

BIOMASS CHANGE LIVES

PEF × PACKAGING

THE NEXT GENERATION
OF SUSTAINABLE PACKAGING

Superior Barrier | High-Clarity Thick Walls | 100% Bio-Based

Compliant with China National Food Safety Standard:
GB 4806.7-2023 (Plastic Materials and Products for Food Contact)

HVF 中科国生
GS BIOMATS

FURIX™
Made by GS BIOMATS



For more information or to request samples, please

Contact

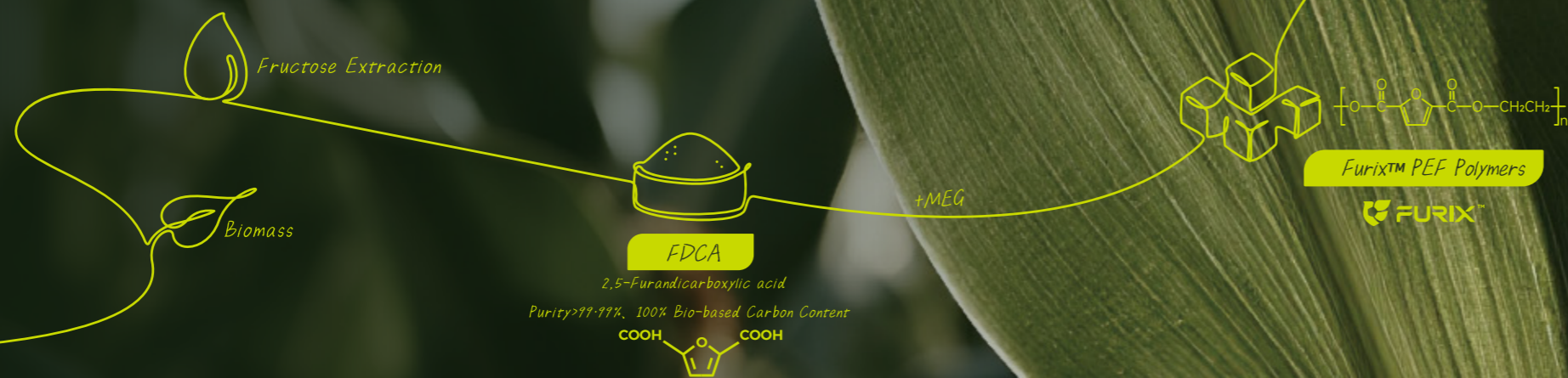
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NATURE'S ANSWER TO THE FUTURE OF PACKAGING



ABOUT GS BIOMATS

From lab innovation to industrial scale, GS BIOMATS is bringing "natural molecules" to the global market. Built on the academic excellence of the Chinese Academy of Sciences (Dalian Institute) and Tsinghua University, we have solved the bio-based industry's critical cost and stability challenges by mastering the continuous production process for FDCA.

With industrial-scale facilities in Lishui and Taixing, we have successfully optimized costs and achieved a global supply milestone of over 100 tons. Under our high-performance polymer brand, FURIX™, we collaborate with industry leaders to create a complete industrial closed-loop—from raw material supply to end-user verification—driving the low-carbon evolution of the packaging sector.

For over half a century, global polyester packaging has remained tethered to fossil energy. Nature, however, has long held a better alternative: PEF (Polyethylene Furanoate). Derived from 100% plant-based sugars, PEF utilizes its unique natural molecular structure to deliver barrier properties, thermal stability, and mechanical strength that far surpass traditional materials.

Significant carbon reduction across the entire Life Cycle Assessment (LCA)
Fully renewable and compatible with existing recycling streams.
High-performance and sustainable innovation.



100% BIO-BASED PEF

FOR PERSONAL CARE PACKAGING

Crafted from renewable biomass, pure PEF thick-wall packaging achieves 100% bio-based content. Leveraging PEF's intrinsic high-barrier properties, this solution significantly extends the shelf life of personal care and cosmetic products, offering a premium aesthetic that aligns with sustainable values.



- 100% Bio-based
- Natural high-barrier properties
- Low crystallinity&High Clarity
- Superior heat resistance
- High flowability
- Recyclable within PET streams and mitigates haze in thick-walled rPET processing.
- Food Contact Safe



HIGH-CLARITY MODIFIED PET

FOR PERSONAL CARE PACKAGING

By integrating bio-based furan monomers into the PET molecular chain, we have developed modified PET (RIC #1). This material maintains the crystal clarity and high-gloss finish of traditional PET in thick-wall injection or injection stretch blow molding (ISBM), while providing superior gas barriers and mechanical strength.



- Low crystallinity&High Clarity
- High flowability
- Superior Barrier
- Food Contact Safe



100% BIO-BASED PEF

FOR FOOD & BEVERAGE PACKAGING

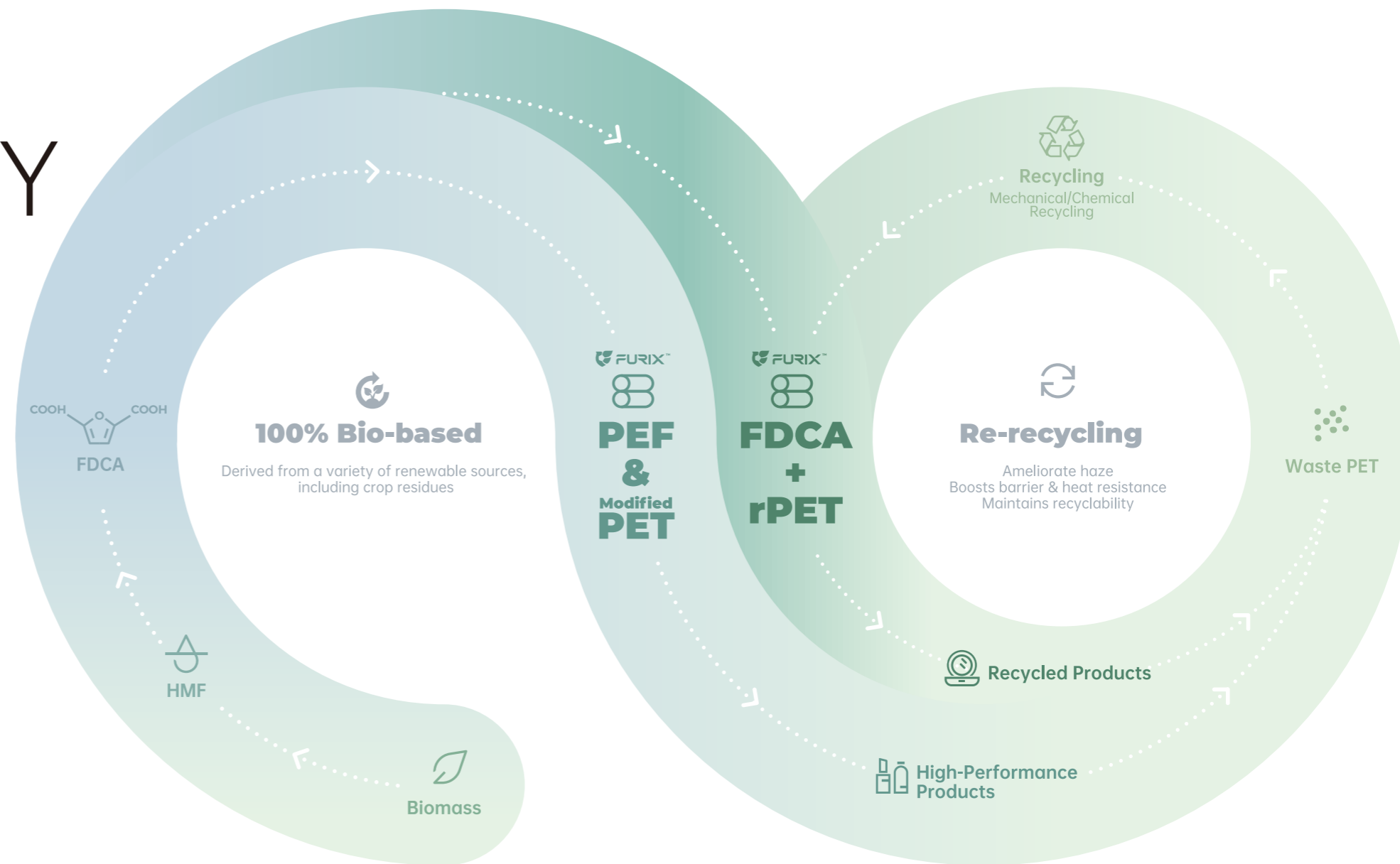
Engineered for circularity, our 100% bio-based PEF packaging provides an exceptional gas barrier that extends product longevity and maintains natural integrity while reducing chemical additives. With its robust thermal profiles and proven recyclability, PEF represents a highly durable and sustainable alternative for the next generation of food and beverage packaging.



- Natural high-barrier properties
- O₂ Barrier > 7× PET
- H₂O Barrier > 2× PET
- CO₂ Barrier > 15–20× PET
- Superior heat resistance
- Compatible with PET recycling
- Food Contact Safe



SUSTAINABILITY



FURIX™ PEF series raw materials (FDCA) are derived from renewable biomass, significantly reducing dependence on non-renewable resources.

CERTIFICATION

PEF-Food Contact Compliance
 China: GB 4806.7-2023 Food Safety Standard
 Japan: Positive List System for Food Apparatus / Containers and Packaging
 USA: FDA Food Contact Notification (FCN) for all food types

FDCA Monomer	PEF Polymer	FDCA Regulatory Compliance