HyGuard™

An advanced oxygen scavenging system which enables high level product protection, lightweighting and full recyclability for oxygen sensitive beverages and foods packaged in PET.
Technology description
HyGuard™ is a two-part catalytic oxygen scavenging system. This comprises of an activator (HyCom) which is located in the closure and slowly releases hydrogen in the presence of moisture and a catalyst (HyCat) which is located in the container wall.

Once the container is filled and the closure is applied, these two materials react to initiate HyGuard™'s powerful, controlled oxygen scavenging activity.

Applications
Oxygen sensitive beverages and foods including fresh juices, wine, tomato-based sauces. The HyCom activator can be applied to a range of hot fill, wide mouth or aseptic closures.

Regulatory Information
In the US, a Food and Drug Administration (FDA) Food Contact Notification for HyGuard™ oxygen scavenging technology became effective as of the 30th December, 2011 which officially permits the use of the technology in standard food and beverage containers, including hotfill applications, in March 2012 the European Food Safety Authority published an opinion concluding that there is no safety concern for the consumer from the use of ColorMatrix HyGuard™ technology in oxygen absorbing systems in food contact materials.

Availability
As the leading global innovator of plastic colorants and additives, ColorMatrix’s R&D team has developed HyGuard™ in partnership with a number of key global PET industry players. The technology is currently available under licence through these preferred partner companies. Please contact your local ColorMatrix representative for further details.

ColorMatrix’s HyGuard™ oxygen scavenging technology will allow significant advances to be made to the global PET packaging industry in terms of both shelf life management and in the sustainability of plastic food and beverage containers.

Perfect container clarity
Unlike conventional oxygen scavengers, HyGuard™ requires nothing in the container wall that could cause haze leaving a perfectly clear PET container appearance.

Full recyclability
HyGuard™ oxygen scavenger containers enable full bottle to bottle recyclability. The technology is the first oxygen scavenger to be recognised by both the EPBP (European PET Bottle Platform) and the APR (Association of Plastics Recyclers) as having no negative impact on container recyclability.

Fully controllable shelf life
HyGuard™ is activated only once the container closure is applied allowing maximum longevity in preform or container storage. Shelf life can be adjusted and controlled according to specific applications up to and beyond 24 months if required.

Container light-weighting and reduced portion size
Thinner and smaller PET containers require greater protection from oxygen ingress and the impact on cost and container clarity can make these options unviable.

As a catalytic system, HyGuard™ requires no adjustment to the level of material used. The same ppm of catalyst is used whatever the level of protection required opening up new opportunities for container light weighting and reduced container portion sizes.

HyGuard™ delivers increased product protection without impacting container clarity and recyclability.

Additive combination
HyGuard™ can be combined with other additive technologies such as ColorMatrix’s Ultimate UV protection where required without compromising performance. Ultimate UV is also endorsed by the APR and EPBP as having no negative impact on recyclability.
**Important Notice**

The information provided is given in good faith and is based on our knowledge at this time. ColorMatrix makes no warranties or representations, express or implied regarding the use of the above mentioned products. It is the responsibility of the finished article manufacturer to ensure that all relevant requirements are met.

**ColorMatrix** is a world leading innovator of liquid colorant and additive technologies for the plastics industry. Our advanced systems are designed to improve the processing, performance, aesthetics and sustainability of plastic products. ColorMatrix is part of the PolyOne Corporation.

For full contact details of ColorMatrix global locations please go to **colormatrix.com**