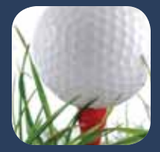
GENENCOR®
A Danisco Division

Genencor® BioIsoprene™ monomer

Together we can create the road to a more sustainable future.

biopotential

BioIsoprene™ monomer—a renewable alternative to petroleum-derived isoprene



It's among the most pressing challenges facing our planet. How to enable a more sustainable global economy. One powered by renewable biomass, not finite natural resources.

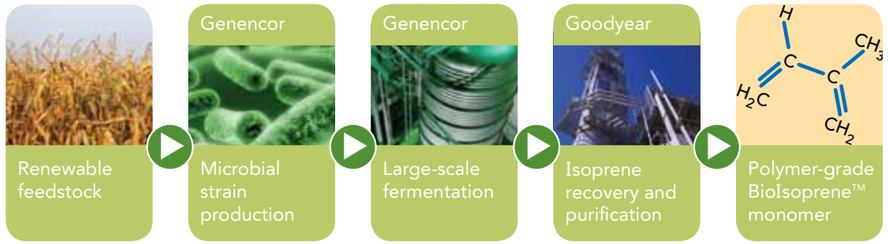
As a leader in the development of viable biobased alternatives for many of the products the world relies on, Genencor is helping to make such an economy a reality. With products like our BioIsoprene™ monomer, we reduce the environmental impact of industry by lowering its costs, waste, and dependence on fossil fuels.

BioIsoprene™ monomer advantages

- Renewable: More sustainable alternative to petroleum-based isoprene
- Pure: Polymer-grade monomer is more than 99% pure prior to recovery and purification
- Efficient: Produced during fermentation and recovered from the gas phase in liquid form
- Cost-effective: Can be produced from renewable, low-cost feedstock
- Versatile: Can be converted to biochemical and biofuel products

Groundbreaking production process

The process leverages the combined expertise of Genencor® and The Goodyear Tire & Rubber Company to establish a C5 platform that enables BioIsoprene™ monomer to be used in numerous biochemical and biofuel products.



The rubber meets the road

Genencor has partnered with The Goodyear Tire & Rubber Company to develop an integrated process to manufacture BioIsoprene™ monomer at industrial scale. Through the polymerization of BioIsoprene™ monomer to synthetic rubber, Goodyear is able to incorporate the monomer into the production of tires and other elastomer applications.

The potential of the collaboration was demonstrated when Goodyear concept tires made with BioIsoprene™ monomer were unveiled at the United Nations Climate Control Conference in December 2009.

Genencor delivers BioIsoprene™ monomer to Goodyear, where it is polymerized into synthetic rubber for tires.

C5 platform applications

Biochemicals

Since BioIsoprene™ monomer is produced from renewable raw materials, manufacturers can count on a reliable, consistent supply that is not subject to fluctuating oil prices. This creates tremendous opportunities for growth and wide-ranging industrial applications.

Biochemical highlights

- Reduces volatility in cost and availability compared with petroleum-derived isoprene
- Offers key high-purity, low-cost raw material for manufacturers
- Enables customers to reduce their carbon footprint in the production of synthetic rubber and other elastomers
- Has vast commercial potential, including tires, adhesives, surgical gloves, golf balls, and specialty elastomers

Biofuels

As part of our biorefinery vision, we are also developing BioIsoFuel™ products—drop-in hydrocarbon-based biofuels produced from BioIsoprene™ monomer. As a versatile C5 platform molecule, BioIsoprene™ monomer can be a key intermediate in the production of biobased transportation and jet fuels.

Biofuel highlights

- Convertible to biofuel blend stocks, such as C10 gasoline, C15 diesel, and jet fuels, through customer-specific chemical catalysis
- Higher energy content than other biofuels
- Results in approximately 80% less greenhouse gas emissions than petroleum-based fuels
- Derived from non-food feedstocks

Together we can.

www.genencor.com

Join the drive toward a more sustainable future

Our world today faces complex challenges impacting necessities of life, like health, energy, and the environment. Genencor, a division of Danisco A/S and a leader in industrial biotechnology, answered these challenges with innovations that have made a difference in the lives of people worldwide for more than 25 years. To learn more about how innovations like BioIsoprene™ monomer are enabling a more sustainable future, contact a Genencor representative below.

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