

PRODUCT NOTE

Analytical Services





LIGHTHOUSE Analytical Services

LIGHTHOUSE Analytical Services is an extension of your analytical laboratory allowing you to take full advantage of our laser-based headspace platforms and expertise. From our GMP and R&D laboratories in Amsterdam, The Netherlands, and R&D laboratory in Charlottesville, USA, we support your projects throughout the complete life cycle of your product.



Analytical Service Options

LABORATORY TESTING

Need extra testing capacity?

Send your samples to LIGHTHOUSE service labs for R&D or GMP-licensed testing.

ONSITE TESTING

Rather have analysis done at your facility?

LIGHTHOUSE installs and validates benchtop and automated systems at your facility, operated by a LIGHTHOUSE Application Scientist.

RECERTIFICATIONS

Already have a LIGHTHOUSE system in house?

Send certified Lighthouse flame-sealed gas standards to a LIGHTHOUSE lab for recertification.



COMPATIBLE PRODUCTS AND PRIMARY PACKAGING

- All types of parenteral product formulations: liquid, lyophilized, and powder.
- All oral solid dosage forms: tablets, pills, and capsules.
- Commonly used primary packaging from various glass types and clear plastics.

ANALYTICAL SOLUTIONS

- Container closure integrity (CCI) testing
- Vacuum maintenance monitoring
- Water activity testing
- Headspace oxygen monitoring
- Headspace moisture determination
- Headspace carbon dioxide analysis

OTHER SERVICES

- Residual seal force testing
- Moisture sorption isotherms
- Automatic vial crimping platform

STORAGE CAPABILITIES

- Cryogenic storage (LN₂)
- Dry ice storage
- -20°C to -100°C freezing capacity
- 2-8°C
- Controlled rate step-freezer
- 25°C/60%RH
- 30°C/65%RH
- 40°C/75%RH



Analytical Service Overview

METHOD DEVELOPMENT & VALIDATION

- Container closure integrity testing (CCIT)
- Water activity analysis
- IPC oxygen monitoring

PRIMARY PACKAGING STUDIES

- Inherent integrity studies
- Gas permeation studies

PROCESS STUDIES

- Characterization, optimization, and validation of purging systems for oxygen-sensitive products
- Freeze dryer moisture mapping
- Seal quality process studies
- Line qualifications
- Qualification of raised stopper limits
- Cold storage and transport studies

STABILITY STUDIES

- Maintenance of container closure integrity over shelf-life under various storage conditions
- Headspace oxygen consumption of oxidizing formulations over shelf-life
- Product degradation due to moisture
- Water activity of oral solid dosage and lyophilized products

BATCH INVESTIGATIONS & ROUTINE TESTING

- Batch remediation
- Clinical and commercial CCI release testing
- CCI testing on stability

LIGHTHOUSE Analytical Services is committed to deliver high-quality, precise, and reliable analytical solutions to support your product development and manufacturing processes.

Contact us to learn how we can support you.

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