



# COLORMATRIX TRIPLE A™

Additive technology which  
reduces acetaldehyde  
levels in PET packaging

# TRIPLE A™

## TECHNICAL DESCRIPTION

Acetaldehyde (AA) forms as a result of thermal degradation during PET melt-processing and can increase as temperature, pressure and shear in processing rises. Once bottles are blown and filled, AA can migrate from container walls into its contents, giving an undesirable taste and odor to the packaged product. Exposure to light and other environmental conditions can also increase migration. ColorMatrix's Triple A™ scavenging technology is engineered to minimize and control AA levels during PET processing and during the life of the product.

## APPLICATIONS

AA reduction is particularly important in mineral water container production.

Unlike juices or other flavored beverages, small changes in the flavor profile of water are noticed by consumers. Between 20–40 ppb of acetaldehyde in water is detectable by individuals with sensitive palettes.

Therefore a number of high quality bottled water brands have adapted 40ppb as an upper limit for acetaldehyde migration from PET bottles.

## HANDLING AND USAGE RATES

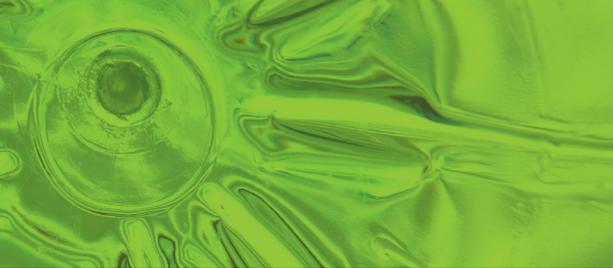
Triple A is a dispersion which can be supplied individually or in combination with other ColorMatrix colorant and additive technologies. ColorMatrix will recommend the best use rate depending on the expected level of AA following processing, storage conditions and the final desired AA level in the packaged product.

## REGULATORY INFORMATION

Triple A is suitable for use under EU, Mercosur and FDA food contact legislation. Full regulatory details for your particular region are available on request. Universally compatible and easily combined with ColorMatrix color formulations.

## PERFORMANCE

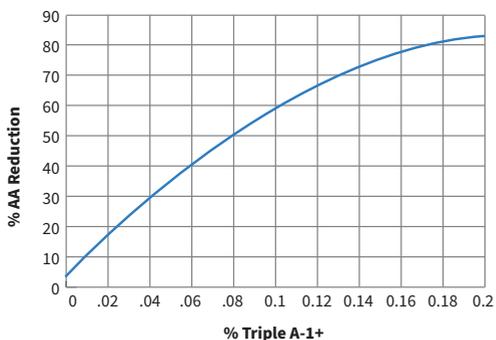
Triple A lessens the impact of AA generation from increased heat and shear in high-throughout processing. The technology is also beneficial in controlling deviations of AA from old machines and tooling, offering scavenging performance of up to 80% AA reduction.



**Triple A™ offers a cost-effective and reliable solution for reducing and controlling AA levels which can cause off-taste in products packaged in PET. This additive technology can be implemented during PET processing without impact on production efficiency.**

### **MODELING**

ColorMatrix can model the % reduction in AA versus the use level, thereby allowing a discussion with customers in the cost in use to achieve the target ppm level of AA to meet their organoleptic needs.



### **ACCURATE AA CONTROL**

Triple A can meet the most stringent AA level requirements, down to 1ppm in preforms. Accuracy can be controlled across all cavities while maintaining production efficiency.

### **REDUCED PRODUCT RISK**

Maintaining product quality and brand reputation is vital. Triple A can help to ensure consistent and reliable control of AA levels and as a result is important in reducing brand risk for products packaged in PET.

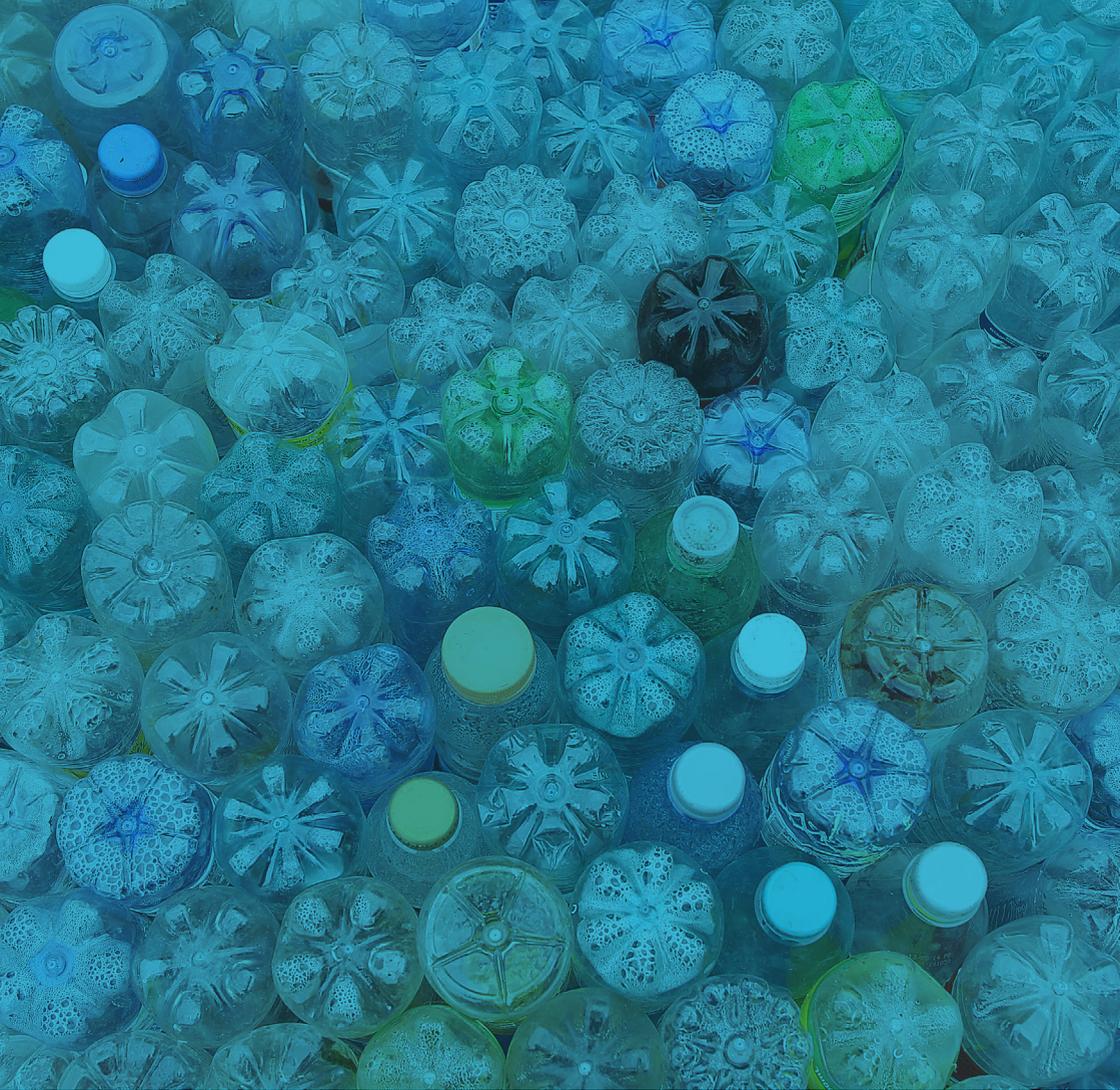
### **RECYCLE FRIENDLY**

Triple A facilitates the use of rPET and regrind in recycled applications and provides excellent recyclability. It is certified by the Petcore bottle-to-bottle and bottle-to-fiber protocols.

### **UNIVERSALLY COMPATIBLE**

As Triple A is universally compatible across a wide range of resins, it can also reduce handling complexity which can be a problem with alternative technologies. The additive has no impact on either color or clarity of containers and is easily combined with ColorMatrix color formulations.





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