The Impurities Workshop

Identification, Risk assessment and Control of Impurities in Drug Products, Drug Substances and Excipients

SPEAKER FROM AUTHORITY

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INDUSTRY SPEAKERS

DR CHRISTOPHER DAY
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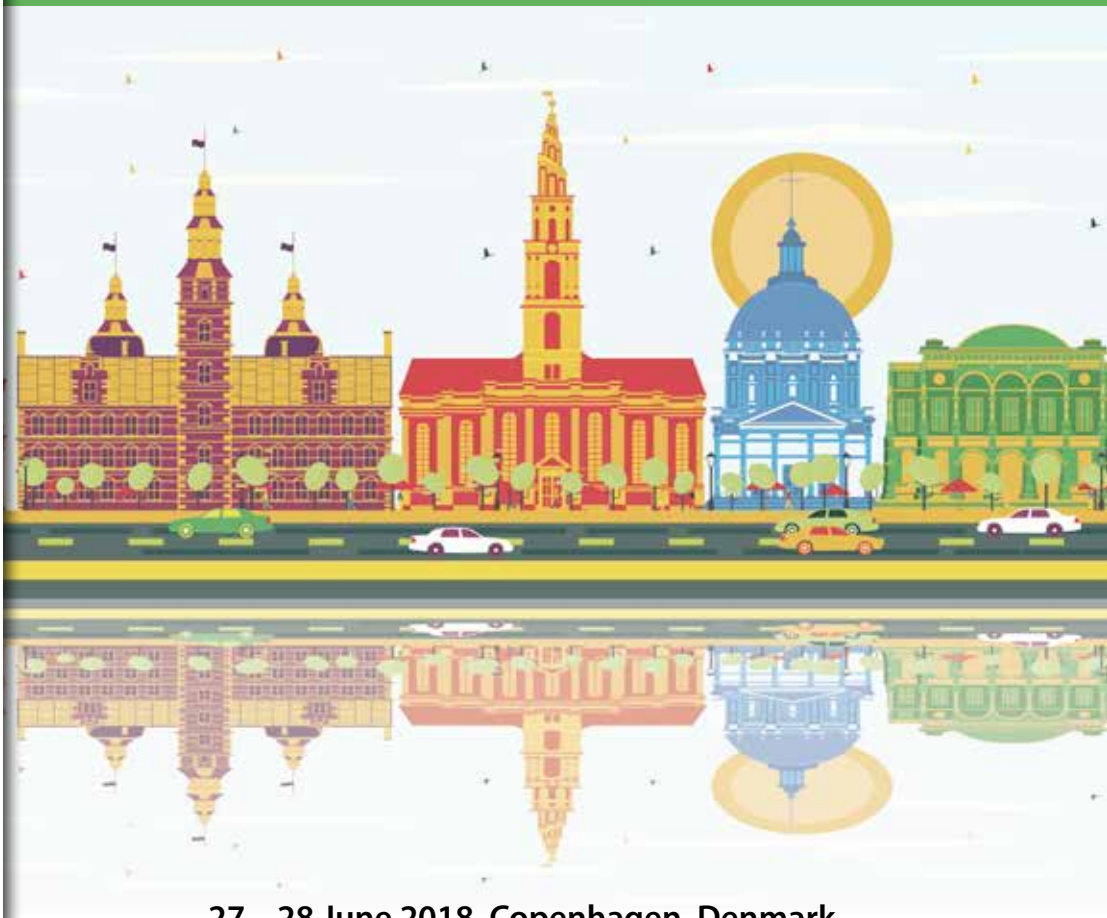
Nelson Labs, Belgium



27 – 28 June 2018, Copenhagen, Denmark

PART I 27 June 2018 — **GENERAL STRATEGIES**

PART II 28 June 2018 — **ELEMENTAL IMPURITIES AND UPDATE ON MUTAGENIC IMPURITIES**

Free of charge* Post-Conference Workshop on 29 June 2018:
"The Elemental Impurities Database"

(*only for those who participate in at least one part of the Impurities Workshop)

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

PART I: GENERAL STRATEGIES

Objectives

Part I of the Impurities Workshop 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 – examination of approaches based on duration

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

This workshop 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. This event will also address regulatory requirements and hence is applicable to people working in the regulatory affairs area.

Programme

Impurities analysis and qualification of Impurities in Drug Substances and Drug Products – general overview

- 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)

Presentation and Workshop: Analytical techniques for determination and qualification of impurities in Starting Materials and Intermediates

- 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

In the Workshop, the participants will learn which activities are necessary to characterise drug substances taking into account the following aspects:

- Analytical procedures are necessary for the characterisation
- Experiments necessary to check the downstream impurities in order to justify acceptance criteria for the respective impurities
- Other impurities have to be taken into account
- Experiments to be performed in order to get a stability-indicating analytical procedure

Presentation and Workshop: Leachables and Extractables

- Why should Extractables & Leachables be assessed?
- Regulatory requirements in the EU and US
- Compendial requirements and industry standards
- Safety qualification of Leachables and Extractables

The Workshop will provide the opportunity to work on case studies about Leachables and Extractables regarding detection and safety qualification. It will seek, through a practical exercise, to examine the steps involved in a comprehensive E&L evaluation.

PART II:
ELEMENTAL IMPURITIES AND UPDATE ON MUTAGENIC 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,
- factors that affect the limits – route of administration and also duration of exposure,
- 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.

Moreover you will hear about recent developments regarding the control of Mutagenic Impurities according to ICH M7.

Background

In November 2014, the **ICH Q3D Guideline for Elemental Impurities** was published as Step 4 document. This document outlines

- the evaluation of the toxicity data for potential elemental impurities,
- the PDEs for each element of toxicological concern,
- the basis for an EI risk assessment and the key factors for evaluation,
- the development of controls designed to limit the inclusion of elemental impurities in drug products to levels at or below the PDE.

In March 2015 USP announced a revision to General Notices section 5.60.30 Elemental Impurities in USP Drug Products and Dietary Supplements, establishing 1 January 2018 as the new date of applicability of General Chapters <232> Elemental Impurities-Limits and <2232> Elemental Contaminants in Dietary Supplements. In November 2015 the European Pharmacopoeia adopted the deletion of the test for heavy metals (2.4.8) from approx. 760 individual monographs on substances for pharmaceutical use (except substances for veterinary use only).

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

Implementation of ICH Q3D in the European Pharmacopoeia

- History of heavy metals tests
- Implementation strategy of ICH Q3D in Ph. Eur.
- Modifications of general chapters and general monographs
- Specific metal tests in individual monographs

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)

Control Strategies for Elemental Impurities in final dosage forms – Case studies

- Utilisation of Data as part of an Integrated EI Risk Assessment Process
- Potential Sources of Elemental Impurities in the Finished Product
  - API
  - Equipment
  - Container-closure system
  - Excipients
- Conclusions

Workshop: Conducting a risk assessment

In this Workshop the participants will work on several case studies and perform a risk assessment for different scenarios taking into account e.g. manufacturing equipment, dosage form of the drug product etc.

Reflections on ICH M7 – Recent developments and their impact / implications:

- In silico predictions – overview of tools available / reflections on expert data review
- Control options - Use of Purge calculations within control strategy
- Compound specific limits – the ICH M7 addendum and beyond
- Analysis of MIs – Key points from recent review article

Speakers

DR CHRISTOPHR DAY, *AstraZeneca, United Kingdom*
Chris has worked for AstraZeneca for 11 years, since graduating from Loughborough University with a degree in Chemistry with Analytical Chemistry. Since joining, Chris has held many lead roles in inorganic analysis, initially focussing on XRF, and then expanding into the areas of ICP-OES and then ICP-MS. In 2014, Chris became the overall lead of inorganics analysis within the development function at AstraZeneca, and has more recently been involved in the implementation of the new ICH Q3D guidelines into the company, with primary focus has been to develop an ICH Q3D aligned testing strategy and participate in cross industry initiatives relating to test methods and data sharing.

DR MANFRED FISCHER, *Skyepharma (member of Vectura group), Muttenz, Switzerland*
Dr Manfred Fischer worked for AstraZeneca (former ASTRA Chemicals GmbH), Altana Pharma (former Byk Gulden) and Lilly Forschung GmbH. Dr. Fischer has joined SkyePharma AG as Head of Analytical Department & Quality Control and he is currently responsible for the pMDI Pharmaceutical Development within Vectura.

DR CRINA HEGHES, *Lhasa Limited, United Kingdom*
Dr Crina Heghes graduated as a chemical engineer from Babes-Bolyai University, Romania in 2001. In 2006 she was subsequently awarded a PhD in Natural Sciences from the University of Heidelberg, Germany. In 2012 she joined Lhasa Limited where she worked as an Account Manager and since 2015 she is Business Development Manager. Within the team she is responsible for the development of collaborative and strategic projects.

GRACE KOCKS, *Lhasa Limited, United Kingdom*
Grace Kocks graduated from the University of Leeds in 2011 with a BSc in Human Physiology. In 2013 she joined the science team of Lhasa Limited where she works on the Vitic database. Within the team she is responsible for curation and peer review of data.

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 ULRICH ROSE, *Strasbourg, France*
Dr Rose works since 1991 at the EDQM in Strasbourg. Until 2011 he was responsible for establishment and monitoring of the Ph. Eur. reference standards. Moreover he was involved in the elaboration and revision of monographs of the European Pharmacopoeia. After that he became coordinator and auditor for EDQM's Mutual Joint Audit Program. Within this function he had to audit the Official Medicines Control Laboratories (OMCLs) in Europe. Since 2014 he is head of division A and deputy head of the European Pharmacopeia Department where he is overlooking the monograph work on chemicals, excipients, herbals and general chapters of Ph. Eur. and is involved in the international harmonisation of pharmacopoeias.

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 LISE VANDERKELEN, *Nelson Labs Europe, Belgium*
Dr Lise Vanderkelen received her Ph.D. from the Faculty of Bioscience Engineering at the University of Leuven (Belgium) in 2012. She started at Nelson Labs Europe (formerly Toxikon Europe) in 2013 as study director at the Extractables & Leachables Department, focusing on Injectables and Parenterals and in 2014 she became responsible for the chemical characterization testing for the medical device industry. In 2016, she became Department Head Pharma Services at Nelson Labs Europe. The main focus of this department is identifying organic impurities in drug products as well as in use stability of drug-device combination. In 2017, the scope expanded and includes now also all microbiological testing offered at Nelson Labs Europe.

POST CONFERENCE WORKSHOP ON 29 JUNE 2018
THE ELEMENTAL IMPURITIES DATABASE

Free of Charge*

The Elemental Impurities database is an initiative of a pharma consortium and aims to collect and share data from pharmaceutical excipients.

In this workshop the following points will be discussed:

- I would like to contribute to/send data to the database: What is the procedure?
- I would like to get information out of the database: What is the procedure?
- What about confidentiality regarding the submission to or reception of information from the database?

As part of this workshop the importance of data in a step-wise integrated risk-based approach and potential sources of these data will also be examined.

*For those who participate in at least one part of the Impurities Workshop

SOCIAL EVENT ON 27 JUNE

You are cordially invited to a guided sightseeing tour of Copenhagen and dinner. These are a excellent opportunities to share your experiences with colleagues from other companies in a relaxed atmosphere.

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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.

And this is how it works: Once you registered for a course or conference you will receive a link together with your registration confirmation. Opening that link will take you to the Mobility Partner Program website where you can enter a code in the "Access to Event Booking" area you will also receive. This will take you into an online booking platform* that will automatically calculate the discount offered or provide you with an even better offer if another promotional fare is available.

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

*Please note: You may have to enable pop-ups on the Mobility Partner Program website – otherwise the booking platform window will not open.

Easy Registration

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

Reservation Form:
+ 49 6221 84 44 34

e-mail:
info@concept-heidelberg.de

Internet:
www.gmp-compliance.org

Date

The Impurities Workshop Part I: General Strategies
27 June 2018, 09.00 – 17.45 h
(Registration and coffee 08.30 – 09.00 h)

The Impurities Workshop Part II: Elemental Impurities and update on Mutagenic Impurities
28 June 2018, 09.00 – 18.00 h
(Registration and coffee 08.30 – 09.00 h)

Post Conference Workshop: The Elemental Impurities Database
29 June 2018, 09.00 – 12.00 h
(Registration and coffee 08.30 – 09.00 h)

Venue

Radisson Blu Scandinavia Hotel
Amager Boulevard 70
2300 Copenhagen S, Denmark
Phone +45 3396 50 00
Scandinavia.meetings.events@radissonblu.com

Fees (per delegate + VAT)

Impurities Workshop Part I OR Part II
ECA Members € 790
APIC Members € 890
Non-ECA Members € 990
EU GMP Inspectorates € 495

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

Post Conference Workshop
ECA Members € 190
APIC Members € 290
Non-ECA Members € 390
EU GMP Inspectorates € 195

The Post-Conference Workshop is free of charge only for those who participate in at least one part of the Impurities Workshop!

Registration

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

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 event. Reservation should be made directly with the hotel. Early reservation is recommended.

Organisation and Contact

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

CONCEPT HEIDELBERG
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D-69007 Heidelberg, Germany
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Dr Gerhard Becker (Operations Director) at
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or per e-mail at becker@concept-heidelberg.de.

For questions regarding reservation, hotel, organisation etc. please contact:
Mr Ronny Strohwald (Organisation Manager) at
+49(0)62 21 / 84 44 51
or per e-mail at strohwald@concept-heidelberg.de.

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69007 Heidelberg
Germany

Reservation Form (Please complete in full)

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IMPURITIES WORKSHOP, 27-28 June 2018, Copenhagen, Denmark

☐ Part I: 27 June 2018
☐ Part II: 28 June 2018
☐ Part I and Part II: 27-28 June 2018
☐ Post Conference Workshop: 29 June 2018

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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.
2. If you have to cancel entirely we must charge the following processing fees: Cancellation
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- until 1 weeks prior to the conference 50 %
- within 1 week prior to the conference 100 %.

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The cancellation fee will then be calculated according to the point of time at which we receive your message.
In case you do not appear at the event without having informed us, you will have to pay the full registration fee, even if you have not made the payment yet. Only after we have received your payment, you are entitled to participate in the conference (receipt of payment will not be confirmed)! (As of January 2012).

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