Product Sheet
OXY-GUARD® BARRIER BOTTLES

CLARIANT

PHARMACEUTICAL CONTAINERS WITH ULTRA OXYGEN PROTECTION

Purpose
Oxy-Guard® barrier bottles provide barrier protection in pharmaceutical applications to inhibit oxidation and enhance shelf life of drug products.

What are they?
Oxy-Guard bottles are extrusion blow-molded 6-layer pharmaceutical containers offering several times the barrier protection from oxygen than standard polyethylene bottles of similar size.

Why use them?
Oxidation – besides moisture – is one of the major pathways for degradation of pharmaceuticals during production, isolation processes and storage. In pharmaceutical formulations, oxidation of proteins and active pharmaceutical substances can present significant stability problems affecting efficacy and shelf life and causing other undesirable side effects. When evaluating drug properties during formulation, the need to address susceptibility to oxidation can extend development time and costs. Time-to-market can be shortened by addressing oxidative stability with appropriate drug packaging instead of in the drug formulation itself. Furthermore, chemical agents that would otherwise be out of the running due to their susceptibility to oxidation could be considered.

Oxy-Guard bottles effectively block oxygen ingress by a factor of 100 compared to regular bottles and also provide an excellent barrier against moisture. A full range of standard sizes are available. As all Oxy-Guard bottle neck finishes are SP 400, any pharmaceutical screw cap produced according to this standard can be used. The 6-layer structure can also incorporate a UV barrier, as well as customer-specific resins and design characteristics. Clariant can work with customers to customize performance parameters, materials and bottle design.

For a complete solution, Oxy-Guard bottles can be used in conjunction with PharmaKeep® oxygen scavengers, which absorb the oxygen contained in the container headspace after drug filling and the small amount of oxygen that may still permeate into the container during shelf life.

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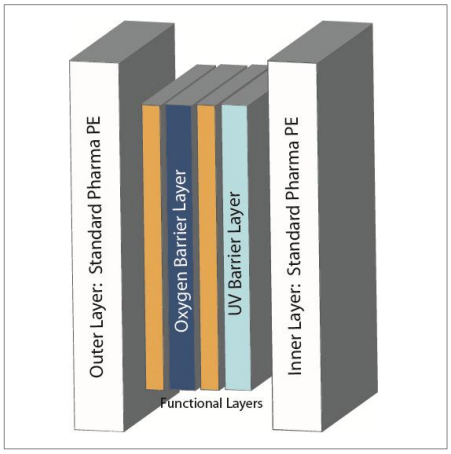
Available Configurations

With both standard and customized configuraitons available, bottles sizes range from 40 ml to 750 ml.

Key Advantages

- Oxy-Guard Bottles protect pharmaceutical products from oxidation
- Oxygen ingress is blocked by a factor of 100 compared to regular polyethylene bottles.
- With PharmaKeep® oxygen scavengers, a complete oxygen protection package is available.

Oxy-Guard® Barrier Bottles are available in several sizes and configurations and feature a standard SP 400 neck.



The 6-layer bottle structure offers barrier against oxygen and moisture as well as tailor-made features such as UV protection and incorporation of specified resins.

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