

Wherever you are in your Medical Device or Pharmaceutical product life cycle:

Product Development
and Concept Phase

Packaging
Design and
Validation Support

Shelf Life
Modeling

MAP Process
Development

In-Process or
Lot-to-Lot Testing

Failure
Analysis

Materials
Supplier Selection

MOCON® can help with your medical device, package and product integrity analysis.



mocon®

Wherever you are in your pharmaceutical or medical device's product life cycle ...

MOCON offers decades of experience supporting pharmaceutical and medical device companies who require testing services, design consulting and advanced test instrumentation for purchase, enabling our customers to:

- Get their products to market faster
- Save development time and expense
- Overcome staffing shortages challenges
- Uncover hidden product failure causes
- Ensure your product's best success

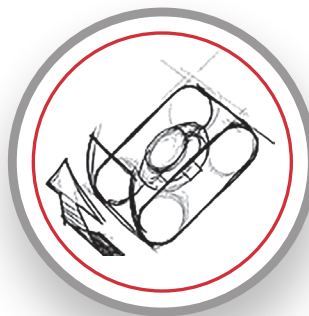
Product Development and Concept Phase



When preparing to introduce a new device, drug or biologic to the market, packaging, shelf life and other materials questions can be a challenge.

MOCON's expertise and capabilities will save you time and expense and get you to market sooner.

Packaging Design and Validation Support



For sensitive medical products, engineering the correct packaging can make the difference between a successful launch or product failure.

Save precious time with advanced guidance and test capabilities.

Shelf Life Modeling



By engaging specialized predictive capabilities and aging or atmosphere degradation studies, we can help determine your optimal design earlier in the product cycle.

Key Testing & Consulting Service Capabilities

MOCON lab services for packages and devices:

- Permeation of gases and vapors
- Package and container integrity
- Shelf life analysis
- Leak detection
- Accelerated and real time aging
- Environmental conditioning, including thermal and humidity profiles
- Seal peel, strength
- Material properties testing
- Thermal packaging performance and validation
- Vacuum drying
- Vacuum leak
- High altitude, low pressure
- Dimensional inspections
- Packaging development and prototyping
- Validation and regulatory compliance support
- Brand protection technologies performance testing
- Technology support solutions
- Odor (foul smell) analysis
- Aroma and flavor analysis

MOCON Testing & Analysis Instruments

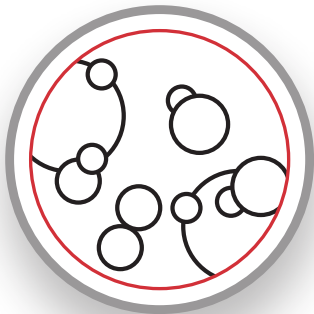
- Permeation of gases and vapors
- Barrier testing
- Gas stream analysis
- Modified Atmosphere Packaging
- Aerobic bacteria screening
- Package and product leak analysis



Call or email our Technical Specialists to discuss how we can help you.

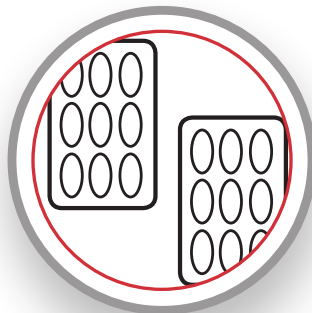


MAP Process Development



Many products benefit from the technology of Modified Atmosphere Packaging (MAP). MOCON can determine the added advantages MAP may have for your product.

In-Process or Lot-to-Lot Testing



Advanced testing methods and instruments provide tighter quality control and higher product release confidence.

Failure Analysis



When something goes wrong, such as shelf life or package integrity failure, or possibly off-odors, MOCON's expertise will help you get your product back on track, fast.

Materials Supplier Selection



Whether you're introducing a new product or re-releasing to another region, finding the best material supplier for your product is critical.

MOCON's expertise can help you avoid costly mistakes.

MOCON® expertise and support can help you navigate your best course

Instruments

- Gas permeation (water vapor or oxygen): films and whole packages
- Leak and seal strength detectors
- Headspace gas analyzers
- MAP gas flow savers
- MAP mix gas savers

Testing Services

- Gas permeation rates: film and whole package
 - Water - ASTM E96, E398, F1249, D6701
 - Oxygen - ASTM D3985, F1307, F2622, F1927
- cGMP permeation testing services
- Package integrity, leak, pressure decay: ASTM F2095
- Accelerated and real time aging: ASTM F1980
- Package integrity via bubble leak, bubble emission and dye penetration: ASTM F2096, F3039, D3078 and F1929
- Environmental conditioning via heat and humidity: ASTM D4332, F2825, E171
- Seal peel strength: ASTM F88
- Materials properties testing: tensile and compression modes: ASTM D882, D638, D3420, F1306, D1709
- Thermal performance testing: Temperature profiles: ISTA 7E, custom
- Vacuum drying and vacuum leak: ASTM D6653
- High altitude, low pressure: ASTM D4169, Schedule I

Packaging Validation and Compliance

- ISO 11607, parts 1 and 2
- Test Equipment and Packaging Equipment, IQ/OQ/PQ protocols and reports
- Test Equipment and Packaging Equipment: Test Method Development and Validation
- Cold Chain, temperature controlled packaging validation
- DOE's

Package Development

- ISO 11607, parts 1 and 2 consulting
- Packaging specification development
- Barrier packaging: moisture, oxygen, CO₂, shelf life, shelf life modeling, leak
- USP, PDA and ICH Guidelines consulting
- Anti-counterfeiting/brand protection testing support
- ASTM and ISTA testing guidance
- Temperature controlled packaging
- EU Directives: Waste, Packaging and the Environment
- Sustainability consulting

Technology Support Solutions

- Sterilization and materials compatibility
- Packaging research for high performance requirements including electronics and nanotechnology products.

Your Local MOCON Representative:



MOCON® Commitment

These analytical instruments are another example of MOCON's long-standing commitment to innovation and quality in the support of our customers.

Technical Support & Service

MOCON offers a variety of technical services designed to provide you with first class support. Whether you require technical support, next-day spare parts delivery, on-site training, N.I.S.T. certification or "turn-key" validation, our staff can tailor a service program to fit your needs. Our goal is to provide the best in product support services.

MOCON is a registered trademark of MOCON, Inc.



763.493.6370 | info@mocon.com
www.mocon.com

Headquartered in the United States
Offices Worldwide