



## Making the Most of PET and rPET

Navigating the PET industry comes with its unique set of challenges, from enhancing product performance to meeting sustainability goals and managing costs.

Our R&D and innovation team developed a set of solutions tailored to improve the quality and efficiency of your products while significantly reducing environmental impact.

Whether you're facing issues with recyclability, utilizing more recycled material, maintaining high standards, or optimizing production processes, our solutions are designed to meet your specific needs.







Fully recyclable



Improving properties



Reducing time and energy consumption



Reducing carbon footprint

### K-NoIR™

Strong, jet, and opaque NIR sortable black



### WhiteSeal™

Extending the shelf life of ESL and UHT milk in monolayer PET bottles



### L-TEC®

Allows laser marking to replace coloring, printing, labelling, or sleeving



### O<sub>2</sub>Seal™

Actively absorbs and eliminates oxygen. Extending the shelf life of various food products



### T-Stream™

Slip, antiblock, de-nesting, sleeving and various downstream process aids



### Caps & Closures

Color and additive solutions for accurate and high-quality caps & closures

### UVSeal™

Protecting UV light sensitive contents against degradation



### AASeal™

Absorbs AA content to eliminate off taste in rPET bottles



### IVSeal™

Increasing PET IV and processability while maintaining transparency



### BluTint™

Rectifies yellowness and dullness of rPET



### IRapid™

Speeding up IR heating process for fast and efficient forming



### **O<sub>2</sub>Seal™**

Actively absorbs and eliminates oxygen. Extending the shelf life of various food products



### **IRapid™**

Speeding up IR heating process for fast and efficient forming



### **TosaFoam™**

Lightweighting of the product and reduction of raw material consumption



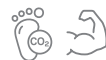
### **CrystalClear™**

Nucleating agent solutions for C-PET articles



### **WhiteSeal™**

High quality white MB for PET sheet and film



### **K-NoIR™**

Strong, jet, and opaque NIR sortable black



### **Fogfree™**

Eliminating fog and allowing for full transparency and visibility of the packaging content



### **T-Stream™**

Slip, antiblock, de-nesting, sleeving and various downstream process aids



### **IVSeal™**

Increasing PET IV and processability while maintaining transparency



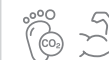
### **L-TEC®**

Allows laser marking to replace coloring, printing, labelling, or sleeving



### **BluTint™**

Rectifies yellowness and dullness of rPET



# Tosaf Solutions for PET

## BluTint™ - Functional color solutions

Challenge	Solution	c/n	Function	Benefits
Color consistency, dull and yellowish rPET	BluTint™	MT603431 EU MT603242 EU MT480571	Rectify and revives color and diminishes yellowness for thermoformed and blow molded PET articles	• Enables higher rPET usage • Lowers carbon footprint
Color consistency, dull and yellowish rPET		Various	Transforms your greyish and dull rPET product to an aesthetic ancient product	• Enables higher rPET usage • Lowers carbon footprint

## WhiteSeal™ - Opaque and translucent white solutions

Challenge	Solution	c/n	Function	Benefits
Producing a white article with high opacity, high brightness, and high quality in a cost-effective fashion	WhiteSeal™	MT801022 EU MT801066 EU	70% White MB for blow molding, extrusion, and injection molding applications	• High quality opaque white • Eliminates need for complex and less recyclable multilayered structures
		MT801222 EU	Copolyester-based 70% white MB for PET blow molding and extrusion application	
		MT801028 EU	PETG-based 60% white MB for PET blow molding and extrusion application	
Increasing and guaranteeing long shelf life of milk and other dairy products		MT801801 EU	Super light tight white for ESL and UHT milk PET monolayers blow molded bottles	

## K-NoIR™ - NIR-sortable black solutions

Challenge	Solution	c/n	Function	Benefits
Producing a sortable and recyclable black products	K-NoIR™	IR9096ETK EU	NIR-sortable black MB for blow molding and thermoforming	• Support recyclability and circularity • Non-magnetic
		IR9097PEK EU	NIR-sortable black MB for C-PET applications	

## UVSeal™ - UV protection solutions

Challenge	Solution	c/n	Function	Benefits
Increasing the shelf life of UV sensitive products	UVSeal™	UV7263ET EU	UV barrier MB for protecting sensitive content against incoming UV radiation. Can also be used for bulk stabilization	<ul style="list-style-type: none"> <li>• Fully transparent and non-yellowing</li> <li>• Fully recyclable</li> <li>• Non-SVHC</li> </ul>
		UV7264ET EU	UV barrier and stabilizing solution for thin co-ex layers	

## O<sub>2</sub>Seal™ - Oxygen scavenger and barrier solutions

Challenge	Solution	c/n	Function	Benefits
Increasing the shelf life of oxygen sensitive products	O <sub>2</sub> Seal™	OS4441DP EU	Oxygen scavenger MB for thermoformed PET articles	<ul style="list-style-type: none"> <li>• Extends shelf life of food products</li> <li>• Fully recyclable</li> <li>• Replaces multilayered materials</li> <li>• Allows for downgauging of PET packaging materials</li> </ul>
		OS4442DP EU	Oxygen scavenger MB for blow molded PET bottles	

## L-TEC® - Laser marking solutions

Challenge	Solution	c/n	Function	Benefits
Replacing coloring, printing, labelling, and sleeving and offer a more recyclable and circular products	L-TEC®	LM8870ET EU	Transparent laser marking MB for PET articles	<ul style="list-style-type: none"> <li>• High resolution laser marking</li> <li>• Transparent background</li> <li>• Fast and efficient</li> </ul>

## AASeal™ - Acetaldehyde scavengers

Challenge	Solution	c/n	Function	Benefits
Eliminating off-taste of rPET-bottled water	AASeal™	AA4445ET EU	AA scavenger MB for blow molded PET bottles made with rPET	<ul style="list-style-type: none"> <li>• Prevents bad off-taste in bottled water</li> <li>• Enables higher rPET usage</li> <li>• Lowers carbon footprint</li> </ul>

# Tosaf Solutions for PET

## IVSeal™ - Chain extenders

Challenge	Solution	c/n	Function	Benefits
Improving processability and performance of rPET, turning rPET production more time and energy efficient	IVSeal™	CX9123ET EU	Chain extender MB for PET applications, suitable for producers and recyclers	<ul style="list-style-type: none"><li>• improves PET processability and properties</li><li>• Saves time and energy in SSP reactor for rPET process</li><li>• Enables higher rPET usage</li><li>• Lowers carbon footprint</li></ul>
		CX9124ET EU	Chain extender MB for PET applications, suitable for producers and recyclers	

## FogFree™ and StatFree™ - Antifogging and Antistatic solutions

Challenge	Solution	c/n	Function	Benefits
Improving appearance of PET food packaging	FogFree™	AF8745WB EU	Antifog coating for PET films, sheets, and thermoformed articles	<ul style="list-style-type: none"><li>• Immediate and long-lasting action</li><li>• Easy to apply</li></ul>
		AF9314ET	Antifog compound for PETG sealing co-layers	
		AF9789ET	Antifog compound for PETG sealing co-layers with low sealing temperature	
Preventing accumulation of electric charge	StatFree™	ST8908WB EU	Antistatic coating for PET films, sheets, and thermoformed articles	

## IRapid™ - Fast heating solutions

Challenge	Solution	c/n	Function	Benefits
Inconsistencies in bottle shape, size, and wall thickness. Time and energy efficiency of downstream processes	IRapid™	IR9360ET EU	Heating MB for easy, rapid, and stable re-heating of PET blow molded and thermoformed articles.	<ul style="list-style-type: none"><li>• Speeds up IR heating process in blow molding, thermoforming, sealing, shrinking etc.</li><li>• Totally transparent Enables higher rPET usage Lowers carbon footprint</li></ul>

**T-Stream™ - Downstream and conversion process aids**

Challenge	Solution	c/n	Function	Benefits
Blocking, nesting, and self-adhering of PET products	<b>T-Stream™</b>	AB9142ET EU AB9140ET EU	Antiblock for PET films, sheets, and blow molded articles	• Solves typical issues of downstream and conversion processes (film blocking, nesting, sleeving difficulties etc.)
		AB9304WB EU	Antiblock coating for sheets, films, and thermoformed articles. Silicon-free	
		SL9260WB EU	Highly loaded silicon emulsion for de-nesting of thermoformed articles	
		SL9235WB EU	Silicon emulsion for de-nesting of thermoformed trays	
		SB9145ET EU SB9135ET EU	Slip-antiblock MB for PET sheets and thermoformed articles, provides antiblocking, reduction of COF and easy de-nesting	
		SB9132ET EU SB9134ET EU	Slip-antiblock for injection molding and blow molding of PET articles Reduces COF, prevents sticking and allows for easy sleeving.	

**TopFusion™ - Compatibilizers and modifiers**

Challenge	Solution	c/n	Function	Benefits
Inconsistencies of mixed material PCR and related quality and processing issues	<b>TopFusion™ PET</b>	PE2005	Compatibilizer for PE-PA/EVOH-PET scrap	• Improves processability and performance of articles made of PCR • Lowers carbon footprint
		IP9793PE EU	Compatibilizer for PE applications containing PET-PE scrap	



**Making it Happen. Globally**

