



Book before
August 14th
and save

£400

Advanced Lyophilisation Formulation to Post-Process Analysis, 3 Day Workshop

Formulation and Process Decisions for Freeze Drying Success

22-24 September 2026 | Winchester | United Kingdom

www.biopharmagroupcdmo.com

Course Overview

This new course provides a comprehensive and practical exploration of freeze drying for pharmaceutical and biotechnology applications. It addresses the full end-to-end development process, from understanding formulation behaviour in the frozen state through to the design, execution, and evaluation of robust freeze drying cycles.

Combining foundational theory, hands-on experimentation, and real-world case studies, the course bridges the gap between scientific principles and industrial application, with an emphasis on troubleshooting and scale-up challenges.

Key Topics:

- Formulation development for freeze-drying
- Understanding formulation behaviour in the frozen state
- Designing freeze-drying cycles with scale-up and technology transfer considerations
- Pre-process, in-process, and post-process analytical techniques
- Monitoring and controlling critical process parameters
- Industrial case studies and troubleshooting common failures

What's Included:



Theory and practical workshop sessions including related analytical techniques



Printed learning materials (full course notes)



Morning and afternoon refreshments



On-site meals & networking dinner

Hands-On Practical Experience

A key focus of this workshop is experiential learning. Participants will gain practical, hands-on experience with industry-relevant techniques, including:



Formulation Characterisation

- Freeze-drying microscopy (FDM)
- Thermal analysis
- Impedance analysis



Freeze-Drying Process Execution

- Running freeze-drying cycles using model formulations
- Monitoring and controlling critical process parameters



Post-Process Product Evaluation

- Product appearance and structure
- Residual moisture determination
- Glass transition temperature assessment
- Thermostability

These activities are directly linked to cycle development and quality-by-design principles.



What you'll learn:

During this workshop, participants will:

- Learn the practical realities of formulation and process development, including common challenges and how to address them
- Gain a comprehensive understanding of the fundamental principles of freeze-drying technology through structured learning and expert-led discussion
- Apply theoretical knowledge to the practical development of freeze-drying formulations and cycles
- Understand how to design efficient, robust freeze-drying recipes suitable for scale-up and manufacturing transfer
- Build confidence in interpreting analytical data and making sound development decisions

Who should attend?

This workshop is designed for scientists and engineers working in:

- Pharmaceutical, biotechnology, and diagnostic R&D laboratories
- Commercial manufacturing and production facilities
- Academic research laboratories
- Formulation development, process development, analytical science, and technical transfer roles

The course is suitable for both experienced practitioners seeking deeper practical insight and those looking to translate theoretical knowledge into real-world lyophilisation development.

Learning outcomes

By the end of the workshop, attendees will be able to:

- Interpret frozen-state and thermal analysis data to inform formulation and process decisions
- Design freeze-drying cycles from first principles using a structured, science-based approach
- Apply process analytical tools to monitor and control critical parameters during drying
- Evaluate post-process product quality, including residual moisture and glass transition temperature
- Diagnose and resolve common formulation and process failures using practical case-study insights
- Translate laboratory-scale understanding into strategies that support scale-up and technology transfer

Additional Learning Materials

This is a highly practical course in which attendees will run multiple freeze-drying cycles, with only a limited amount of time spent in the classroom. To get the most out of the workshops, some prior knowledge of lyophilisation is beneficial.

Therefore, when you purchase this course, you will receive free access to our online course: Fundamentals of Lyophilisation.

This includes five online freeze-drying modules on our e-learning platform (worth £600), covering various topics to help deepen your understanding of the technology behind lyophilisation.

Our lyophilisation e-learning modules cover topics such as:

Module 1:
Introduction to Lyophilisation & Freezing and Annealing

Module 2:
Primary and Secondary Drying

Module 3:
Formulation Fundamentals & Formulation Characterisation

Module 4:
Cycle Development & Process Analytical Technology

Module 5:
Scale-up Factors & Analysing the Final Product



Your Lyo Expert Instructors



Dr. Kevin Ward
Director of R&D

Biopharma Group's Director of R&D, Dr. Kevin Ward, is globally recognised as a lyophilisation expert and has been actively working in the field of lyo technology since 1993, joining Biopharma Group in 2000. He's been involved in numerous academic research projects and, together with his team, has worked on over 5,000 projects for customers worldwide. Kevin received his PhD for investigations into the freeze-drying of pharmaceutical formulations and drug/vaccine delivery systems.

Prior to joining the team, Kevin worked at Pfizer Central Research and as a Research Fellow in vaccine development at Aston University. Whilst working at Biopharma Group, Dr. Ward has become an editor and a contributing author of articles and texts on freeze drying, including the Springer book "Lyophilisation of Pharmaceuticals and Biologicals". He is also in demand as a frequent lecturer to many of the leading regulatory agencies and prominent pharma companies.



Mervyn Middleton
Senior Scientist

After earning a BSc (Hons) in Biochemistry from the University of Portsmouth in 2009, Mervyn joined Biopharma Group where he worked through to 2015, gaining expertise in product analysis and lyo cycle development. Returning in 2021 as a Senior Scientist,

Mervyn has worked on over 50 projects, including pre-lyophilised and post-lyophilised product characterisation, formulation development, freeze drying cycle optimisation, process auditing, and consultancy across all stages of lyo development and scale-up.

Why choose Biopharma Group's lyophilisation training course:

Each lyophilisation training course is tailored to be up to date with contemporary material and industry relevant developments.

With over 6000 individuals trained and more than 500+ courses conducted in over 45 cities around the world, Biopharma Group has built a sound reputation as a trusted resource for lyophilisation training to the pharma, diagnostics and biotech industries.

Our lyophilisation, aka freeze drying, training course options cover a range of topics from formulation characterisation and cycle-development, freeze drying best practices to PAT (Process Analytical Technology), QbD and DoE methods and more, to eLearning modules, customisable courses onsite and/or online, webinars and accredited micro-courses.

At Biopharma Group we believe that well trained lab teams, production and engineering departments are empowered to use lyophilisation technology and processes to produce successful product results and improve the overall processes of your facility.

Discover why lyophilisation training courses are a lab essential

1

Lyophilisation/ freeze drying is a complex science with only a few experienced expert personnel able to teach it; Biopharma Group has those experts in-house.

2

There is no such thing as a 'one cycle fits all' process when it comes to lyophilisation, and we'll clearly explain why.

3

The pharma/ biotech industry is tightly regulated, so incorporating industry best practices can save you time and money.

4

There have been advances in technology to improve old formulations which many people are unaware of; our experts can help.

5

Well-trained maintenance and engineering departments for lyo related processes can help eliminate downtime of equipment.

6

Well-trained lab teams can identify and address specific issues companies might be experiencing in the manufacturing process.



"The content and both presenters were exceptional. I much appreciated the practical operation topics"

BIOMÉRIEUX

"The course was excellent, content great and excellent speakers. Learnt a lot, now I feel more confident about freeze drying"

VECTURA UK

"All workshops and presentations were thorough and great information detailed"

IPSEN UK

"Lecturers were great. I have hugely expanded my knowledge"

MHRA

"Very good interaction with speakers. All questions answered, patiently, professionally and so much knowledge"

OCTAPHARMA GERMANY

Logistics & Enrollment

Course location:

Biopharma House, Winnall Valley Road, Winchester, SO23 0LD, United Kingdom

Date:

22-24 September 2026

Inclusions:

- Theory and practical workshop sessions including related analytical techniques
- Printed learning materials (full course notes)
- Morning and afternoon refreshments
- On-site meals & networking dinner

Accommodation:

Please note that the cost of accommodation is not included in the course fee and that bedroom bookings must be made by the participants. A list of local hotels will be provided with the registration confirmation.

Cost:

£3,500 per delegate. Early bird rate £3,100 (book by 14/08/26 to qualify)

Payment & registration:

Use our online form to register for this training course. We will contact you to confirm payment details, number of attendees and course choice. Please note that multiple bookings from the same organisation can qualify for a discount, contact us for more details.

Contact:

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www.biopharmagrouppcdmo.com
