ECA ACADEMY

SPEAKER FROM AUTHORITY

DR CORINA NACHTSHEIM
Quality Assessor, Germany

INDUSTRY SPEAKERS

DR CHRISTOPHER BURGESS
Burgess Analytical Consultancy, United Kingdom

THOMAS EGERT
Boehringer Ingelheim Pharma GmbH & Co. KG, Germany

DR GERD JILGE
Boehringer Ingelheim Pharma GmbH & Co. KG, Germany

DR EBERHARD KOENIG
Novartis Pharma AG, Switzerland

DR THOMAS HÄMMERLE
Baxter AG, Austria

DR LANCE SMALLSHAW
UCB Biopharma sprl, Belgium

DR ANDREW TEASDALE
Astrazeneca, United Kingdom

DR ANDREAS WOLF
AbbVie, Germany

IMPURITIES FORUM

8 – 10 October 2014, Berlin, Germany

PART I:

IDENTIFICATION AND DETERMINATION OF IMPURITIES
8 October 2014, Berlin, Germany

PART II:

ELEMENTAL IMPURITIES
9 October 2014, Berlin, Germany

PART III:

GENOTOXIC IMPURITIES
10 October 2014, Berlin, Germany

This conference is recognised for the ECA GMP Certification Programme „Certified Quality Control Manager“. Please find details at www.gmp-certification.eu

PART I: IDENTIFICATION AND DETERMINATION OF IMPURITIES

Objectives

Part I of the Impurities Forum will provide an opportunity to reinforce and expand your knowledge of the general area of impurities in chemical entities from initial development to the market with emphasis on

- Detection, profiling and control of impurities in drug substances, intermediates and drug products
- Practical aspects of method validation for impurities determination
- Analytical techniques used for detecting and qualifying impurities
- Extractables and Leachables as a source of impurities
- Impurities qualification in biotechnology products

This event is designed to provide a comprehensive review of impurities analysis and characterisation in drug substances and drug products and their recording and reporting.

Background

Setting specifications for impurities are one of the most critical topics in the development of new drug products. Impurities analysis in drug substances and drug products and their recording and reporting is quite often a challenge for the scientific experts in routine production and quality control. This challenge is even bigger when profiles of unknown impurities in complex matrices have to be established.

Target Audience

The conference addresses all personnel involved in development of drug substances and drug products from scientific staff to laboratory heads involved in R&D. The needs of Laboratory Managers, Supervisors and Analysts in pharmaceutical quality assurance and quality control departments will also be covered.

Programme

Impurities in Context – The big picture and roadmap of the Impurities Forum

Impurities analysis in Drug Substances and Drug Products
- Impurity profiling in synthetic drug substances
- Qualification of impurities
- Degradation studies
- Identification of chiral impurities, polymorphic phases and new impurities
- Residual solvents
- Impurities in starting materials and intermediates
- Pharmacopoeial tests and acceptance criteria
- Drug product specifications and parametric release
- Inorganic impurities

Practical aspects of method validation for impurity determination
- Important ICH and FDA guidelines
- Quantitation of impurities
- How to define an impurity profile (stress tests)
- Reference substances
- Validation of methods at various development stages
- Statistical approaches to method validation (LOD & LOQ)

Analytical techniques for determination of impurities
- Purity analysis by HPLC, impurity profile
- Residual solvents by GC
- Inorganic impurities (heavy metals, sulphated ash)
- For chiral compounds in addition: enantiomeric purity and proof of the absolute configuration

Leachables and Extractables
- Why should Extractables & Leachables be assessed?
- Regulatory requirements EU and US
- Compendial requirements, industry standards and Consortia Landscape
- A laboratory perspective on E&L safety qualification
- Current industry situation and future perspectives

Impurity Qualification in Biotechnology Products
- Process related impurities: Host cell DNA and host cell protein
- Drug substance related impurities: Degradation products and ICH Guideline Q5C
- Assay validation: Critical aspects
- Process related impurities or contaminants: Endogenous retroviruses

PART II: ELEMENTAL IMPURITIES

Objectives

In Part II of the Impurities Forum the key principles of the new ICH Q3D Guideline will be highlighted. You will get to know the essential aspects and approaches of determining and controlling elemental impurities in drug products.

You will learn
- which are the principles of the elemental impurities risk assessment process,
- how to implement risk-based strategies to control elemental impurities,
- which analytical methods are suitable to determine
- elemental impurities and what you have to consider when you apply them,
- what you need in your QC lab to be prepared for elemental impurities analytics.

Background

In August 2013 the ICH Q3D Guideline for Elemental Impurities was published as Draft Consensus Guideline (Step 2 document).

This document outlines
- the evaluation of the toxicity data for potential elemental impurities
- the PDEs for each element of toxicological concern
- the development of controls designed to limit the inclusion of elemental impurities in drug products to levels at or below the PDE

While ICH Q3D is still a draft document the revised USP General Chapters <232> and <233> have been published but will not be applicable for the time being. The same applies for Chapter 5.20 of the European Pharmacopoeia. These Pharmacopoeia Chapters differ significantly from the current ICH Q3D draft version which has generated a great deal of discussion among the concerned stakeholders.

Target Audience

The conference addresses all personnel involved in development of drug substances and drug products from scientific staff to laboratory heads involved in R&D. The needs of Laboratory Managers, Supervisors and Analysts in pharmaceutical quality assurance and quality control departments will also be covered.

Programme

The new ICH Q3D Guidance on Elemental Impurities – authorities expectations
- Scope and applicability of the ICH Q3D guideline
- Similarities and differences with the EU-Metal Catalysts guideline
- What is the link with the EP and USP monographs?
- The classification system of heavy metals and metal catalysts in the proposed guideline, thresholds.
- Implications to the API industry – additional requirements – analytical work required – costs
- What do authorities expect?

US requirements on elemental impurities: The USP General Chapters <232> and <233>

Safety assessment of metallic impurities in oral dosage forms – limits and Permitted Daily Exposure (PDE)
- General principles of safety assessment
- How to determine PDEs
- Conversion between PDEs and concentration limits
- Justification for impurity levels higher than the PDE
- Case studies

Analytical methods to determine metallic impurities
- Principles and characteristics of the most common spectrometric techniques AAS, ICP-OES, ICP-MS
- Compound methods (sample preparation plus spectrometric detection and quantification)
- Special considerations for trace-elemental analysis
- Application-based approach for choice of methodology
- Analytical process (method development, validation strategy, routine testing)

QC lab infrastructure and equipment for metal impurities analytics
- Process-oriented laboratory design
- Basic components of a trace elemental laboratory
- Approaches for contamination control
- Handling of highly active pharmaceutical compounds in a trace elemental laboratory: operator protection versus product protection?
- Accessories for interference control in ICP-MS

Identification and assessment of potential elemental impurities in pharmaceutical excipients
- Potential sources of elemental impurities in pharmaceutical excipients
- Important aspects of excipients safety assessment
- Excipients supplier qualification
- Classification of elemental impurities: examples

An approach to risk assessing for elemental/metallic impurities
- ICHQ3D - what's expected
- An example of a Risk Tool Macro
- What information is required for Skip Testing – Ph.Eur./ICHQ3D expectations
- Regulatory filing – Where do I include information relating to a Risk Assessment

PART III: GENOTOXIC IMPURITIES

Objectives

Part III of the Impurities Forum will cover the key aspects of determining, analysing and assessing genotoxic impurities.

You will learn
- What authorities expect and how they assess genotoxic impurities
- How TTC levels of genotoxic impurities can be determined for different dosage forms
- Which methodologies can be applied to predict potential genotoxic impurities
- The key aspects to be considered when dealing with mutagenic impurities
- How to implement the requirements of ICH M7 from a quality and safety perspective

Background

Potential genotoxic impurities may arise from several sources. They may be generated as by-products in chemical synthesis or as degradants during storage. Therefore the determination of such impurities, their toxicological assessment and the establishment of acceptable limits is absolutely essential with respect to patient safety. Special guidance in terms of quality and safety risk management and assessment is provided by the EMA "Guideline on the Limits of Genotoxic Impurities" and the ICH M7 Draft Consensus Guideline on "Assessment and control of DNA reactive (mutagenic) impurities in pharmaceuticals to limit potential carcinogenic risk".

Target Audience

The conference addresses all personnel involved in development of drug substances and drug products from scientific staff to laboratory heads involved in R&D. The needs of Laboratory Managers, Supervisors and Analysts in pharmaceutical quality assurance and quality control departments will also be covered.

Programme

Genotoxic Impurities – requirements and authorities expectations
- General documents and Guidelines for the assessment of genotoxic impurities
- The assessor's approach: principles of toxicological assessment
- The TTC concept
- Structural alerts
- Limits and Permitted Daily Exposure
- The ALARP principle
- Applicability of the EU "Guideline on the Limits of Genotoxic Impurities"

Case studies for the assessment of potential genotoxic impurities
- Examples of low daily dose drug substances
- Impurities derived from alkylating agents (mesilate, besilate, tosilate, diisothionate); examples
- Potential genotoxic residual solvents
- Impurities derived from metal catalysts

ICH M7 Guideline – Mutagenic Impurities: overview of key aspects
- Applicability of the M7 Guideline
- General principles
- Considerations for marketed products

ICH M7 Guideline – practical implementation: a quality perspective
- Drug substance and drug product impurity assessment
- Hazard assessment elements
- Computational toxicology assessment
- Structure activity relationships
- Process related impurities
- Control strategy approaches

ICH M7 Guideline – practical implementation: a safety perspective
- Lifecycle management
- Considerations for clinical development
- In vivo relevance of in vitro mutagens
- Linear extrapolation from TD50; calculation examples

SPEAKERS

DR CHRISTOPHER BURGESS, BURGESS ANALYTICAL CONSULTANCY, UNITED KINGDOM
Dr Burgess is a Chartered Chemist and has more than 36 years experience in the pharmaceutical industry primarily with Glaxo in Quality Assurance and Analytical R&D. He is a "Qualified Person" and a member of the European QP Association advisory board. He has been appointed to the United States Pharmacopoeia's Council of Experts 2010 to 2015 and is a visiting professor of the University of Strathclyde's School of Pharmacy and Biomedical Sciences (SIPBS). In addition, he is the chairman of the ECA Analytical Quality Control Group and a member of the Executive committee of European Compliance Academy.

THOMAS EGERT, BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG, GERMANY
Thomas Egert is an analytical scientist in the Respiratory Drug Delivery Department at Boehringer Ingelheim Pharma GmbH & Co.KG where he leads a team for packaging materials characterisation. His team's primary responsibilities are on material selection, extractables and leachables qualification and analytical troubleshooting. Prior to joining Boehringer Ingelheim he held various positions in the field of organic trace analysis at an analytical service provider. He is currently a member of the PQRI Parenteral and Ophthalmic Drug Product (PODP) - Extractables and Leachables Working Group and the ELSIE (Extractables and Leachables Safety Information Exchange) – consortium

DR THOMAS HÄMMERLE, MANAGER QC-MOLECULARBIOLOGICAL CONTROL, BAXTER AG, AUSTRIA
Dr Hämmerle is currently heading the Department of Molecularbiological Control at the Baxter site in Orth/Danube Austria. His expertise relates to the fields of molecular biology, virology, biochemistry and cell biology. He is also a member of the EDQM Mycoplasma and CTP working parties, a member of the USP Residual DNA working party and co-chair of the PDA Mycoplasma Task Force Testing Subgroup.

DR GERD JILGE, BOEHRINGER INGELHEIM PHARMA GMBH & CO. KG, GERMANY
In 1991 Dr Gerd Jilge came to Boehringer Ingelheim working in product development where he was responsible for method development and validation for the application of analytical procedures. In 2000 Dr Jilge took a position in Drug Regulatory Affairs of Boehringer Ingelheim GmbH with the focus on CMC documentation for the submission of new and registered drug products. Since July 2007 he is working in Quality Management on method development for new drug substances.

DR EBERHARD KOENIG, NOVARTIS PHARMA AG, SWITZERLAND
Eberhard Koenig is analytical expert in inorganic analytics. He is currently building up the Novartis center of expertise for elemental impurities testing at Novartis Pharmaceutical Operations, Stein, Switzerland.

DR CORINA NACHTSHEIM, QUALITY ASSESSOR, GERMANY
Dr Nachtsheim studied chemistry at the University of Cologne and received a Ph.D. (Dr. rer. nat.) in pharmaceutical chemistry at the University of Bonn. She is working as a quality assessor at the German Federal Institute for Drugs and Medical Devices since Jan. 2001. Since Nov. 2007, she is an external expert in the framework of the certification procedure of the EDQM in Strasbourg. She became a member of the chemical Technical Advisory Board (EDQM) in Nov. 2011 and is currently chairperson.

DR LANCE SMALLSHAW, UCB BIOPHARMA SPRL, BELGIUM
After completing nearly 30 years at Eli Lilly and Company based in various locations around the world specializing in both biopharmaceutical / chemical analytical development and QC (API/Parentals) testing Lance on-boarded at UCB Biopharma sprl. in Belgium in early 2011 and is a CChem and FRSC of the Royal Society of Chemistry. Following a publication in 2007 of a monograph on chapter 6 of the EU GMP Guide for the PQG and Chartered Quality Institute, he was recruited to the training team of the European Qualified Persons Association (EQPA) and in the past year was invited join the Advisory Foundation Board of the European Compliance Academy (ECA). He has been a member of the European CaSSS CMC Biopharm. Strategy Forum Committee for the past 8 years and is an Associate Director of CaSSS. In recent years Lance has co-published some guidances in Nature – Biotechnology on standards for international proteomics project.

DR ANDREW TEASDALE, ASTRAZENECA, UNITED KINGDOM
Andrew Teasdale PhD has over 20 years' experience in the pharmaceutical industry as an analytical chemist and within quality assurance and regulatory roles. He has led a number of industry expert groups; these include both safety and quality groups within Pharmaceutical Research and Manufacturers of America (PhRMA), European Federation of Pharmaceutical Industries and Associations (EFPIA), Product Quality Research Institute (PQRI) and the Extractables and Leachables safety Information exchange (ELSIE) for which he is the chair of the materials working group. Dr Teasdale is also currently the chairman of the Joint Pharmaceutical Analytical Group (JPAG) in the UK.

DR ANDREAS WOLF, ABBVIE DEUTSCHLAND GMBH+CO KG, GERMANY
Dr Wolf joined Abbott in 2002 and held different positions in Quality Assurance and Quality Control. Currently he is Qualified Person and Quality Manager for release of bulk material and finished dosage forms at AbbVie Deutschland GmbH+Co KG (formerly Abbott Deutschland GmbH+Co KG) in Ludwigshafen, Germany.

Social Event

You are cordially invited to a guided sightseeing tour of Berlin on 8 October 2014 and a dinner on 9 October 2014. These are a excellent opportunities to share your experiences with colleagues from other companies in a relaxed atmosphere.

What are The ECA Foundation and the ECA Academy?

The European Compliance Academy Foundation (ECA Foundation) is an independent professional organisation chaired by a Scientific Advisory Board with members from the pharmaceutical industry and regulatory authorities. The ECA Foundation's goal is to support to the Pharmaceutical Industry and Regulators to promote the move towards a harmonised set of GMP and regulatory guidelines by providing information and interpretation of new or updated guidances. The ECA Academy offers professional basic and advanced education (training) programmes. All services offered by the ECA Academy and with regard to ECA Academy Memberships are solely managed by Concept Heidelberg (a leading European training and information services provider). The ECA Foundation is conceptual sponsor of the ECA Academy.

How Do You Become a Member of ECA?

By participating in one of the ECA Academy Conferences or Courses you will automatically become a ECA Academy Individual Member for two years - free of charge.
More information about ECA Academy can be obtained on the Website http://www.gmp-compliance.org

What Are the Benefits of ECA?

During the membership, you enjoy a € 200,- discount on the regular participation fee of any European Conference or Course presented by the ECA Academy. In addition you will receive the GMP Guideline Manager Software with a large number of guidelines, e.g. EC Directives, FDA Guidelines, ICH Guidelines

About CONCEPT HEIDELBERG

Founded in 1978, CONCEPT HEIDELBERG is the leading organiser of seminars on pharmaceutical production, quality control, quality assurance and GMP in Europe. This year more than 240 events will be organised by CONCEPT HEIDELBERG. ECA has entrusted CONCEPT HEIDELBERG with the organisation of its events.

GMP Certification Programme

This seminar is recognised within the GMP Certification Programme Module "Pharmaceutical Development Manager". By attending selected seminars, the participant can acquire an additional certificate. We offer the following certification modules:

- ECA Validation Manager
- ECA QA Manager
- ECA API Production Manager
- ECA Quality Control Manager
- ECA Technical Operations Manager
- ECA Computer Validation Manager
- ECA Regulatory Affairs Manager
- ECA Microbiological Laboratory Manager
- ECA Sterile Production Manager
- ECA Biotech Manager
- ECA Pharmaceutical Development Manager

On the internet at www.gmp-compliance.org you will find a text explaining which seminars are recognised for which certificates. Or you send an e-mail to info@gmp-compliance.org or a fax to +49-6221-84 44 64 with the request for information about the GMP Certification Programme. We will then send you our brochure on the topic.

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As an ECA course or conference attendee, you will receive **up to 20% discounted travel fares** (according to availability). And as Lufthansa German Airlines offers a comprehensive global route network linking major cities around the world you will most likely be able to benefit from these special prices and conditions.

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We look forward to welcoming at one of our next events – and we already wish you a pleasant flight!

Easy Registration

Reservation Form:
CONCEPT HEIDELBERG
P.O. Box 10 17 64
69007 Heidelberg
Germany

Reservation Form:
+ 49 6221 84 44 34

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info@concept-heidelberg.de

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www.gmp-compliance.org

Date
Impurities Forum Part I: Identification and Determination of Impurities
8 October 2014, 09.00 – 18.00 h
(Registration and coffee 08.30 – 09.00 h)

Impurities Forum Part II: Elemental Impurities
9 October 2014, 09.00 – 18.00 h
(Registration and coffee 08.30 – 09.00 h)

Impurities Forum Part III: Genotoxic Impurities
10 October 2014, 09.00 – 16.00 h
(Registration and coffee 08.30 – 09.00 h)

Venue
InterCityHotel Berlin Hauptbahnhof
Katharina-Paulus-Str. 5
10557 Berlin, Germany
Phone +49(0)30 288 755 0
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Fees (per delegate + VAT)
Impurities Forum Part I
Non-ECA Members € 890.-
ECA Members € 690.-
APIC Members € 790.-
EU GMP Inspectorates € 445.-

Impurities Forum Part II
Non-ECA Members € 890.-
ECA Members € 690.-
APIC Members € 790.-
EU GMP Inspectorates € 445.-

Impurities Forum Part III
Non-ECA Members € 890.-
ECA Members € 690.-
APIC Members € 790.-
EU GMP Inspectorates € 445.-

Impurities Forum Part I and II
Non-ECA Members € 1,590.-
ECA Members € 1,390.-
APIC Members € 1,490.-
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Non-ECA Members € 1,590.-
ECA Members € 1,390.-
APIC Members € 1,490.-
EU GMP Inspectorates € 795.-

Impurities Forum Part I, II and III
Non-ECA Members € 1,990.-
ECA Members € 1,790.-
APIC Members € 1,890.-
EU GMP Inspectorates € 995.-

The conference fee is payable in advance after receipt of invoice and includes conference documentation, dinner on the first day, lunch on both days and all refreshments. VAT is reclaimable.

Conference language
The official conference language will be English.

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

Registration
Via the attached reservation form, by e-mail or by fax message. Or you register online at www.gmp-compliance.org.

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Reservation Form (Please complete in full) +49 6221 84 44 34

IMPURITIES FORUM, 8 - 10 October 2014, Berlin, Germany

☐ Part I: 8 October 2014
☐ Part II: 9 October 2014
☐ Part III: 10 October 2014
☐ Part I and II: 8 – 9 October 2014
☐ Part II and III: 9 – 10 October 2014
☐ Part I, II and III: 8 – 10 October 2014

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General terms and conditions
If you cannot attend the conference you have two options:
1. We are happy to welcome a substitute colleague at any time.
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- until 2 weeks prior to the conference 10 %,
- until 1 weeks prior to the conference 50 %
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