

valOR[®] AB300 SERIES

MULTILAYER POLYAMIDE
OXYGEN AND CARBON
DIOXIDE BARRIER ADDITIVES

SHERWIN-WILLIAMS

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[Accessibility Statement](#)





valOR AB300

The new valOR AB300 series multilayer pure polyamide oxygen and carbon dioxide barrier additives have been developed with improved co-injection, clarity and barrier performance.

This enhanced formulation co-injects valOR directly into the core rather than blending it with PET, resulting in simpler dosing. This method will also provide easier leading and trailing edge positioning, as well as a quicker and more stable setup.

At the typical recommended dosing levels of 2-4 percent, the pure core of valOR AB300 provides improved oxygen and carbon dioxide barrier performance, weight for weight, over the existing valOR grades and competitive barrier additives. This system has also been developed to withstand rPET grade in the skin, providing oxygen scavenging even in 100 percent rPET.

RECOMMENDED DOSING LEVELS

MINIMUM DOSING LEVEL	APPLICATION	EXPECTED SHELF LIFE*
2%	Noncarbonated Juice	6-9 months
	Mayonnaise, Ketchup and Sauces	12-15 months
	Carbonated Juice	3-6 months
	Beer	3-6 months
3%	Carbonated Juice	6-9 months
	Beer	6-9 months

*Varies based on bottle design, fill formula, etc.

SERIES HIGHLIGHTS

- Excellent clarity in both clear and colored bottles
- Simpler dosing because of no blending with PET in the core
- Reduction in barrier levels, as compared to monolayer systems (i.e., 30-60 percent)
- Impressive performance when rPET grades are used in the skin layers
- Thin core percentage: 2-4 percent weight based on total preform weight
- Eliminates the need for nitrogen or inert gas purges
- Quicker and simpler setups
- Substantial oxygen and carbon dioxide barrier properties
- Excellent delamination properties in the preform and bottle
- Independence and flexibility to use other masterbatches and/or PET grades
- Greatly improved recycling performance
- Target applications include, but are not limited to, juice (carbonated and noncarbonated), beer, ketchup, mayonnaise and more



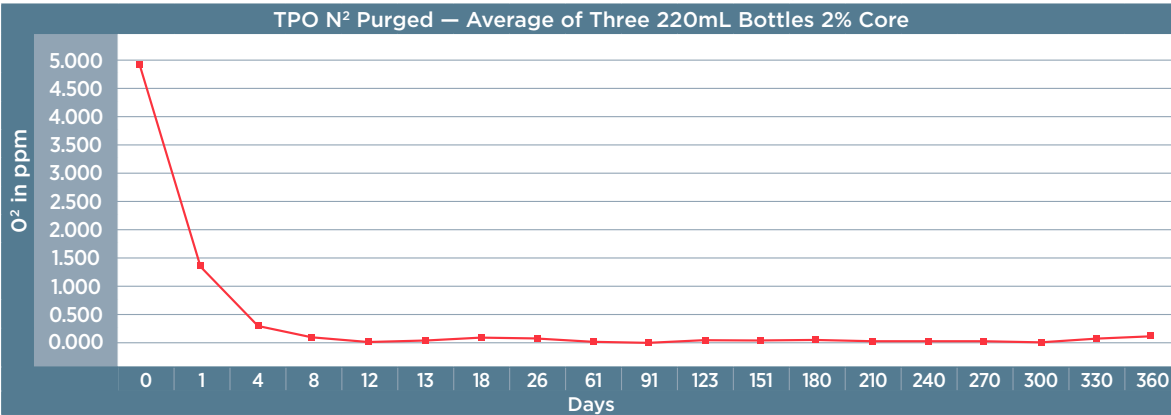
MEASURABLE PERFORMANCE

vaIOR AB300 BARRIER PERFORMANCE

The graphs below examine oxygen levels over time for various coated bottles. TPO = Total package oxygen and O_2 in ppm = Actual oxygen concentration at any given time within the package and the fill

KETCHUP BOTTLES (500 mL)

TPO N_2 Purged — Average of Three 220mL Bottles 2% Core

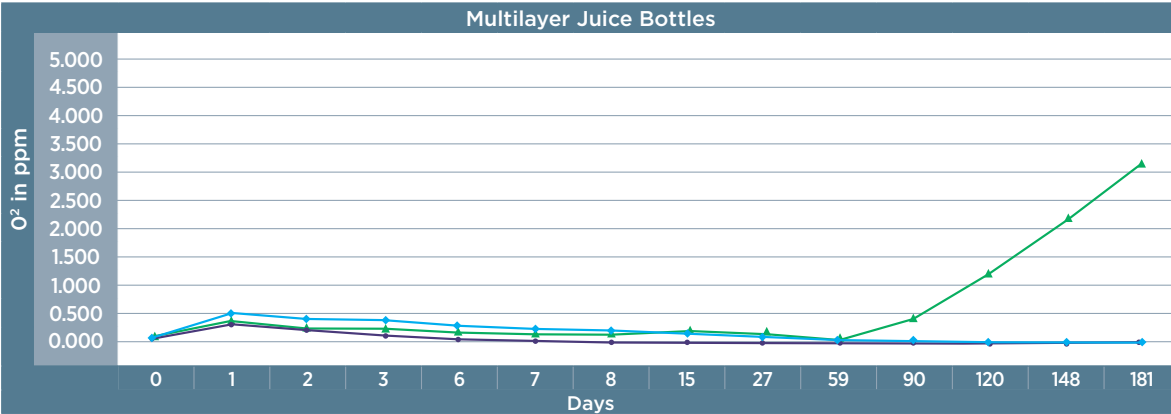


— AB300



MULTILAYER JUICE BOTTLES (500 mL)

Multilayer Juice Bottles

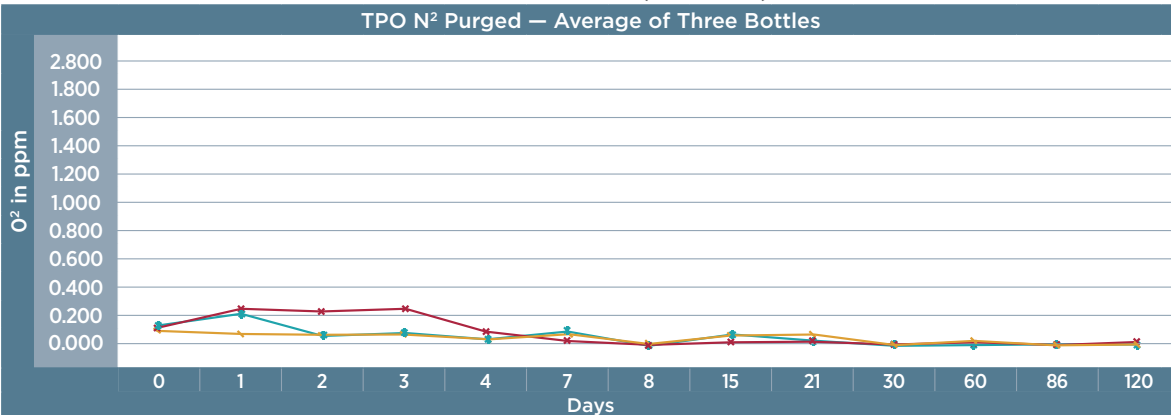


— NEW AB300 — COMPETITOR MULTILAYER — CURRENT AB138J MULTILAYER



BEER BOTTLES (500 mL)

TPO N_2 Purged — Average of Three Bottles



— AB138 — 2% AB300 — 2.5% AB300



CLARITY AND RECYCLABILITY

Sherwin-Williams valOR AB300 is designed to be used as a multilayer structure in plastic food packaging, such as juice (carbonated and noncarbonated), beer, ketchup, mayonnaise and more. The product's clarity and recyclability make it ideal for these types of single-use products that generally require longer shelf lives.

CLARITY

The valOR AB300 coating displays excellent crystal clarity in both clear and colored bottles, even resembling the clarity of pure PET plastic. It also has full EU food contact approval and Nehring certification, making it ideal for plastic packaging manufacturers looking for conscious and effective coating solutions.



RECYCLABILITY

The multilayer valOR AB300 system boasts the best recycling performance out of the entire Sherwin-Williams valOR line when using equivalent dosing levels. The material has been formulated to exhibit excellent adhesion in the preform and the bottle. Additional precautions are taken to allow the core to delaminate during flaking and washing in the recycling process, especially when the open dome positioning method is used.

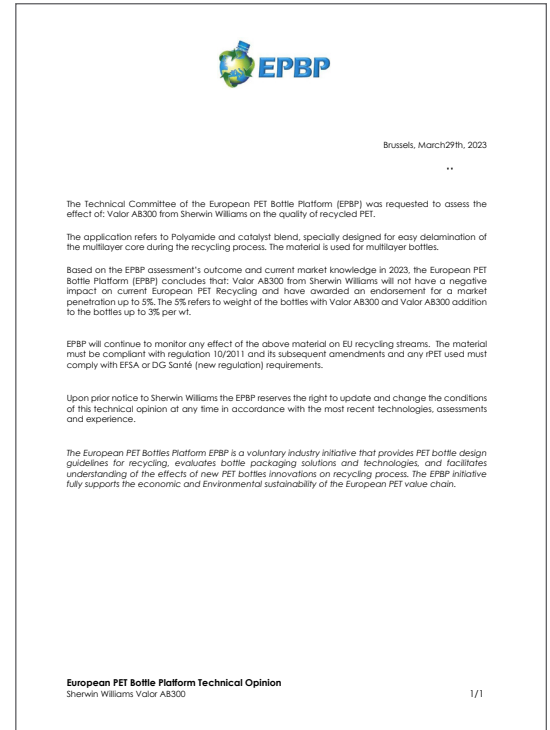
Special measures are also taken in development to dramatically reduce discoloration during recycling, thus improving any yellowing that may occur.

AB300 ENDORSED BY EUROPEAN PET BOTTLE PLATFORM

The European PET Bottle Platform (EPBP) fully endorsed AB300 at 3 percent dosing. Technical experts in PET production, design and recycling evaluated the additive based on the criteria of Route 1 of EPBP's protocol to establish impact on the clear PET recycling stream in Europe.

The EPBP processes the control and test variables the same way, according to EPBP Processing Guidelines. Tested at flake concentrations of 10 percent and 25 percent, AB300 showed no impact on processing and performance properties during extrusion, crystallization, solid-state polymerization and plaque injection. Test variables measured on injection molded plaques met the EPBP specifications for L*, a*, b* color and Haze.

Read the full endorsement letter: <https://www.epbp.org/download/354/sherwin-williams-valor-ab300>



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At Sherwin-Williams, our packaging coatings protect and advance the design and heritage of many of the world's best known brands. Whether your goal is to create a new package design for food, beverage or household products, meet ever-changing regulatory challenges or enhance the sustainability of a package, you can count on us to develop and deliver innovative custom coating solutions and provide the technical expertise and support you need. We are Sherwin-Williams Packaging Coatings, and we are passionate about enabling the success of your package and brand.

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Visit us at packaging.sherwin.com or contact us at packagingcoatings@sherwin.com

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