's auditing proficiency covers CMOs, API manufacturers, and suppliers. Engaged in professional organizations, he contributes to conferences, and industry guidelines. Committed to education, He is a professor at Brussels and Liège University and co-founded the QP Academy. He provides consultancy support through QPM Consulting and QP Pro Services, acting as a strategic partner for pharmaceutical industry business continuity.



**Werner Hofstetter**  
Octapharma GmbH, Austria

After his studies of food- and biotechnology, he was engaged as head of laboratory of waste processing and as department manager at the pharmaceutical industry. Since 2002 he is working at the pharmaceutical production of Octapharma Pharmazeutika GmbH, Vienna and is, among other things, responsible for validation of disinfectants and the cleanroom monitoring. Since 2006 he is head of aseptic production at Octapharma.



**Arjan Langen**  
MSD, The Netherlands

Arjan Langen has over 25 years of experience within the field of pharmaceutical microbiology. He worked for several pharmaceutical and biotech companies (Nobilon, DSM, MSD) and had various local and global roles within QC, QA, manufacturing and auditing. Until April 2025 he was Director Sterility Assurance at GE Healthcare, responsible for the global Sterility Assurance program. Besides he is a member of the ECA

Annex 1 task force that works on the detailed review of the draft revision text of Annex 1. He is microbiologist by training, qualified IRCA/QCI auditor and Green Belt certified. Since May 2025 he is Director Quality Systems & Compliance at MSD.



**Carsten Moschner**  
CMC3, Germany

Carsten Moschner studied engineering economics at the University for applied Sciences in Karlsruhe. Until 2023, he was owner and CEO of Dastex with a focus on research and development as well as optimising of textile cleanroom garment. Carsten is a member of several expert committees, e.g. deeply involved in the new VDI 2083 chapter about the suitability of cleanroom equipment. In 2024 he founds his new consulting service CMC3.



**Dr Inga Marie Schlägl**  
Bayer - GP Grenzach Produktions GmbH,  
Germany

Inga Marie studied Biology at the Universities Konstanz and Freiburg. Since 2014 she is working for Bayer holding different roles in quality control, project management and production. Currently, she is part of the Site Leadership team of the Supply Center Grenzach as Head of Bulk manufacturing and Steriles.



**Axel H. Schroeder**  
Concept Heidelberg, Germany

Axel Schroeder got his degree in Biology at Ruprecht-Karls University Heidelberg. From 1994 to 2000 he was Territory Manager for Hygiene and Medical Devices at Henkel Ecolab GmbH. From 2000 to 2005 he was Key Account Manager for Industrial Hygiene and Contamination Control at Ecolab GmbH, Düsseldorf, and from 2003 to 2005 Member of the International Cleanroom Team of Ecolab. Between 2005 and 2008 he was engaged at Basan GmbH as Key Account Manager for Pharmaceuticals and Biotechnology. Since 2008 he is operations director at Concept Heidelberg for microbiology and biotechnology.



**Robert G. Schwarz**  
GxP TrainCon, Austria

Robert Schwarz has a degree in bioprocess engineering and biotechnological quality management. From 2001, he led the environmental monitoring team at Baxter, and from 2005 to 2018 he was a validation specialist for device qualification, sterilisation validation and cleaning validation. Since 2010, he has also been passing on his experience as a university lecturer. In 2019, he began working as a freelance trainer and founded his consulting company GxP-TrainCon in 2022.



**Wolf-Dieter Wanner**  
Germany

Wolf-Dieter Wanner studied pharmacy at the University of Munich. He started working in a free pharmacy and later joined Henkel KGaA in Düsseldorf to establish a German decontamination business relating to the industry. At Ecolab Deutschland GmbH as a sales manager he integrated the German clean room business with Adams Healthcare and Shield Medicare into an international contamination control team focused upon pharmaceutical aseptic manufacturing. Since 2011 he works as a freelance consultant.

If the bill-to-address deviates from the specifications on the right, please fill out here:

Reservation Form (Please complete in full)

☐ Contamination Control, 04 - 06 November 2025, Barcelona, Spain

☐ Post-Conference Workshop „Risk Assessment in Contamination Control“, 07 November 2025, Barcelona, Spain

Title, first name, surname

Department

Company

Important: Please indicate your company's VAT ID Number

Purchase Order Number, if applicable

CONCEPT HEIDELBERG  
P.O. Box 101764  
Fax + 49 (0) 62 21/84 44 34  
D-69007 Heidelberg  
GERMANY

City

ZIP Code

Country

Phone / Fax

E-Mail (Please fill in)

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If you cannot attend the conference you have two options:  
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2. If you have to cancel entirely we must charge the following processing fees:  
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- Cancellation until 2 weeks prior to the conference 50 %,  
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German law shall apply. Court of jurisdiction is Heidelberg.

Privacy Policy: By registering for this event, I accept the processing of my Personal Data. Concept Heidelberg will use my data for the processing of this order, for which I hereby declare to agree that my personal data is stored and processed. Concept Heidelberg will only send me information in relation with this order or similar ones. My personal data will not be disclosed to third parties (see also the privacy policy at [http://www.gmp-compliance.org/eca\\_privacy.html](http://www.gmp-compliance.org/eca_privacy.html)). I note that I can ask for the modification, correction or deletion of my data at any time via the contact form on this website.

## Date

Contamination Control:  
Tuesday, 04 November 2025, 09.00 – 18.00 h  
(Registration and coffee 08.30 – 09.00 h )  
Wednesday, 05 November 2025, 08.30 – 18.00 h  
Thursday, 06 November 2025, 08.30- 13.30 h

Post-Conference Workshop:  
Friday, 07 November 2025, 09.00 – 15.00 h,  
(Registration and Coffee 08.30 -09.00 h)

## Venue

Barceló Sants Hotel  
Plaça dels Països Catalans, s/n  
08014 Barcelona, Spain  
Phone +34 (93) 503 53 00  
Email [sants@barcelo.com](mailto:sants@barcelo.com)

## Fees (per delegate, plus VAT\*)

Contamination Control Strategies:  
ECA Members € 2,290 | APIC Members € 2,390  
Non-ECA Members € 2,490 | EU GMP Inspectorates € 1,245  
The fee is payable in advance after receipt of invoice and includes dinner on the first day, lunch on two days and all refreshments.

Post-Conference Workshop:  
ECA Members € 1,190 | APIC Members € 1,240  
Non-ECA Members € 1,290 | EU GMP Inspectorates € 645  
The fee is payable in advance after receipt of invoice and includes lunch and all refreshments.



Save 600 € by booking both the conference and the post-conference workshop!

\* VAT is reclaimable

## Accommodation

CONCEPT HEIDELBERG has reserved a limited number of rooms in the conference hotel. You will receive a room reservation form/POG when you have registered for the course. Reservation should be made directly with the hotel. Early reservation is recommended.

## Registration

Via the attached reservation form, by e-mail or by fax – **or search and register directly at [www.gmp-compliance.org](http://www.gmp-compliance.org) under the number 21949 (conference & workshop), 21948 (only conference), 21950 (only workshop).**

## Presentations / Certificate

The presentations for this event will be available for you to download and print before and after the event. Please note that no printed materials will be handed out on site and that there will not be any opportunity to print the presentations on site. After the event, you will automatically receive your certificate of participation.

## Conference language

The official conference language will be English.

## Organisation and Contact

ECA has entrusted Concept Heidelberg with the organisation of this event.  
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