Barrier Packaging Solutions



About LOG

We are committed to creating confidence with unique Barrier Packaging Solutions

Confidence that your product will be protected and delivered in the best possible condition

LOG is committed to the highest standards of quality required in the pharma-packaging industry as reflected by our ISO 9001 and ISO 15378 certifications. In addition, both production sites in Israel and Hungary have successfully passed audits by leading pharmaceutical companies.



Confidence that LOG will deliver cutting-edge innovation that will meet your current and future market needs

As a well-known market leader in innovative barrier packaging solutions, LOG will continue to offer advanced products in the fields of:

- Active and passive barrier packaging solutions
- Child resistant packaging
- Anti-counterfeit and tamper evident solutions
- Smart packaging



Confidence that LOG is the right choice as your long-term partner

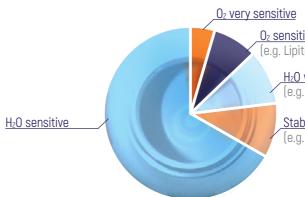
Established in 1971, LOG has spent more than 47 years building a wide range of standard and customized packaging solutions and providing dedicated and responsive customer support to leading global pharmaceutical companies. As a privately owned, profitable and constantly growing company, LOG will confidently support you as a long-term partner.

The Challenge

Reducing Moisture & Oxygen Impact on Formulations

Most APIs (up to 90%) used in pharmaceutical formulations are sensitive to moisture and/or oxygen and require passive or active protection.

With the ever-increasing complexity of the APIs and their drug formulations, innovative barrier packaging solutions are required for more and more pharmaceutical products in order for them to successfully pass stability tests.



Meeting the Challenge with LOG's **Barrier Packaging Solutions**

LOG has developed a series of world-leading barrier packaging solutions to extend the shelf life and protect innovative and generic drugs from the exposure to moisture and/or oxygen. Made from up to six layers, LOG's barrier packaging solutions are available for liquids and solids, and come in standard sizes from 15 to 1500ml and with neck finishes between SP20 and SP53.

The containers are compatible with LOG's screw and CR closures and can be used on existing filling lines without the need for any modifications.

In addition to the standard barrier packaging portfolio, LOG also offers to partner with customers to develop tailor-made barrier packaging solutions.

LOG's market-leading Barrier Packaging solutions:

- Increase confidence to pass drug stability tests
- Shorten drug formulation development time
- Reduce the need for desiccants with the goal of eliminating them
- Extend drug shelf life
- Reduce head space and packaging size
- Reduce total cost of ownership
- Are successfully used and endorsed by global pharmaceutical companies

H₂O very sensitive (e.g. Fosaprepitant or Clavulanic acid)

Stable API (e.g. Oriconazol, Risperidone)





LOG's Barrier Packaging Solutions are available in

three product families:



The OxyBlock™ multilayer product family offers protection for solid formulations that are sensitive to oxygen permeation.

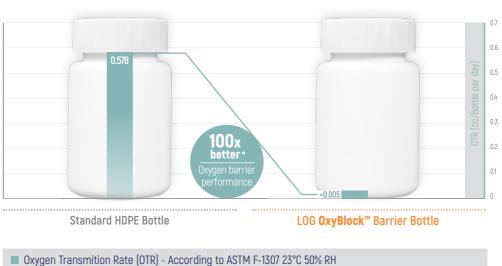
Tests have shown that OxyBlock™ provides 100x better oxygen barrier performance as compared to standard HDPE containers.

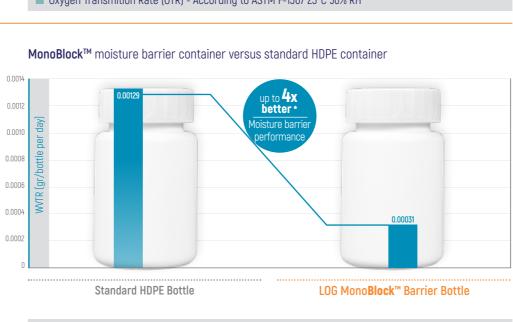
Mono<mark>Block</mark>™

The MonoBlock™ product family offers protection for solid and liquid formulations that are sensitive to moisture permeation. Tests have shown that MonoBlock[™] provides up to 4x better moisture barrier performance as

finish, as well as containers for solids with various neck openings.

The MonoBlock[™] family includes barrier bottles for liquids with a SP28 neck





■ Water Vapor Transmition Rate (WVTR) - According to ASTM F-1249, ASTM E-96 38°C 90% RH

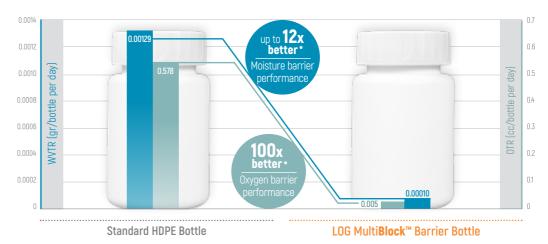


compared to standard HDPE containers.

The MultiBlock™ multilayer product family offers protection for formulations that are sensitive to oxygen as well as moisture permeation.

Tests have shown that MultiBlock™ provides up to 12x better moisture barrier performance and 100x better oxygen barrier performance as compared to standard HDPE containers.

MultiBlock™ multilayer moisture and oxygen barrier container versus standard HDPE container



Oxygen Transmition Rate (OTR) - According to ASTM F-1307 23°C 50% RH ■ Water Vapor Transmition Rate (WVTR) - According to ASTM F-1249, ASTM E-96 38°C 90% RH

*Compared to a standard HDPE container

OxyBlock™ multilayer oxygen barrier container versus standard HDPE container





LOG's innovative packaging solutions provide you with the confidence that your product will be protected and delivered in the best possible condition.

Do you have any questions about our standard packaging portfolio or customized solutions?

Don't hesitate to contact us:



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