



Presented by
Management Forum

Metered Dose Inhaler (MDI) Technology

19-20 June 2025
+ 8-9 October 2025

A comprehensive overview of MDIs including development, manufacture, regulation and market potential



Format:
Live online



CPD:
12 hours for your records



Certificate of completion

Course overview

This interactive course will provide a comprehensive overview of metered-dose inhaler technology past, present and future, giving participants a valuable insight into market potential and recent industry trends. The

programme will clarify the therapeutic targets and look at the various delivery technologies available. There will be detailed coverage of the current environmental, regulatory and economic pressures and how these impact, development, manufacturing process, equipment and options, together with quality and inspection requirements, human factors and bioequivalence. Our highly experienced trainer will address the regulations applying to inhalation products and provide guidance on the regulatory pathways to follow.

The event will benefit those new to this area and will also be of value to anybody who requires a refresher on the opportunities available with this technology. The seminar format will include practical workshops, which past delegates have found invaluable, and ample opportunity for discussion on any specific issues with an expert in this field.

Who should attend?

- Respiratory pharma professionals who need to understand MDI technology and its opportunities
- Medical device professionals new to working in the area of MDIs or those who need a refresher
- Development and regulatory professionals, with a development or product portfolio including MDIs, who need an understanding of future demands
- Medical device business development managers
- Respiratory professionals in R&D
- Medical device manufacturers working in the respiratory market

Programme

Day 1

Therapeutic targets

- A brief history of inhalation and MDI therapy
- The lung as a target
- Respiratory diseases
- Systemic delivery
- Therapeutic considerations
- Life limiting Vs Life threatening

Markets past, present and future

- Geographic - Challenges and opportunities
- Disease prevalence
- Economic considerations
- International demand
- Modelling opportunity (what to consider)

MDI Technology

- How and Why MDIs work
- MDI Formulation approaches
- The elements of an MDI
- Key performance characteristics
- MDI Feature/ Functions compared to other dosage forms
- Add-On technologies for MDIs
- Are there limits to MDI technology?

Workshop I

- Ranking of competitive technologies for different opportunities

MDI Manufacture

- Key Process steps (space, services, staff)
- Environment (Controls)
- Equipment (Scale, design, options etc.)
- Process controls & Inspection
- Safety and Quality
- Quality by Design (QbD) approaches
- Manufacturing and cost

Day 2

MDI Testing

- What and when to test
- How to test
- How not to test
- Demonstrating equivalence

Regulation of MDIs

- Legislation
- Regulatory guidance
- Consensus standards
- Pharmacopoeial requirements

Developing an MDI

- The MDI as a drug-device combination product
- Applying Design Controls
- Human Factors & Usability
- Risk management

Workshop II

- SWOT MDI vs multi-dose DPI
- SWOT MDI vs soft mist inhaler

MDIs and the environment

- Inhaler Carbon Footprint
- Environmental pressures on MDIs
- Alternate propellants (Alternate problems?)
- Alternate design approaches
- Recycling - Technical and patient considerations

The future of the MDI

- Summary of the Course
- What opportunities does the future hold?
- Workshop



David Howlett

In 2003 David established PharmaDelivery Solutions Ltd as a specialised consultancy service in the field of drug delivery combination products (especially respiratory) device technology. This has led to involvement in projects with focus in pulmonary, nasal and other delivery routes, with an international client base. Much of the activity of PharmaDelivery Solutions Ltd is focused in the area of development programme support, regulatory GAP analysis and generation of documentation supporting development and test programmes, together with data review and contingency evaluation.

David has over 35 years experience in the development, industrialization and approval of inhalation drug delivery systems, combination products and medical devices.

PharmaDelivery Solutions Ltd has provided input ranging from GAP analysis and comment to complete remedial implementation in areas including

- Design Control
- Risk Management
- Materials strategies
- Regulatory documentation
- Technical reviews and opinion

In addition to activities supporting commercial organizations, David has been involved in the following roles;

Honorary Teaching Fellow in the School of Pharmacy and Pharmaceutical Sciences at the University of Manchester and is author/ tutor for the Pharmaceutical Industry Advanced Training (PIAT) MSc module on Inhalation dosage forms.

A UK national expert representing the British Standards Institute on ISO TC84 developing new international standards for pulmonary and nasal delivery devices syringes and catheters.

David has also worked with the United Nations and various national governments to develop and establish transition strategies from the use of CFC in Metered Dose Inhalers and to secure appropriate budgets from the Multi-lateral fund for the implementation of the Montreal Protocol in emerging markets around the world.

Course dates

19-20 June 2025

Live online

09:30-17:15 **UK (London)** (UTC+01)

Course code 14763

GBP **1,499**

EUR **2,099**

USD **2,399**

8-9 October 2025

Live online

09:30-17:15 **UK (London)** (UTC+01)

Course code 14987

GBP **1,299** ~~1,499~~

EUR **1,819** ~~2,099~~

USD **2,087** ~~2,399~~

Until 03 Sep

How to book



Online:

ipi.academy/2415

Alternatively contact us to book, or if you have any queries:



Email:

info@ipiacademy.com



Phone:

[+44 \(0\)20 7749 4749](tel:+442077494749)

Discounts

- Booking more than one delegate on any one date qualifies for a **15% discount** on the second and subsequent places.
- Most events qualify for an **early booking discount** prior to 6 weeks before the course date. Be sure to check on our website, where the latest discounts will be shown.

Further information

Fee

The fee includes all meals and refreshments for the duration of the course (for venue-based courses) and a complete set of course materials (provided electronically). If you have any particular requirements, please advise customer services when booking.

Please note

IPI Academy (and our training partners) reserve the right to change the content and timing of the programme, the speakers, the date and venue due to reasons beyond their control. In the unlikely event that the course is cancelled, we will refund the registration fee and disclaim any further liability.

Terms and conditions

The rest of our terms, the event cancellation policy and the terms and conditions are on our website, please visit ipi.academy/content/terms-and-conditions

Reviews



The material was very informative and presented by David in a way that was easy to understand, with good diagrams and analogies that helped with the understanding. Good balance of the technical aspects, history and options for the future.



Simon Barton
Director - Device CoE
AstraZeneca
Feb 26 2024



Mr. David has an amazing teaching skill, making complex content accessible (even for a non-native speaker as I am).



Victor Panzeri
R&D Analyst
Eurofarma Laboratórios SA
Mar 27 2023



I was hoping for further improvement of my understanding of the matter of inhalational drugs, especially MDI, and this expectation was fully met. The speakers had superb knowledge of the subject, vast experience and a great sense of humour.



Robin Boehm
Team Leader Regulatory Submissions - New Products
STADA Arzneimittel AG
Sep 18 2019



In general good for content and presentation.



Celestino Ronchi
President
Delim Cosmetics & Pharma s.r.l.
Feb 20 2019

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IPI Academy

IPI Academy is a training initiative of Falconbury and Management Forum; leading providers of industry training for over 30 years, based in the UK.

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