

# COLORMATRIX™ AANCHOR™

Acetaldehyde Control  
Technology for PET







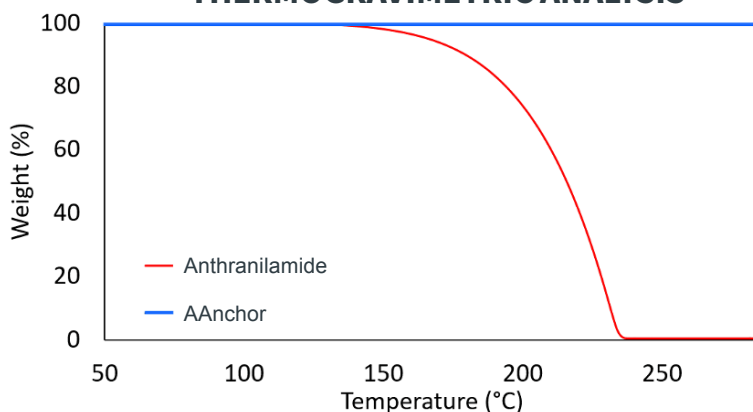
## Enhance the Recyclability and Quality of PET Packaging While Reducing Regulatory Risk

ColorMatrix™ AAnchor™ is an innovative acetaldehyde control technology designed to address the challenges associated with increased rPET content in PET packaging. With its unique formulation, ColorMatrix AAnchor offers improved recyclability, reduced regulatory risk, and enhanced bottle quality, making it an ideal solution for brands looking to incorporate higher levels of recycled material into their packaging.

## IMPROVED RECYCLABILITY

Increased rPET content requires higher levels of acetaldehyde (AA) scavenger, which can lead to various issues. ColorMatrix AAnchor provides enhanced recyclability and improved productivity due to excellent thermal stability, thereby eliminating processing issues related to sublimation and deposition on molds often caused by anthranilamide (ATA)-based AA scavengers.

## THERMOGRAVIMETRIC ANALYSIS



Conditions: Ramp 10°C min<sup>-1</sup> from 40°C to 285°C, dwell for 1 h under nitrogen

## REDUCED REGULATORY RISK

With the increasing use of rPET, accumulation of AA scavengers can become an issue, particularly with ATA-based products, where there is a high risk of exceeding the regulatory migration limit. ColorMatrix AAnchor is a non-ATA-based product with very low levels of migration to support compliance with migratory limits even in closed-loop recycle systems, where risk is highest. With new EU regulations regarding primary aromatic amines (PAAs), ColorMatrix AAnchor offers reduced regulatory risk as it will not form PAAs, unlike other ATA-based solutions.

## MIGRATION MODELING

Recycle Loop	AAnchor Mg/kg	Anthranilamide Mg/kg
Virgin	<0.0050	0.0300
1	0.0080	0.0480
2	0.0098	0.0588
3	0.0109	0.0653
4	0.0115	0.0692
5	0.0119	0.0715

## MAINTAIN BOTTLE QUALITY

ColorMatrix AAnchor does not negatively impact bottle quality or processability, maintaining solid-state polymerization (SSP) rates and bottle mechanical strength.

## MECHANICAL STRENGTH – BURST TESTING

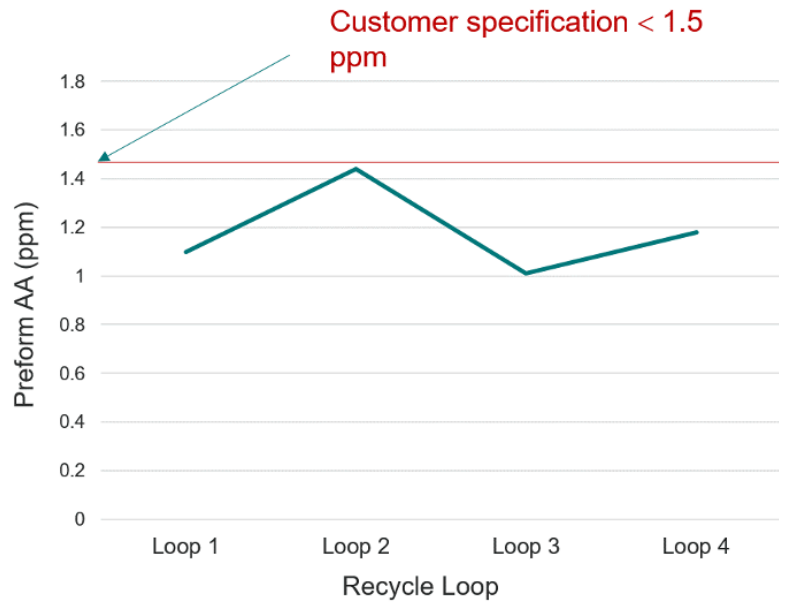
Product	LDR (%)	Active (ppm)	AA Reduction (%)	SIV (dL/g)	SIV Loss (dL/g)	Burst Pressure (Pa)	Max Expansion Volume (ml)
Control	0.00	0	0.0	0.720	0.000	15.82	751.7
Triple A	0.15	500	75.4	0.694	0.026	15.87	771.2
AAnchor	0.15	650	76.9	0.693	0.027	15.80	738.1



## ACETALDEHYDE REDUCTION

Commercial case studies have demonstrated that ColorMatrix AAnchor effectively reduces acetaldehyde levels in PET preforms, enhancing the ability to meet customer specifications for low acetaldehyde content. This results in improved taste and odor control, extending the shelf life of the packaged products.

### ACETALDEHYDE REDUCTION - COMMERCIAL CASE STUDY RESULTS



Commercial throughput - Husky HyPET 90T, 62g, 1L bottle  
Closed loop recycle process with 60% recycle content

## GLOBAL REGULATORY APPROVALS

ColorMatrix AAnchor is approved for use in Europe, with regulatory approval by FDA expected in 2024.

EU	FDA	MERCOSUR	CHINA
Yes	2024	No	No

## EASY INTEGRATION

ColorMatrix AAnchor is a liquid dispersion additive easily incorporated into the PET stream during injection molding or extrusion using ColorMatrix standard liquid metering equipment. It is compatible with PET bottles formed from an extrusion blow-molded or stretch blow-molded process.

## CHOOSE COLORMATRIX ANCHOR FOR SUSTAINABLE AND HIGH-QUALITY PET PACKAGING

ColorMatrix AAnchor is an innovative solution for the polymer industry, offering a comprehensive solution to enhance the recyclability, quality, and regulatory compliance of PET packaging. By incorporating ColorMatrix AAnchor, brands are supported to achieve their sustainability goals, reduce environmental impact, and deliver superior products to consumers.

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